# Sullivan County
# Local Solid Waste Management Plan

August 2025





Prepared for: Sullivan County

100 North Street, Monticello, New York

cornerstone PLLC

# Report Certification

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## GLOSSARY OF TERMS

| TERM/ACRONYM | DEFINITION |
|---|---|
| AD | Anaerobic Digestor |
| BHS | Bulk Handling System |
| BTU/scf | British Thermal Unit/standard cubic foot |
| C&D | Construction and Demolition |
| CARB | Concrete, Asphalt, Rock, Brick |
| County | Sullivan County |
| CRT | Cathode-ray tube |
| ECL | Environmental Conservation Law |
| EfW | Energy from Waste |
| ELV | End of Life Vehicle |
| EPA | Environmental Protection Agency |
| EPR | Extended Producer Responsibility |
| E-waste | Electronic Waste |
| GHG | Greenhouse Gases |
| GUS | Greene, Ulster, Sullivan |
| HHW | Household Hazardous Waste |
| IPS | Integrated Processing System |
| LSWMP | Local Solid Waste Management Plan |
| MBI | Mr. Bult's Inc. |
| MRDC | Municipal Recycling Drop-off Center |
| MRF | Materials Recovery Facility |
| MSW | Municipal Solid Waste |
| MWh | Megawatt hour |
| NYCRR | New York Codes, Rules, and Regulations |
| NYSDEC | New York State Department of Environmental Conservation |
| OCC | Old Corrugated Cardboard |

| | |
|---|---|
| PAYT | Pay As You Throw |
| PU | Planning Unit |
| RBRC | Rechargeable Battery Recycling Corporation |
| RDF | Refuse Derived Fuel |
| RNG | Renewable Natural Gas |
| SMI | Seneca Meadows Landfill, Inc. |
| SRF | Solid Recovered Fuel |
| SS | Single Stream |
| SSO | Source Separated Organics |
| SWMIC | Solid Waste Management Improvement Commission |
| TS | Transfer Station |
| WTE | Waste to Energy |

# EXECUTIVE SUMMARY

The Planning Unit responsible for the creation and implementation of the Local Solid Waste Management Plan (LSWMP) is Sullivan County. The County is responsible for developing, financing, and implementing a comprehensive countywide solid waste management plan.

Sullivan County's original LSWMP was prepared by the County and approved by the New York State Department of Environmental Conservation (NYSDEC) in 1991. The initial Plan covered a planning period of 20 years (through 2010). With the 13-year gap of having no implementable plan and recent changes in solid waste regulations, a new LSWMP will be created for the 10-year period from 2024 through 2033.

The County's programs continue to evolve to meet the needs of the people of Sullivan County as well as in response to new developments, trends, and technologies for optimization of existing facilities and/or enhancing waste reduction, material reuse and material recycling initiatives. Through the implementation of the original LSWMP, and research conducted on emerging technologies, a new comprehensive LSWMP has been created reflective of time proven best practices for materials management. The following LSWMP provides a platform for the County to create the most environmentally responsible program possible, while being fiscally responsible, for the people of Sullivan County.

The review and evaluation performed in the preparation of this plan supports the County's current practices that have been developed in response to the current economic and environmental climate. The purpose of this Plan will be to enhance, to the extent possible, existing systems and programs, as well as implement new programs in an effort to improve waste and recyclable material management practices while enhancing the County's fiscal and environmental responsibility. Sullivan County is highly dependent on remote facilities for recycling or disposal of materials generated within the County. Economically viable options are limited as a result of Sullivan County's low waste and recyclable material generation rates. Benefits and economic synergy may be achievable through regionalization or collaboration with adjacent planning units. The proposed implementation plan and schedule includes early evaluation, study, and implementation of potential alternatives.

The Final Draft LSWMP was approved by the NYSDEC on July 1, 2025. Sullivan County adopted the Final LSWMP via Resolution on August 21, 2025.

# 1.0 INTRODUCTION

Sullivan County, New York, has retained Cornerstone Engineering and Geology, PLLC (Cornerstone) to develop a Local Solid Waste Management Plan (LSWMP) which covers the 10-year period from 2024 through 2033. The location of Sullivan County within New York State and relative to neighboring planning units is shown on Figure 1.

Sullivan County has a history of being proactive and innovative with its solid waste management program and this new LSWMP is an opportunity to evaluate and enhance existing programs, enabling the County to make the best use of its resources as well as optimize recycling, composting, and diversion efforts. The new LSWMP is intended to create a valuable planning tool for the future of solid waste within the County, providing a framework for identification and evaluation of future waste handling practices and technologies for the planning unit.

The regulatory expectations of solid waste management planning have evolved since the last major planning effort. With the issuance of the most recent New York State Solid Waste Regulations in July 2023, the LSWMP requirements are now included within the body of these regulations. The County currently manages solid waste and recyclables with the policies set forth within the New York State Solid Waste Management Plan criteria. The NYSDEC has established solid waste management policy objectives under a “preferred hierarchy” that is generally described as follows (in order of descending preferences):

- First, to reduce the amount of waste generated within New York State.
- Second, to reuse material for the purpose for which it was originally intended or recycle material that cannot be reused.
- Third, to recover, in an environmentally acceptable manner, energy from solid waste that cannot be economically and technically reused or recycled.
- Fourth, dispose of solid waste that is not being reused or recycled, or from which energy is not being recovered, by land burial or other methods approved by NYSDEC.

The County will continue to provide facilities and improve their practices to manage both solid waste and recyclables to public and private users. Increased education efforts and public outreach and fostering increased participation in reducing, reusing and recycling will allow for an increase in material diverted from landfills.

It is important to note that this Local Solid Waste Management Plan incorporates forward-looking activities tied to specific dates and times. The interruptions resulting from recent supply chains issues and volatility of particular markets, which are outside the control of the County, are still having a tremendous impact on the local economy. As such, the schedules presented herein may be impacted and are subject to change.

# 2.0 PLANNING UNIT

Sullivan County's jurisdiction as a Planning Unit (PU) consists entirely of the County's 997 square miles. The County is located in the Hudson Valley Region of southern New York State, approximately 90 miles north of New York City and 90 miles southeast of Binghamton. Sullivan County is bordered by Delaware County to the north, the Delaware River and Pennsylvania to the west, Ulster County to the east, and Orange County to the south.

Sullivan County observes a high influx of tourism during the summer season where the population can increase by over 200,000 people. The proximity of Sullivan County to New York City, Westchester County, and Rockland County makes weekend trips and summer vacations practical for tourists and full-time summer residents. The rural countryside of Sullivan County offers swimming, fishing, boating, hiking, biking, hotels, and scenic overlooks that many people, tourists and residents alike, take advantage of throughout the year.

The Monticello Raceway and Resorts World Catskill are two major attractions that the County has to offer. The Catskill Mountains comprise most of the County, creating opportunities for skiing and hiking. Also contributing to the tourist inflow are fall foliage, wine tours, and local farms for apple and pumpkin picking. Bethel is also home to the Woodstock Music Festival and Bethel Woods Center for the Arts. Numerous other commercial, residential, educational, and cultural facilities exist within the County's borders.

## 2.1 PLANNING UNIT MEMBERS

Sullivan County has 15 towns and 6 villages, which are all included within the Planning Unit.

Towns

| | | | |
|---|---|---|---|
| Bethel | Fallsburg | Liberty | Rockland |
| Callicoon | Forestburgh | Lumberland | Thompson |
| Cochecton | Fremont | Mamakating | Tusten |
| Delaware | Highland | Neversink | |

Villages

| | | |
|---|---|---|
| Bloomingburg | Liberty | Woodridge |
| Jeffersonville | Monticello | Wurtsboro |

The towns and villages noted above are within Sullivan County; however, Sullivan County is responsible for creating and maintaining the LSWMP. Each town and village are responsible for understanding and implementing the initiatives and programs in accordance with the LSWMP.

The communities within Sullivan County demonstrate great variety, including both rural and suburban areas. The following are noted:

- Monticello, located centrally in Sullivan County, was incorporated in 1830. The village and surrounding Town of Thompson host numerous cultural, entertainment and outdoor recreation destinations. Of note are Resorts World Catskills, an 18-story hotel and casino, The Kartrite Resort and Indoor Waterpark, Monticello Raceway, the YO1 Health Resort, and Nesin Cultural Arts. The Delaware River, bordering the

western side of Sullivan County, is a prime spot for boating, rafting, kayaking, fishing, sightseeing and bald eagle spotting.

- The D&H Canal Interpretive Center hosts historic remains of the former Delaware and Hudson Canal. A canal towpath exists from Wurtsboro to Summitville.

- The Sullivan Catskills Dove Trail is a commemoration of the 50th anniversary of the 1969 Woodstock festival. A collection of 50 doves, hand-painted by local artists, are permanently mounted in Sullivan County towns and villages.

- The Catskill Fly Fishing Center and Museum, located in Livingston Manor, showcases America's flyfishing heritage and offers a variety of educational programs focused on river ecology and fishing etiquette.

## 2.2 POPULATION

According to 2020 census data, there were 78,624 residents living in Sullivan County at that time. Most of the population resides in rural to suburban communities within the County. Sullivan County has demonstrated an increasing trend in population over the last 10 years and that trend is anticipated to continue throughout the next 10-year period.

**Population Density**

| Population Density | Percent |
|---|---|
| Urban | 0 |
| Suburban | 24 |
| Rural | 76 |

**Race Distribution**

| Race Origin | Percent |
|---|---|
| White | 83.8 |
| Black or African American | 10.2 |
| American Indian or Alaska Native | 0.8 |
| Asian | 2.1 |
| Native Hawaiian or other Pacific Islander | 0.1 |
| Two or more races | 3.0 |

## 2.3 NEIGHBORING PLANNING UNITS

Sullivan County is bordered by three counties within New York State. Delaware County is more rural with a significant amount of open space. Orange and Ulster Counties, while still hosting considerable open space, are more developed with residential and commercial properties. Below is a table that summarizes the population of each neighboring county based on the 2020 Census.

**Neighboring Planning Unit Population Totals**

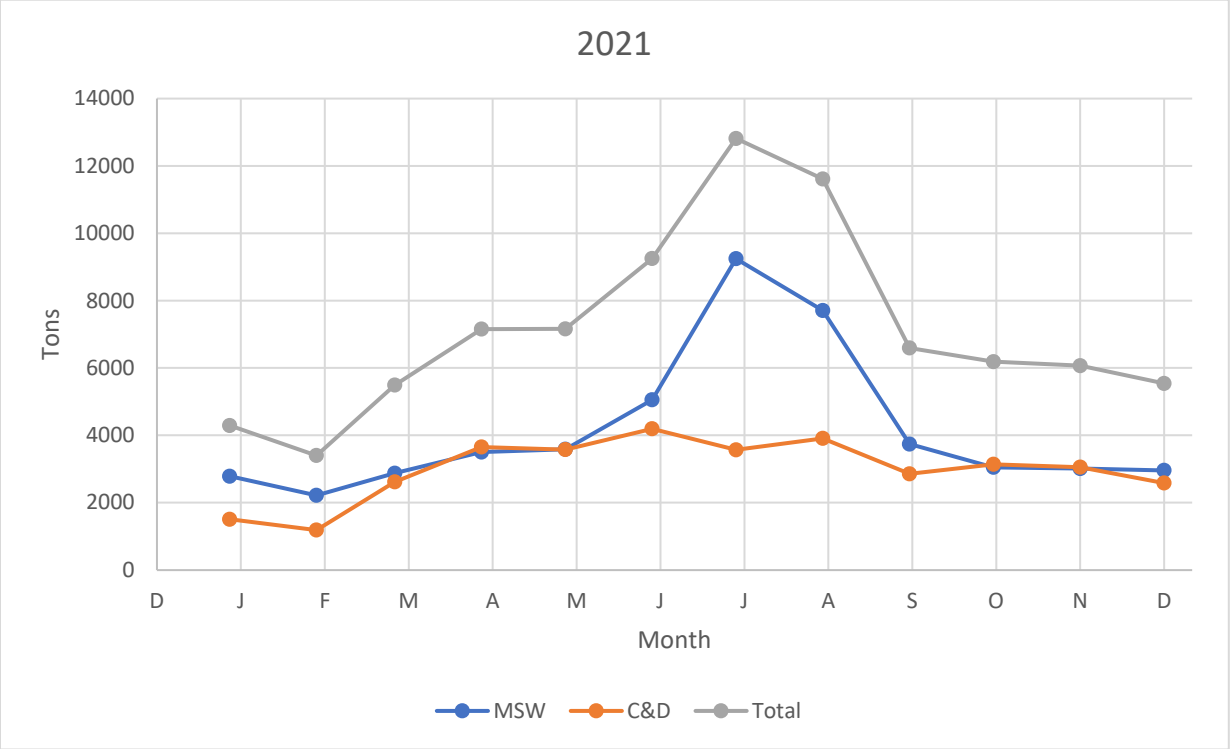
| County | Population |
|---|---|
| Delaware | 44,308 |
| Orange | 401,310 |
| Ulster | 182,951 |

## 2.4 SIGNIFICANT COUNTY CHARACTERISTIC

Sullivan County, with its vast diversity of mountains, agricultural land, historic towns, casino, racetrack, and commercial retail centers, offers activities that appeal to the interest of tourists as well as current residents. Due to Sullivan County's proximity to New York City, Westchester and Rockland, the County sees a large amount of short- and long-term tourism. During the fall season, the County is flooded with tourists taking advantage of agritourism, viewing fall foliage, picking apples, sweet corn, and pumpkins, and tasting wine and craft beer at the local wineries and breweries. In addition, there are several farms utilized for cattle production, livestock and human food crops.

During the summer months, Sullivan sees a tremendous influence on population from camps and seasonal summer residents. Populations can increase by 200,000-300,000 persons during this time period, resulting in an increase in disposal needs over this short time frame. As seen from the below graph, the volume of MSW increases in June (when school is getting out/summer vacations and camps begin) and jumps sharply in July, remaining relatively high in August then decreases to pre-summer volumes in September. This spike is a trend Sullivan County has seen for several years. The current infrastructure, management practices, and transfer stations can handle this seasonal fluctuation. C&D volumes remain relatively consistent with lows during January and February. During the summer months, education and outreach efforts are increased in an attempt to communicate to seasonal residents the importance of proper waste and recycling management, as well as the correct protocols for disposing or recycling the materials.

Waste Volumes vs. Seasonality




Sullivan County has two State Correctional Department Facilities. Sullivan Correctional Facility (maximum security), located in the Town of Fallsburg, has the capacity to detain 556 inmates. Woodbourne Correctional Facility (medium security), located in the Town of Woodbourne, has the capacity to detain 849 inmates.

Several medical facilities are located within Sullivan County. These include one major hospital: Garnet Health Medical Center-Catskills, Harris Campus, along with small urgent care facilities, skilled nursing facilities, and elderly living communities.

Sullivan County includes eight elementary and secondary education districts. Two districts are completely within the County and the remaining six share areas with neighboring counties. Sullivan County Community College, or the State University of New York (SUNY) at Sullivan, located in the Town of Loch Sheldrake, offers over 40 degree programs in a wide range of fields. Current enrollment is approximately 1,660 students.

Throughout the County, there are several major retail centers and food establishments. There is a mix of commercial brand stores (Home Depot, Walmart) and chain restaurants (McDonald's and Popeye's) in conjunction with smaller local "mom-and-pop" outlets, farm stores, and local eateries throughout the towns and villages. Many other towns within the County have local events throughout the year which increase tourism and help to stimulate the economy.

Sullivan County has several sustainability initiatives that focus on green purchasing, energy usage and climate protection, and eliminating or reducing potential toxins and pollutants from entering the environment. Details are provided in the full document which can be found at the following link.https://sullivanny.gov/Departments/SustainableEnergy/SustainabilityInitiatives

## 2.5 CURRENT SOLID WASTE MANAGEMENT ACTIVITIES

Sullivan County currently manages municipal solid waste (MSW), construction and demolition debris (C&D), recyclables, electronic waste (e-waste), tires, metals, textiles, as well as other items they are permitted to accept in small quantities. The County has one permitted transfer station (Monticello) that is operated under contract by

IESI NY Corporation (IESI). IESI currently (2024) charges the County approximately $19,700 per month to operate the MRF. In addition to the Monticello transfer station, the County has five other transfer stations that operate at a reduced schedule, typically open only 2-3 days per week and include the following transfer stations: Ferndale, Highland, Mamakating, Rockland, and Western Sullivan. There are also two town owned and operated transfer stations (Bethel and Neversink) within the County. The County only provides carting services at these two facilities.

MSW and C&D materials can be brought to any transfer station by residents and unloaded into roll off containers or trailers. Out-of-county residents can use the TSs provided that they obtain an "out-of-county user permit." Once the roll offs or trailers are full, the County hauls them to the Monticello TS. Public and private commercial haulers can only bring waste to the Monticello TS. The materials are dumped on the tipping floor and then loaded into long haul trailers for final disposal at the currently contracted landfill (Seneca Meadows).

MSW and C&D brought to the facility transfer stations by local haulers, commercial construction companies, and residents are recorded separately when brought into the facilities; however, the waste is combined into the same trailers for landfilling. Single stream recycling and source separated bulk cardboard are accepted at the transfer stations.

The County is responsible for providing post-closure services at two closed landfills located at the Monticello facility. Responsibilities at the landfills include mainly leachate management, groundwater monitoring, landfill gas monitoring, and mowing.

One of the main challenges that Sullivan County has faced in the recent planning period relates to recyclables management. Recyclables are brought from the transfer stations and tipped onto the main transfer station (Monticello) tipping floor where they are reloaded and shipped to a processing facility in Beacon, NY. Paper products are also brought to Monticello from the other TSs and bundled for shipping to market. Difficulty compacting the recyclable loads has led to light weight in the trailers and results in low financial returns. Double handling of the materials before final shipment drives up labor and fuel costs. In addition, various market drivers and changes in demand have caused prices to fluctuate.

Another challenge is understanding and quantifying the volume of material that originates within the County borders, which ultimately ends up in a neighboring planning unit for disposal. Sullivan County, being a large geographically disperse county, borders several counties and Pennsylvania, which may be more conducive for contractors and haulers to bring material for disposal when working near the County lines. Sullivan County currently has flow control legislation in place; therefore, materials generated within the County should not be disposed of at out of county locations. Sullivan County's Solid Waste Management Rules are provided in Appendix A.

As previously stated, the last SWMP for the county was established in 1991. Due to various changes in management strategies, staff turnover within the county, a major shift in waste and recycling paradigms, and evolution of solid waste management regulations over the last 30 plus years, there was no consistent follow-through with the previous plan to meet timeframes in the implementation schedule. The County did however meet several of their goals outlined in the plan such as developing a landfill, constructing a materials recovery facility, increasing education efforts, and increasing the efficiency of collecting and managing waste, recyclables, and organics. The most recent landfill that was in operation within the County reached capacity in 2009 and was capped and closed in 2010. Designs for additional capacity and expansion were not pursued by the County. This new LSWMP will help bring the County together by creating a focused approach with set milestones to achieve financially and environmental responsible goals related to solid waste management.

# 3.0 WASTE GENERATION AND MATERIALS RECOVERY

Solid waste is comprised of several different material streams and includes Municipal Solid Waste (MSW), Construction and Demolition Debris (C&D), non-hazardous industrial waste, and biosolids (sewage sludge). Although all of these waste streams are managed in the state, the focus of NYSDEC's December 2023 Solid Waste Management Plan titled "*Building the Circular Economy Through Sustainable Materials Management"* and this LSWMP are the materials categorized as MSW, C&D, biosolids, and industrial waste, as discussed below and in subsequent sections. The County's transfer stations do not accept Industrial Waste; however, Industrial Waste has been included within the Plan in an effort to quantify the amount of this material produced within the County.

MSW is comprised of materials generated by the residential, commercial, and institutional sectors that are either discarded or recycled. According to New York State Codes, Rules, and Regulations (NYCRR) Part 360, MSW is defined as residential waste, commercial waste, or institutional waste, or any component or combination thereof, excluding construction and demolition debris and biosolids unless they are commingled. NYCRR Part 360 describes recycling as a series of activities by which materials are collected, sorted, processed, and converted into raw materials or used in the production of new products, or, in the case of organic materials, use productively for soil improvement.

NYSDEC's Solid Waste Management Plan estimates that 54 percent of the MSW generated statewide is residential and 46 percent is commercial/institutional. This ratio is important to the planning efforts since the materials generated by each are typically different. In general, the commercial/ institutional sector generates a higher percentage of food scraps and corrugated cardboard than the residential sector. In addition, the population density of a community (urban, suburban, or rural) can have an impact on the composition of the waste stream, particularly the organic content.

The components of MSW are listed below along with estimated generation and disposal percentages by weight (tons) reported in the NYSDEC's 2023 Solid Waste Management Plan (disposal represents non-recycled material).

- **Paper** – newspaper, corrugated cardboard, other recyclable paper, and other compostable paper} comprises approximately 32 percent of the MSW generated in New York State and approximately 28 percent of the MSW sent for disposal.

- **Glass** - glass packaging, window glass, and ceramics} makes up approximately 4 percent of the materials generated and approximately 3 percent disposed of in NYS.

- **Plastics** – plastic bottles, rigid containers, and film plastics} make up more than 14 percent of the MSW generated, and nearly 17 percent of the MSW disposed of in NYS.

- **Metals** – steel and aluminum cans, aluminum foil, appliances, and municipally generated scrap metal} make up nearly 7 percent of the waste stream in New York State and approximately 6 percent of MSW disposed in NYS.

- **Organics (food scraps)** – uneaten food and food preparation materials from residences, commercial establishments, and institutions} represent nearly 17 percent of the MSW generated every year in NYS.

- **Yard Waste** – leaves, grass clippings and garden debris} makes up, on average, approximately 7 percent [urban – 3%, suburban – 10%, rural – 2%] of the MSW stream and combined with food scraps represent almost 24 percent of the materials discarded.

- **Textiles** – clothing, carpet, towels, sheets, and draperies} make up approximately 5 percent of the materials stream.

- **Wood** – generated by small scale or do-it-yourself projects} is nearly 3 percent of the MSW generated in NYS.

- **Other** – this category represents about 10 percent of the waste stream in New York State and includes residentially generated C&D materials, other durables, diapers, electronics, HHW and tires, among other items.

C&D material is defined by NYSDEC as uncontaminated solid waste resulting from the construction, remodeling, repair and demolition of utilities, structures and roads; and uncontaminated solid waste resulting from land clearing. Such waste includes, but is not limited to bricks, concrete and other masonry materials, soil, rock, wood (including painted, treated and coated wood and wood products), land clearing debris, wall coverings, plaster, drywall, plumbing fixtures, non-asbestos insulation, roofing shingles and other roof coverings, asphaltic pavement, glass, plastics that are not sealed in a manner that conceals other wastes, empty buckets ten gallons or less in size and having no more than one inch of residue remaining on the bottom, electrical wiring and components containing no hazardous liquids, and pipe and metals that are incidental to any of the above. As defined in the NYSDEC's 2023 Solid Waste Management Plan, C&D materials often contain bulky, heavy materials such as the following:

- **Concrete/Asphalt/Rock/Brick (CARB)** – CARB comprises approximately 35 percent of the C&D material stream.

- **Soil/Gravel** - soil and gravel make up approximately 27 percent of the C&D material stream.
- **Wood** – wood makes up approximately 15 percent of the C&D material stream.
- **Other Materials** – the remaining components consist of roofing, drywall, metal, plastic, cardboard, plastic, and "other."

In New York State, solid waste that is not considered to be C&D debris (even if it is associated with construction, remodeling, repair and demolition of utilities, structures and roads and land clearing) includes, but is not limited to: asbestos waste, garbage, corrugated container board, electrical fixtures containing hazardous liquids such as fluorescent light ballasts or transformers, fluorescent lights, carpeting, furniture, appliances, tires, drums, containers greater than ten gallons in size, any containers having more than one inch of residue remaining on the bottom, and fuel tanks. Additionally, solid waste that would otherwise be considered C&D debris that has been processed to make individual waste components unrecognizable, other than at a NYSDEC approved C&D processing facility, are no longer classified as C&D debris.

Biosolids, also known as sewage sludge, are the solid or semi-solid organic materials generated as a result of the treatment of wastewater. Biosolids may consist of septage, manure, or other agricultural waste. Depending on the source of the biosolids, containments such as heavy metals, PFAS, and pathogens may be present. The County currently does not accept biosolids at any of their transfer stations.

## 3.1 SOLID WASTE

MSW generated within Sullivan County can be brought to and processed through the transfer stations operated by the County. The Sullivan County transfer stations also have the ability to manage C&D waste. Private haulers can also bring MSW and C&D waste to be processed at other facilities, such as LaMela's in Ulster County, Taylor Recycling in Orange County, and Recycling Depot in Dutchess County. As defined above, C&D materials often contain bulky, heavy materials that include:

- Concrete and bricks,
- Wood from buildings,
- Asphalt from roads,
- Roofing shingles and other roof coverings,
- Plaster and gypsum wall covering material,

- Metals,
- Cardboard,
- Glass,
- Plastics,
- Salvaged building components such as doors, windows, and plumbing fixtures,
- Earth and rock from clearing sites.

Reducing and/or recycling C&D materials conserves landfill space and reduces the environmental impacts associated with producing the materials. It can also reduce building project expenses with the reduction of purchase and disposal costs.

Based on numbers provided for 2021 within annual reports submitted to NYSDEC, the following table provides a summary of the combined materials collected (in tons) at the County transfer stations.

**2021 County TSs Waste Stream Totals**

| Material | Tons | Percent of Waste Stream (%) |
|---|---|---|
| **MSW** | 49,723.14 | 53.98 |
| **C&D** | 35,933.42 | 39.01 |
| **Commingled Paper** | 986.16 | 1.07 |
| **Single Stream** | 3375.21 | 3.66 |
| (Plastics) | 255.84 | — |
| (Glass) | 704.41 | — |
| (Newspaper) | 1142.17 | — |
| (Cardboard) | 890.04 | — |
| (Misc. Paper) | 296.68 | — |
| (Metals) | 86.07 | — |
| **Cardboard** | 690.89 | 0.75 |
| **Misc. Scrap Metal** | 857.03 | 0.93 |
| **Electronics** | 95.75 | 0.10 |
| **Textiles (estimated)** | 137.5 | 0.15 |
| **Tires** | 310.68 | 0.34 |
| **Total** | 92,109.78 | 100.00 |

Note: Textiles tonnages are estimates from County based on experience from previous data collection efforts. Further efforts to quantify textiles will be made by weighing the box collected by the vendor to more accurately record a net weight of textiles.

## 3.2 RECYCLING

Recyclables can be managed by either dual stream or single stream methods. Single stream recycling is the combination of all recyclable products (paper, cardboard, plastics, glass, and metal) into one container by the

resident or commercial business, which is then picked up by a truck and dumped in a single pile at a processing facility. Dual stream recycling is the separation of the two main recyclable product streams (paper and cardboard as one and plastics, glass, and metal as the other) by the citizen or commercial business. Recycling materials brought into and shipped from the transfer stations are recorded on each load to help quantify the tonnages being handled. This data is tracked year to year to help set tipping fees and to help understand recycling trends. Collected data is submitted to NYSDEC annually.

Private or public haulers also pick up recyclable materials curbside if residents do not bring the recyclables themselves to a transfer station. These materials do not have to be transferred to the Monticello MRF. However, it is the responsibility of the generator to ensure the recyclable materials are brought to an appropriate recycling facility.

The County as of 2024, operates and accepts recyclables as single stream at the transfer stations. Source separated cardboard is the only material collected separately outside of single stream and accepted for free. Commercial haulers pickup single stream recyclables curbside from residential properties and empty loaded trucks at the MRF located at the Monticello TS.

## 3.3 BIOSOLIDS

Biosolids are the accumulated semi-solids or solids resulting from treatment of wastewaters from sewage treatment plants. Biosolids do not include grit or screenings, or ash generated from the incineration of biosolids. The County does not collect biosolids. Biosolids are collected by private haulers who operate within the County and bring to various disposal facilities. The County will make an effort to quantify the total biosolids being managed within the county by contacting the known biosolid generators and processors.

## 3.4 COMPOSTING

Composting is the aerobic, thermophilic decomposition of organic waste to produce a stable, humus-like material. Compost is a valuable amendment that restores soil by building health and structure to improve water retention and plant vitality. The New York State Food Donation and Food Scrap Recycling Act, requiring mandatory composting for large generators, took effect starting in 2022. This will help increase the organics waste stream that may be available to the County to utilize in their proposed organic recovery operations.

In April 2021, the County received an Organics Management Plan that the County requested from SCS Engineers of Suffern, NY. The plan includes two phases. Phase 1 is a pilot project to collect residentially generated food scraps at the transfer stations. This material would then be shipped to the Ulster County Resource Recovery Agency for composting at their established facility. Phase 2 involves a commercial scale aerated windrow municipal food and yard waste compost facility proximate to the Monticello Transfer Station. The full report from SCS is included in Appendix B.

Animal carcasses collected by the County are brought to County transfer stations, then disposed of at Seneca Landfill with the MSW.

## 3.5 ELECTRONICS

The New York State Electronic Equipment Recycling and Reuse Act went into effect on April 1, 2011. The law is intended to ensure that every New Yorker will have the opportunity to recycle their electronic waste in an environmentally responsible manner. The County accepts some electronics for free from residents, and nonresidents (must pay user fee) at the various TSs. Additional discussion on E-waste is provided in Section 4.10.4.

## 3.6 HOUSEHOLD HAZARDOUS WASTE

Household Hazardous Wastes (HHW) are waste materials that would be regulated as hazardous waste if they were generated outside of a household. Waste materials that are ignitable, toxic, corrosive, or reactive are commonly labelled as hazardous. To manage HHW in the County, the County typically runs two HHW collection events every year. This provides an outlet for Sullivan County residents to dispose of environmentally unfriendly materials in a safe manner at no additional cost. The HHW events are not open to other counties, businesses, farms, non-profit organizations, schools, or other institutions. Materials collected at these events include but are not limited to latex and oil-based paints, solvents, stable fuels, antifreeze, pool chemicals, acids, bases, poisons, fluorescent bulbs, fire extinguishers, mercury containing devices, pesticides, automotive batteries, and roofing tar. The County receives a 50% grant reimbursement for the HHW events from the Household Hazardous Waste State Assistance Program.

In August 2008, the NYSDEC launched an initiative to help households reduce the growing presence of pharmaceuticals in water bodies. The "Don't Flush Your Drugs" campaign is designed to eliminate flushing of pharmaceuticals in household settings by raising public awareness about this issue and providing information about how to properly dispose of household pharmaceuticals.

## 3.7 PAINT WASTE

The New York State Legislature has approved legislation creating a "Post-consumer Paint Collection Program." This legislation directs NYSDEC to develop a plan for paint manufacturers and sellers to form and cover the costs of a statewide, not-for-profit Paint Stewardship Program. The plan would seek to minimize the involvement of local governments in the management of post-consumer paint by reducing its generation and establishing agreements to collect, transport, reuse, recycle, and/or burn for energy recovery at appropriately licensed collection sites and facilities using environmentally sound management practices. The measure further specifies that the plan include annual program audits and reports, education and outreach to consumers, and details on how post-consumer paint would be collected, treated, stored, transported, and disposed. The NYSDEC granted a conditional approval to PaintCare for the program on January 6, 2022. The County has PaintCare locations established in Sullivan County at each of the transfer stations.

## 3.8 SCRAP METAL

Metals can be brought to any transfer station as bulk metal loads (free of trash) for free. These goods are collected from residents, waste haulers, and small businesses. Metals collected at the transfer stations are removed by Weitsman Recycling. The County as of 2023 receives $107.14/ ton for scrap metal loads.

## 3.9 TIRES

Tires are accepted at the Transfer Stations at $3.00 per tire under 19” rim, $30.00 per tire over 19” rim, or a bulk rate for 5 or more tires at $300.00 per ton. Vehicular tires are occasionally brought into the facility through mixed loads. The tires are taken out of the waste stream and in 2021 were sent for disposal at Casings, Inc. in Greene County. Disposal vendors may vary based upon availability and pricing at the time of disposal.

## 3.10 TEXTILES

Textiles include used and discarded clothing from residents. There are collection boxes at the transfer stations as well as non-profit agency sponsored clothing drop boxes located throughout the County for public use. According to the EPA, only about 15% of textiles are recycled/reused. Textile manufacturers are among the top contributors to $CO_2$ emissions. Generally, there is a statewide need for increased education and the number of programs available to limit the tonnage of textiles ending up in landfills. The New York State Association for Reduction, Reuse, and Recycling discusses the Re-Clothe NY Coalition, which is a group of recyclers, non-profits, and governments that work to increase textile reuse and recycling across NYS. The NYSDEC has determined that approximately 1.4 billion pounds of clothing and textiles are disposed of each year in NYS. Below is a list of items

that may be accepted as a textile or clothing at textile collection events or specific textile drop-off points. Items can be donated in any condition (torn, worn, stained, missing buttons, broken zippers, shoe without a mate, etc.) as long as they are clean, dry, and odorless.

**Footwear (single or in pairs):**

•Shoes
•Heels (wedges, pumps)
•Flats
•Sandals
•Flip Flops
•Boots (work boots, dress boots, winter boots)
•Sneakers
•Cleats
•Slippers

**Clothing:**

•Tops (T-shirts, blouses, shirts, tank tops)
•Sweaters
•Sweatshirts
•Dresses
•Outerwear (coats, jackets, blazers)
•Bottoms (pants, slacks, jeans, sweatpants, skirts, shorts)
•Suits
•Socks
•Pajamas
•Slips
•Bras
•Underwear

**Accessories:**

•Hats
•Bags (pocketbooks, backpacks, duffle bags, totes)
•Belts
•Gloves
•Ties
•Scarves
•Bathrobes

**Linens:**

•Sheets
•Blankets
•Towels
•Curtains/Drapes

•Aprons
•Dish cloths
•Cloth napkins
•Table linens
•Comforters
•Throw rugs
•Placemats

**Other:**
•Halloween costumes
•Sports jerseys
•Pet clothing
•Textile scraps greater than 1'x1'
•Canvas

## 3.11 NON-HAZARDOUS INDUSTRIAL WASTE

Non-hazardous industrial waste is solid waste that is the byproduct of manufacturing or industrial processes but does not include hazardous waste. This material is different from MSW in that it does not include food and other wastes typically generated in the home and can include large quantities of materials which can be generated by the following: electric power generation; fertilizer/agricultural chemicals; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay and concrete products; textile manufacturing; and transportation equipment. The County currently does not accept industrial waste. During this planning period, an attempt will be made to identify large industrial waste generators within Sullivan County. However, collection of data pertaining to industrial waste may not be achievable because the County does not currently process or monitor industrial waste. The County will make an effort to quantify the total industrial waste being created and disposed of within the county or taken to outside facilities by contacting generators.

## 3.12 WASTE PROJECTIONS

Projections of MSW generation for each year of the 10-year planning period are presented in the table below. These data are based on the 2021 MSW totals and consider a steady increase in population over the 10-year planning period. The annual population displayed in the table below is based on an average 2.2% increase per year over the 10-year planning period which was derived from current population estimates provided by the County and literature expressing the increase of residents to Sullivan County during recent years.

Section 9 discusses MSW projections as well. However, the calculator provided by the NYSDEC assumes a 0.14% increase in population per year based on the latest census data.

**10-Year MSW Projections based on Population**

| Year | Population | Tonnage - Population Based Projections |
|---|---|---|
| 2024 | 85,775 | 51,971 |
| 2025 | 87,662 | 53,114 |
| 2026 | 89,590 | 54,283 |
| 2027 | 91,561 | 55,477 |
| 2028 | 93,576 | 56,697 |
| 2029 | 95,634 | 57,945 |
| 2030 | 97,738 | 59,220 |
| 2031 | 99,888 | 60,522 |
| 2032 | 102,086 | 61,854 |
| 2033 | 104,331 | 63,215 |

The 2018 EPA average waste generation rate of 4.9 lbs. of waste & recyclables per day per person (3.32 lbs. for MSW and 1.57 lbs. for recyclables) was used to calculate projected yearly tonnages based on population. In 2021, 49,723.14 tons of MSW were actually collected by Sullivan County which results in an average of 3.4 lbs./day/person, compared to the EPA generation rate of 3.32 lbs./day/person. This difference can be explained in part by the County accepting MSW from neighboring planning units and/or the large influx of tourism, seasonal residents, and events in the County which typically results in high volumes of non-resident waste. Over the 10-year planning period, it is estimated that waste generated by residents will increase by approximately 11,000 tons due to a moderately projected increase in population.

Many of New York State counties have observed a decreasing populating trend in the last 5-10 years as a result of high cost of living, high taxes, and colder climate. Due to recent events, primarily related to Covid-19 and criminal activities, Counties within 1.5 hours of New York City and North Jersey have seen an increase in population growth as people are leaving areas with high population densities. If the County continues to experience a steady population growth during the next 10 years, the increased tonnage will be relatively minimal and the current facility operations will continue to adequately manage the waste. It is the intent that a reduction in waste will be achieved by diverting materials from the waste stream for recycling, reuse, or composting.

## 3.13 DATA GAPS

Information pertaining to the identification and quantification of industrial and biosolid waste has been identified as a data gap. During the planning period the county will make an effort to collect data related to volumes of industrial and biosolid waste produced and managed within the county.

An effort will also be made to identify the extent to which farmers within the county may be managing organic components of MSW on site for animal feedstock, composting, or for other on-farm uses.

Additionally, the quantity of textiles recovered has been identified as a data gap. Current estimates are an educated guess based on the County's experience. During the planning period, the County will make an effort to better quantify the textiles recovered by getting a tare weight on the collection box and tracking how many boxes are collected. The above initiatives are outlined in the implementation schedule.

# 4.0 EXISTING SOLID WASTE MANAGEMENT SYSTEM

The Department of Solid Waste & Recycling manages Sullivan County's solid waste disposal program, including the County's main transfer station and materials recovery facility in Monticello. In addition, the County operates five smaller transfer stations (recycling/convenience stations) throughout the County. Sullivan County does not pick up garbage from residents or businesses.

## 4.1 COUNTY FACILITIES

### 4.1.1 Monticello

The Monticello Transfer Station is located at 91 Landfill Drive in Monticello and is permitted by the NYSDEC under Permit # 3-4846-00079/00031 which expires on May 30, 2028. The permit authorizes the facility to accept MSW, C&D, source separated recyclables, source separated organics, paint products, and universal waste, from residential, commercial, and institutional sources at a maximum combined rate of 800 tons per day, not to exceed 3,685 tons per week. The facility may receive waste Monday through Friday between 7:00 A.M. and 3:30 P.M. and on Saturday between 7:00 A.M. and 1:00 P.M. The Monticello TS is the primary TS in the County. All MSW, C&D, and the majority of recyclables are brought to Monticello from the other County and town TSs and shipped for end disposal.

The Monticello TS has a material recovery facility, solid waste transfer/processing building, additional miscellaneous out-buildings, a scale and scale house, diesel fueling station, fire suppression system, excavators, loaders, a compactor, conveyor system, containers, and trucks. The site also encompasses the Monticello citizens drop off center, two closed landfills, leachate collection tanks and operation building, and two flares. The overall facility is surrounded by a perimeter fence and the operational areas are paved.

### 4.1.2 Ferndale

The Ferndale TS is located at 78 Lt. J.G. Brender Highway in Ferndale and operates under Registration # 53T10002. The registration is valid for 5 years and expires on May 18, 2028. The registration allows the Ferndale TS to accept MSW, C&D, commingled paper and containers, electronics and source separated waste at a combined rate of 2,800 tons per year.

The Ferndale TS has two bays for direct loading into trailers for MSW and C&D. Recyclables are accepted in outdoor containers. The facility has a large tipping floor, an office for the operator, a scale, and one backhoe. MSW, C&D, corrugated cardboard, newspaper, and mixed paper are transferred from the facility to the Monticello TS. Scrap metal is transported to Upstate Shredding in Owego, NY, electronics are transported to eLOT Electronics Recycling in Glenmont, NY, textiles are transported to Textile Recovery Services in East Bohemia, NY, and tires are transported to Casings in Catskill, NY.

### 4.1.3 Highland

The Highland TS is located at 475 State Route 55 in Eldred and operates under Registration # 53T10003. The registration is valid for 5 years and expires on May 18, 2028. The registration allows the Highland TS to accept MSW, C&D, single stream, corrugated cardboard, newspaper, commingled paper & containers, metals, electronics, waste tires, and source separated organic waste at a combined rate of 2,600 tons per year.

The Highland TS has 2 bay doors. MSW and commingled recyclables are accepted inside the TS building. The facility has an office for the operator, a compactor, and a backhoe. Containers for C&D, tires, newsprint and corrugated cardboard are located outside. MSW, C&D, corrugated cardboard, newspaper, and mixed paper are transported to the Monticello TS. Scrap metal is transported to Upstate Shredding in Owego, NY, electronics are transported to eLOT Electronics Recycling in Glenmont, NY, textiles are transported to Textile Recovery Services in East Bohemia, NY, and tires are transported to Casings in Catskill, NY.

### 4.1.4 Mamakating

The Mamakating TS is located at 164 Dump Road in Wurtsboro and operates under Registration # 53T10004. The registration is valid for 5 years and expires on May 18, 2028. The registration allows the Mamakating TS to accept MSW, C&D, commingled paper and containers, electronics, and source separated organic waste at a combined rate of 3,100 tons per year.

The Mamakating TS accepts metals outdoors in a roll-off. MSW and recyclables are accepted inside the facility building. The TS has an office for the operator, 2 compactors and a backhoe. MSW, C&D, corrugated cardboard, and mixed paper are transported to the Monticello TS. Scrap metal is transported to Upstate Shredding in Owego, NY, electronics are transported to eLOT Electronics Recycling in Glenmont, NY, textiles are transported to Textile Recovery Services in East Bohemia, NY, and tires are transported to Casings in Catskill, NY.

### 4.1.5 Rockland

The Rockland TS is located at 131 Overlook Drive in Livingston Manor and operates under Registration # 53T10005. The registration is valid for 5 years and expires on May 18, 2028. The registration allows the Rockland TS to accept C&D, MSW, single stream, corrugated cardboard, newspaper, commingled paper & containers, metals, electronics, waste tires, and source separated organic waste at a combined rate of 3,600 tons per year.

The Rockland TS accepts MSW inside the facility building. C&D and recyclables are accepted in outdoor containers and roll-offs. The facility has an office for the operator, a scale, a backhoe, and one compactor for MSW. MSW, C&D, corrugated cardboard, newspaper, and mixed paper are transported to the Monticello TS. Scrap metal is transported to Upstate Shredding in Owego, NY, electronics are transported to eLOT Electronics Recycling in Glenmont, NY, textiles are transported to Textile Recovery Services in East Bohemia, NY, and tires are transported to Casings in Catskill, NY.

### 4.1.6 Western Sullivan

The Western Sullivan TS is located at 433 Mitchell Pond East Road in Cochecton and operates under Registration # 53T1006. The registration is valid for 5 years and expires on May 18, 2028. The registration allows the Western Sullivan TS to accept MSW, C&D, single stream, corrugated cardboard, newspaper, commingled paper & containers, metals, electronics and waste tires at a combined rate of 1,375 tons per year.

The Western Sullivan TS accepts all materials in outdoor containers. This facility currently does not have power, but the addition of power and data communications is planned for 2023. The Western Sullivan TS only accepts materials from residents. The facility has a small shed for the operator and a backhoe for compaction. MSW, C&D, corrugated cardboard, newspaper, and mixed paper are transported to the Monticello TS. Scrap metal is transported to Upstate Shredding in Owego, NY, electronics are transported to eLOT Electronics Recycling in Glenmont, NY, textiles are transported to Textile Recovery Services in East Bohemia, NY, and tires are transported to Casings in Catskill, NY.

## 4.2 OTHER SULLIVAN COUNTY FACILITIES

Within Sullivan County there are a total of eight transfer/recycling stations. Of these eight, two are not owned by the County. Bethel and Neversink Transfer Stations are owned and operated by the towns in which they are located. The County does provide and remove containers for recyclables at both facilities, however the town pays the current tip fee for MSW and recyclables.

## 4.2.1 Bethel Transfer Station

The Bethel Transfer Station is open seven days a week from 8:00 am – 4:00 pm and closed on major holidays. The TS only accepts materials from Bethel residents. Bethel hosts a yearly clean up during the first Saturday in May. Below is a brochure that summarizes what items Bethel does and does not accept along with a fee schedule.

The Town of Bethel Transfer Station is owned and operated by the Town of Bethel. The fee schedule is set by the Town Board. Bethel residents only. The yearly clean-up is held the first Saturday in May which is made possible by the Sullivan County Legislature through allocated tonnage made free to the Town's. If there is leftover tonnage a fall-clean-up **may** be organized. The Town no longer accepts Bulk Waste (sofas, chairs, couches, carpets, etc.), these items are accepted for free only on clean-up day, no construction debris ever. Otherwise, these items may be taken to the County facilities listed at a cheaper rate than the Town can charge anytime of the year.

**Hours:** 8:00 a.m.–4:00 p.m. Open seven days a week. Closed major holidays.

**Directions:** Route 55 East, go passed Airport Road about 1 mile to Old White Lake Turnpike (there is a blue and white Synagogue on the corner) make right onto Old White Lake Turnpike, Transfer Station is ¼ mile on left. Same road as the Town Pool & Park.

**Car Permits:** Permits are required on all vehicles entering the Transfer Station. Permits are free and are obtained from the Town Clerk's Office. Proof of residency is required. Permits are to be affixed to the driver's of car (driver window, back seat window, or rear window. **Do not** affix to the windshield.

**County Facilities.**
Monticello 807-0290
Mamakating 888-0256
Ferndale 292-3670
Rockland 439-3654
Highland 557-6983
Western Sullivan 932-8845

**Recyclables are free all year!**




The recyclables placed at our transfer station are picked up by the County at no charge. We **must** adhere to their rules and regulations or the town will be susceptible to fines and revocation of our recycle program. Please see County Brochure posted at attendant's office for answers to your recycling questions. SSR (Single Stream Recycling), not need to sort.

Metal is free all year! Microwaves, dishwashers, washing machines, dryers, bicycles, bbq grills, empty propane tanks, shelving, chairs, etc.

**Used Motor Oil:** To be placed in oil recycling container. See Attendant.

These items are **NOT** accepted: Styrofoam, soiled food containers, plastic wrap, cellophane, cat/dog/bird food bags, plastic outdoor toys. These must be placed in with your household garbage. **Please do not put garbage bags or shopping bags in the recycle bin. Dispose in garbage.**

**E-Waste (Electronic Waste): FREE**
Radios, VHS/DVD players, laptops, Computer, Fax machines, keyboards, cable boxes, typewriters, receivers, speakers.

Please see attendant to place the following items in the proper receptacles:
CRT & Non-CRT Monitors & TV's:
20" or less $5.00
21"-32" $10.00
Over 32" $15.00

Fluorescent Tubes <500ft $0.25 per foot
Fluorescent Tubes >500ft $.10 per foot
U-Tube/Compact
CFL/Biax/Par/Halogen/CircularS.75 each
Non PCB Ballasts $0.75 per pound
Alkaline batteries can be put in your kitchen garbage otherwise:
Alkaline: Zero Mercury Added $.75per pd
Button Cells (lithium & silver oxide)
$3.00 per pound (no charge if a single battery in a device such as a PC)
Wet Cell Batteries are to be dropped off at attendant. No charge for: Lead Acid Wet or Gel, Nickel Cadmium, Lithium Ion, and Nickel Cadmium batteries







**Household garbage fees:** Each 30 gallon bag costs $2.50. or one coupon. Oversized bags are $5.00 or two coupons. If coupons are purchased in advanced you save .50 per bag. Coupons can be purchased at the Town Hall (cash, check or debit/credit) or Transfer Station (cash or check), same price at both locations. **Book of 15 coupons: $30.00**

**Tires:** $1.50 (up to and including 15" rim size); $2.75 (16" through 20" rim size) $10.00 (over 20" rim size)

**Refrigerated Items:** $15 each. All items containing Freon - Refrigerators, Air Conditioners, freezers, etc.

**Brush, Grass, Leaves-** Brush can be taken to Gary Myers, 4400 Route 55, Swan Lake. Brush – free; stumps for a fee; no leaves or grass.

Town of Bethel
P.O. Box 300
3454 Route 55
White Lake,
New York 12786
(845) 583-4350 x101

RECYCLE

Town of Bethel

Transfer Station

608 Old White Lake Turnpike

Swan Lake, NY 12783

(845) 292-4505

**TOWN OF BETHEL TRANSFER STATION GUIDELINES**

*Owned and Operated by the Town of Bethel.*
*Not a county facility.*

**Town of Bethel Clean-Up Day**
**Saturday, May 7th & Sunday, May 8th**
**8:00 a.m. – 4:00 p.m.**

***Bethel Residents Only!***

**Bethel Transfer Station**
**608 Old White Lake Turnpike**
**292-4505**

**Car Permit Required All Year** – Free car permits can be obtained from Bethel Town Hall. Need Car Registration. If you already have a car permit you do not need a new one.
**No Special Permit is required for Clean-Up Day**

**The Following Instructions Must Be Adhered To:**

**Tires**-Four FREE tires per household standard size must be off rims. Rates apply to other sizes.
**Bulk Waste** – couches, chairs, rugs, outdoor and indoor furniture, tables, carpet, yard toys, mattresses, etc. go into the bulk waste container. **FREE.** **Please SORT recyclable items, plastic with symbol on bottom, glass and metal.**
**Refrigeration Units** –$10.00 each (refrigerators, freezers, air-conditioners, etc.)
**CRT and Non-CRT Computer Screens and Oversized T.V.'s** - $5.00; extra-large $10.00

**The Following Items Are Free All Year.**
**Must Be Placed In Proper Receptacles To Help Keep Our Cost Down!**

**Computers, DVD/VCR Players, Faxes, speakers, receivers, keyboard, Radios, Free All Year** Must be placed in separate container, see attendant for assistance!
**Metal**: B-B-Q grills, water heaters, chairs, shelving, empty propane tanks, clothes dryers/washing machines, bicycles, pipes, swing sets, lawnmowers. **Free All Year**!
**Empty Paint Cans Only**: Metal goes in metal pile. Plastic #1 through #7 recycle. If you have paint cans with paint, remove the lid, place in sunshine away from children, pets, and water to evaporate paint then dump container or wait for hazardous clean-up day. **Free**!
**Salvation Army Bins** for clothes and small items – **Free all Year**!
**Recyclables (Glass, Tin and Plastic) Newspaper, cardboard and mixed paper** can be placed in same container. **Free all Year!**
**Styrofoam** is not recyclable and goes in household waste.
**Car Batteries, Used Car Oil** Must be placed in proper containers. **Free all Year!**
**Brush, Leaves and Grass – No longer accepted. You may take brush only to Gary Myers, 4400 Route 55, Swan Lake, NY for free. Leaves can be composted, not burned.**

**NO household garbage – must pay regular fee – pre-pay and save!**
**NO Construction or Demolition materials of any kind!**

**Program made possible by the taxpayers of Sullivan with additional assistance from the Town of Bethel**

## 4.2.2 Neversink Transfer Station

The Neversink Transfer Station is open to residents, commercial businesses, and not for profit organizations located in the Town of Neversink. The TS is open two days a week. Users must purchase an annual permit. Below is a summary of the items accepted and fee scheduled for the TS.

Transfer Station

**HOURS OF OPERATION**
Wednesday 11:00 AM - 7:00 PM
Saturday 9:00 AM - 5:00 PM
(Excluding Holidays. Changes in the Hours of Operation will be posted as necessary.)

**ALLOWABLE USERS**
Residents of the Town of Neversink
Commercial Businesses Located in the Town of Neversink
Not For Profit Organizations Located in the Town of Neversink




Allowable Users must obtain the Annual Permit from the Town Clerk's Office. A Permit must be obtained for each individual residential home and/or business. If two residences, two businesses or a residence and business are located on the same parcel, each must have its own annual permit. Proof of residency is required before a permit will be issued.

The Permit will serve as Proof of Residency in the Town of Neversink. The Permit would need to be shown at the request of a Transfer Station Attendant. In addition to being used for I.D. purposes, the Permit will be punched for the two free floating loads, the Town's 4 free tire disposal program and during Spring/Fall Cleanup, if held.

NOTE: ALLOWABLE USERS ARE NOT PERMITTED TO BRING ITEMS INTO THE TOWN OF NEVERSINK TRANSFER STATION FROM LOCATIONS OUTSIDE THE TOWN OF NEVERSINK, IF IT IS NOT GENERATED IN THE TOWN, IT IS NOT ALLOWED.

The following items generated within the Town of Neversink will be accepted:

- SW (Solid Waste) Coupon Books $20.00 each – One (1) coupon per 30 gallon bag.
- C D (Construction Demolition Debris) Coupon Books $30.00 each
- Tires - Price varies by size
- Refrigerators, Freezers, Air Conditioners & Dehumidifiers - Freon Removal Fee $15.00 each
- Television Set (all display types) - 3 SOLID WASTE COUPONS EACH
- Computers, Monitors & Laptops - 3 SOLID WASTE COUPONS EACH
- Miscellaneous Electronics – NO CHARGE
- Fluorescent Lamps (Bulbs) - NO LONGER ACCEPTED
- Recyclables, Scrap Metal - FREE

**ANNUAL PERMIT FEES**

- Permit Card: $10.00
- Replacement Permit Card: $2.00

**USING THE TRANSFER STATION**

- Persons entering the Transfer Station must show their annual permit to the attendant BEFORE depositing items. Attendants will answer any questions with regard to fees and disposal of items.
- SW (Solid Waste): SW Booklets are available for $20.00 at the Town Hall (Payable by check or cash) or at the Transfer Station (Payable by check ONLY). A current permit must be purchased annually at the Town Hall before coupons will be sold. Available in booklet of 15 only—individual coupons are not sold. A 30 gallon bag of garbage will require 1 coupon.
- CD (Construction & Demolition Debris): CD Booklets are available for $30.00 at the Town Hall only and are payable by check or cash. Each coupon is valued at $2.00. Individual Coupons are not sold. A list of the fees for individual items such as furniture, carpeting, etc. is available at the Town Hall. CD disposal can also be paid for at the Transfer Station. Please remember that cash cannot be accepted at the Transfer Station, only checks or coupons.
- FREE TIRE PROGRAM: Each permit holder is entitled to dispose of four (4) tires at no charge. Tires must be off the rims. PLEASE NOTE: NO LARGE EQUIPMENT TIRES WILL BE ACCEPTED FOR THE FREE TIRE PROGRAM.
- TIRES: Disposal of tires beyond the four (4) free are charged as follows:

**TIRE SIZES & FEES**
19 inches or smaller $5.00 each
20 inches AND OVER $25.00 each

PLEASE NOTE: RIMS MUST BE REMOVED. THERE WILL BE AN EXTRA $3.00 CHARGE PER TIRE FOR TIRES BROUGHT TO THE TRANSFER STATION WITH RIMS.

- REFRIGERATORS, FREEZERS, AIR CONDITIONERS & DEHUMIDIFIERS:

There will be a $15.00 FREON removal fee when disposing of these items. This fee can be paid ahead of time at the Town Hall and presenting the receipt to the attendant or by issuing a check at the Transfer Station. Cash cannot be accepted at the Transfer Station.

- RECYCLE THE FOLLOWING ITEMS FREE OF ANY ADDITIONAL CHARGE:

BOTTLES, TIN CANS, PLASTICS, ALUMINUM CANS, CARDBOARD, NEWSPAPERS, MIXED PAPER, SCRAP METAL, USED MOTOR OIL AND USED CLOTHING. THERE ARE BINS AVAILABLE FOR DEPOSIT BOTTLES (PROCEEDS WILL GO TO VARIOUS CIVIC CAUSES) ALL ITEMS MUST BE CLEAN

To continue to keep our fees low, the Town asks that no solid waste or construction demolition materials are brought into the Transfer Station from locations outside the Town of Neversink. We appreciate your cooperation.

RECYCLING IS MANDATORY IN SULLIVAN COUNTY.

Local law requires that recyclables must be removed from all residential, municipal and commercial waste prior to disposal of waste at the Transfer Station. Compliance is determined by routine load inspections. Violators are subject to fines.

## 4.2.3 Transfer Station Overview

Out of county residents are required to purchase an annual permit for the transfer stations that they utilize. Sullivan County residents are required to pay fees as noted on the fee schedule. These fees help to fund the operations and maintenance of each facility. Facilities have implemented a Pay As You Throw (PAYT) program which means residents pay only on what they discard. Typically, 30-gallon bags can be disposed of for around $3. Recyclables can be disposed of for free and must be separated into the correct corresponding roll offs. By implementing the PAYT program, this incentivizes the residents to reduce waste as much as possible, and results in recycling and composting food and yard waste. The table below shows the location and hours of operation for each Sullivan County facility along with a holiday closing schedule.

| Location | Phone Number | Hours | Capacity (tons) | Open to Commercial Haulers | Operated by |
|---|---|---|---|---|---|
| MONTICELLO TRANSFER STATION<br><br>91 LANDFILL DRIVE, MONTICELLO, NY | (845) 807-0293 | COMMERCIAL HAULERS:<br><br>Monday through Friday 7:45 AM – 2:45 PM (Scales close at 2:30 PM).<br><br>Saturday 7:45 AM – 11:00 AM (Scales Close at 11:00AM)<br><br>RESIDENTIAL USERS:<br><br>MONDAY - FRIDAY 7:45 AM – 2:45 PM, (Scales close at 2:30 PM)<br><br>SATURDAY 7:45 AM - 2:45 PM; (Bags only 11:00AM - 2:45PM) | 800 tons/day<br><br>Or 3,685 per week | Yes | County |
| FERNDALE TRANSFER STATION<br><br>78 LT. J. G. BRENDER HIGHWAY (OFF CR 72), FERNDALE, NY | (845) 292-3670 | Tuesday, Thursday & Sunday 7:45 AM – 2:45 PM. (Scale Closes 2:30 PM) | 2,800 tons/year | No | County |

| Location | Phone Number | Hours | Capacity (tons) | Open to Commercial Haulers | Operated by |
|---|---|---|---|---|---|
| HIGHLAND TRANSFER STATION<br><br>475 STATE ROUTE 55, ELDRED, NY | (845) 557-6983 | TUES. THURS. & SAT. 7:45 AM - 2:45 PM<br>No Scale | 2,600 tons/year | No | County |
| MAMAKATING TRANSFER STATION<br><br>164 DUMP RD. (OFF C.R. 56 MASTEN LAKE RD.), WURTSBORO, NY | (845) 888-0256 | Wednesday and Sunday 7:45 AM – 2:45 PM<br>No Scale | 3,100 tons/year | No | County |
| ROCKLAND TRANSFER STATION<br>131 OVERLOOK DR. (OFF C.R. 151), LIVINGSTON MANOR NY | (845) 439-3654 | TUES., THURS. & SAT. 7:45 AM - 2:45 PM (Scale Closes 2:30pm) | 3,600 tons/year | No | County |
| INTERIM WESTERN SULLIVAN TRANSFER STATION<br><br>433 MITCHELL POND EAST RD. (OFF C.R. 114), COCHECTON, NY | (845) 932-8845 | WED. & SAT. 7:45 AM - 2:45 PM<br>No Scale | 1,375 tons/year | No | County |
| BETHEL RECYCLING STATION<br>608 OLD WHITE LAKE TURNPIKE, SWAN LAKE, NY | (845) 292-4505 | 7 DAYS A WEEK<br>8:00 AM – 4:00 PM | Information not provided by Bethel | No | Town |

| Location | Phone Number | Hours | Capacity (tons) | Open to Commercial Haulers | Operated by |
|---|---|---|---|---|---|
| NEVERSINK RECYCLING STATION<br><br>NYS RT. 55, GRAHAMSVILLE | (855) 985-2911 | WED. 11:00 AM – 7:00 PM<br><br>SAT: 9:00 AM – 5:00 PM | Information not provided by Neversink | No<br><br>Open to Commercial Businesses and Not For Profit Organizations within the Town | Town |

# Sullivan County Solid Waste 2024 Holiday Schedule

| | | |
|---|---|---|
| New Year's Day | Closed | Monday, January 1, 2024 |
| Martin Luther King Day | Closed | Monday, January 15, 2024 |
| Lincoln's Birthday | Closed | Monday, February 12, 2024 |
| Washington's Birthday | Closed | Monday, February 19, 2024 |
| Memorial Day | Closed | Monday, May 27, 2024 |
| 4th of July | Closed | Thursday, July 4, 2024 |
| Labor Day | Closed | Monday, September 2, 2024 |
| Columbus Day | Closed | Monday, October 14, 2024 |
| Election Day | Closed | Tuesday, November 5, 2024 |
| Veterans Day | Closed | Monday, November 11, 2024 |
| Thanksgiving Day | Closed | Thursday, November 28, 2024 |
| Day after Thanksgiving | Closed | Friday, November 29, 2024 |
| Christmas Eve | *** Closing at 11:00am *** | Tuesday, December 24, 2024 |
| Christmas Day | Closed | Wednesday, December 25, 2024 |
| New Year's Eve | *** Closing at 11:00am *** | Tuesday, December 31, 2024 |
| New Year's Day | Closed | Wednesday, January 1, 2025 |

The tables below contain total tons by material accepted in 2021 at each County and town-run facility, as well as the material's percent of the total waste stream.

**2021 County Transfer Station Facilities Totals**

| | Ferndale TS | | Highland TS | | Mamakating TS | | Rockland TS | |
|---|---|---|---|---|---|---|---|---|
| **Material** | **Tons** | **Percent of Waste Stream (%)** | **Tons** | **Percent of Waste Stream (%)** | **Tons** | **Percent of Waste Stream (%)** | **Tons** | **Percent of Waste Stream (%)** |
| **MSW** | 686.47 | 27.51 | 747.35 | 40.61 | 238.81 | 32.35 | 588.42 | 29.67 |
| **CD** | 1,343.18 | 53.82 | 526.26 | 28.60 | 299.49 | 40.56 | 954.69 | 48.14 |
| **Commingled Paper** | 121.44 | 4.87 | 178.24 | 9.69 | 57.46 | 7.78 | 145.15 | 7.32 |
| (Corrugated Cardboard) | (71.43) | - | (110.4) | - | (36.77) | - | (94.12) | - |
| (Newspaper) | (4.7) | - | (8.47) | - | - | - | (1.07) | - |
| (Mixed Paper) | (45.31) | - | (59.37) | - | (20.69) | - | (49.96) | - |
| **Single Stream** | 126.44 | 5.07 | 167.76 | 9.12 | 55.43 | 7.51 | 126.08 | 6.36 |
| **Misc. Scrap Metal** | 148.37 | 5.95 | 185.77 | 10.09 | 67.56 | 9.15 | 129.64 | 6.54 |
| **Electronics** | 16.39 | 0.66 | 19.76 | 1.07 | 6.81 | 0.92 | 17.44 | 0.88 |
| **Textiles (estimated)** | 2.5 | 0.10 | 2.5 | 0.14 | 2.5 | 0.34 | 2.5 | 0.13 |
| **Tires** | 50.67 | 2.03 | 12.64 | 0.69 | 10.26 | 1.39 | 19.18 | 0.97 |
| **Total** | 2,495.46 | 100.00 | 1,840.28 | 100.00 | 738.32 | 100.00 | 1,983.1 | 100.00 |

| | Western Sullivan TS | | Monticello TS *excluding material hauled from other county/town facilities | | Totals - All County Run TS Facilities | |
|---|---|---|---|---|---|---|
| **Material** | **Tons** | **Percent of Waste Stream (%)** | **Tons** | **Percent of Waste Stream (%)** | **Tons** | **Percent of Waste Stream (%)** |
| **MSW** | 705.3 | 63.95 | 44,968.2 | 56.50 | 47,934.55 | 54.63 |
| **CD** | 14.38 | 1.30 | 32,003.23 | 40.21 | 35,141.23 | 40.05 |
| **Commingled Paper** | 142.07 | 12.88 | 2,436.05 | 3.06 | 3,080.41 | 3.51 |
| (Corrugated Cardboard) | (84.89) | | (2,436.05) | | - | - |
| (Newspaper) | (3.08) | - | - | - | - | - |
| (Mixed Paper) | (54.1) | - | - | - | - | - |
| **Single Stream** | 150.28 | 13.63 | - | - | 625.99 | 0.71 |
| **Misc. Scrap Metal** | 65.4 | 5.93 | - | - | 596.74 | 0.68 |
| **Electronics** | 9.87 | 0.89 | - | - | 70.27 | 0.08 |
| **Textiles (estimated)** | 2.5 | 0.23 | - | - | 12.50 | 0.01 |
| **Tires** | 13.17 | 1.19 | 183.18 | 0.23 | 289.10 | 0.33 |
| **Total** | 1,102.97 | 100.00 | 79,590.66 | 100.00 | 87,750.79 | 100.00 |

**2021 Materials Received at Monticello TS from Town Run Facilities**

| Material | Tons | Percent of Waste Stream (%) |
|---|---|---|
| **MSW** | 1,788.59 | 54.88 |
| **CD** | 792.19 | 24.31 |
| **Commingled Paper** | 343.80 | 10.55 |
| **SS** | 313.17 | 9.61 |
| **Tires** | 21.58 | 0.66 |
| **Total** | 3,259.33 | 100.00 |

Figure 1 shows County transfer stations in relation to the two town operated transfer stations in the Towns of Bethel and Neversink.

## 4.2.4 Privately Owned Facilities

Jeff Sanitation Inc. is a privately owned facility located at 5239 SR-52 in Jeffersonville. The facility operates under DEC Permit #3-3336-00119/00001. Jeff Sanitation provides waste disposal services, appliance recycling,

dumpster rental and junk removal. In 2021, Jeff Sanitation received 2,322 tons of C&D and 2,994 tons of MSW. Both C&D and MSW materials received at the TS are transported to Keystone Landfill in Pennsylvania.

Luzon Environmental Services is a full-service environmental consulting and contracting firm that has been in operation since 1975. Services they provide include, but are not limited to, oil tank removals, abandonments, and installations, oil tank leak testing, spill response, soil testing, waste disposal, phase II assessments, and waste oil. Luzon holds NYSEC Permit # 3-4828-0058/00005 for waste oil and took in 338,039 gallons in 2021.

### 4.2.5 Scrap Metal Facilities

There are no registered scrap metal recycling facilities located within Sullivan County. Scrap metal is accepted for free at each of the TSs.

### 4.2.6 End of Life Vehicle Facilities

Seven X Motors is a privately owned facility located at 954 State Route 17B in Mongaup Valley. The facility operates under DEC authorization number 53V50003. End of life vehicles (ELVs) are stored on a 2-acre lot. In 2021, the facility received 22 ELVs. 84 vehicles were reported as crushed or removed. Decommissioned vehicles were sent and/or sold to Sims Metal Management.

Fast Eddie's Auto Wreckers is a privately owned facility located at 459 Harris Road in Monticello. The facility operates under DEC authorization number 53V50001. ELVs are stored on a 10-acre lot. In 2021, the facility received 169 ELVs. 387 vehicles were crushed/removed, and 3,012 remained stored at the facility. The facility also collected refrigerant, used oil, gasoline, coolant/antifreeze and window washing fluid. All of the above fluids are used in other on-site vehicles, except used oil which is consumed in the facility's waste oil burners. 406 tons of metal were sent to Brim Recyclers in Cuddebackville. Mercury switches collected were sent to US Ecology Detroit Service. Lead-acid batteries were sent to Brims and Sims. A total of 770 tires were shipped off site to Bobs Tire in Massachusetts.

Ross Recycling is a privately owned facility located at 28 Martin Lane in Mongaup Valley. The facility operates under DEC authorization number 53V50002. ELVs are stored on a 10-acre lot. In 2021, the facility received 192 ELVs. 100 vehicles were crushed/removed and 215 remained stored at the facility. Decommissioned vehicles were sent to Brim Recyclers and Weitsman Recycling. Collected refrigerant, used oil, gasoline and window washing fluid was used on site. One hundred (100) gallons of collected used oil were burned in the facility's waste oil heater. Five hundred (500) gallons of gasoline were shipped to Luzon Environmental Services. The facility shipped out approximately 2 tons of aluminum scrap metal. Two hundred (200) collected lead-acid batteries were sent to Brim Recyclers. Five hundred (500) waste tires were sent to the Town of Bethel Transfer Station.

Jaz Autowreckers is a privately owned facility located at 226 Glen Wild Road in Woodridge. The facility operates under DEC authorization number 53V50005. ELVs are stored on a 2-acre lot. In 2021, 400 ELVs were stored at the facility.

## 4.3 VOLUME BASED INCENTIVES

Residents who bring their trash to the TSs have an incentive to reduce the volume of trash by diverting as much as possible since they typically pay per bag for disposal. By recycling at the TSs and composting in backyards, residents can greatly reduce the volume of their weekly waste.

## 4.4 ENFORCEMENT

Sullivan County Solid Waste Management Rules included in Appendix A, is a list of rules and regulations the County has implemented related to solid waste. Fines will result for individuals who do not obey the rules. Below is a brief summary of a few of the rules and fines that could be applied.

The failure or refusal by any waste generator having received three (3) separate notices within a six-month period to separate recyclable materials from its solid waste shall constitute a violation and each subsequent notice thereafter shall constitute a separate violation.

Staff will notify the deputy commissioner of any violations. The deputy commissioner will take note of the violation and investigate prior to bringing the Commissioner into the case. If the Commissioner finds from the evidence that a violation has occurred, he may suspend the permit of the Hauler for a period of not more than one hundred eighty (180) days, revoke such permit or license, or impose a fine not to exceed $1,000.00 for each violation, or impose such conditions on suspension or revocation and fine as may be appropriate. In the event a fine is imposed, the permit shall be deemed suspended until payment of such fine. Upon re-application for a permit, the Commissioner may impose such conditions as may be appropriate under the circumstances including, but not limited to, issuance of a provisional or conditional permit revocable upon a determination of subsequent violations of local law or the rules.

Any person convicted of depositing hazardous or infectious waste at a solid waste management facility shall be guilty of a misdemeanor and upon conviction, each offense shall be punishable by a fine not to exceed $5,000.00 or by imprisonment for not longer than six (6) months, or by both such fine and imprisonment.

In addition, the Sullivan County Sheriff's Department is authorized at the request of the Commissioner to undertake investigative measures and law enforcement procedures for violations of local law and rules.

Depending on the severity, violations are either entered into WasteWORKS or in more severe cases, a letter of violation is filed through the County attorney and sent to the responsible party.

## 4.5 AGRICULTURAL OPERATIONS

Throughout Sullivan County, there are approximately 366 farms totaling 59,942 acres. The farmland is used for production of crops, animal feed, hay, and pasture for livestock. A majority of farms utilize raw manure for fertilizer on their fields. These operations are outside of the County's system and have been identified as a data gap. An attempt will be made to identify the extent to which farmers in Sullivan County may be managing organic wastes (food) on site, and/or are generating and managing significant agricultural waste streams outside of the County's system.

## 4.6 LOCAL HAULER LICENSING

Commercial haulers (public or private) must apply for an annual license with the Sullivan County Division of Solid Waste. There is a $150 license fee plus $25 per truck labeling fee for haulers (2023). Haulers and Sullivan County Facilities must obey Article 27, Title 6 of Environmental Conservation Law which briefly states it is a requirement to separate recyclables and unauthorized waste from all other solid waste set at curbside or otherwise for collection by municipal or private carriers, or directly at solid waste facilities.

## 4.7 LANDFILLS

There are no operating landfills in Sullivan County. The County is currently responsible for post-closure care and maintenance at two closed landfills in Sullivan County. These include the two former Sullivan County Landfills located on Landfill Drive in Monticello. The County is responsible for leachate management, mowing, and overall landfill upkeep. The County does not accept waste generated outside of the County. All MSW and C&D (approximately 90,000 tons/year) collected by the County is transported to Seneca Meadows Landfill per the current contract discussed in section 4.8. According to Seneca Meadows Landfill Annual Report submitted to the NYSDEC from 2022, the remaining constructed capacity is 2 years and 5 months.

Based on a review of the annual reports provided to the NYSDEC for all facilities, (reviewing most recent data available on the State website) revealed that no C&D or MSW that was generated outside of the County was hauled to facility within Sullivan County. The only product that originated outside the County and hauled to

Sullivan County was waste oil. Approximately 15,000 gallons of waste oil were received by Luzon Environmental in 2022 that were generated from outside of Sullivan County.

## 4.8 TRANSPORTATION AND DISPOSAL

The County has contracted with IESI for disposal. The contract was originally enacted in 2009 and has been extended through December 31, 2024. Currently, the County's contract price includes a fuel surcharge for transportation, which fluctuates based on current fuel prices. Further cost savings could be realized through the County's purchase of fuel for the waste transporter. The County can purchase fuel at municipal agency contract prices, absent of some of the taxes that apply to private transportation companies. This action would remove the fuel surcharge currently included in the contract with Seneca Meadows.

## 4.9 RECYCLING MARKETS

Sullivan County uses a variety of local final disposal vendors for recyclables. Based on market prices as well as transport and disposal costs, these vendors can change periodically. The County records all recyclable materials that enter and leave the facility to track year-to-year trends. This helps to focus direction on education and learn changing market characteristics.

Markets for recyclable materials have, over the past decade, been somewhat volatile and highly subject to the quality of the material collected, produced, and segregated. The Chinese markets have had significant effect on these commodity prices. Over the years, China has aggressively improved their recycling efforts, which has limited the percentage of contamination acceptable. In addition, due to an increase in unacceptable recyclable items mixed into the recycling stream, the demand on US imports of recyclable materials is less, thus making commodity pricing volatile.

Source separation from residential and commercial containers has been a continuous struggle. When unapproved recyclable items are added to the single stream containers, it becomes difficult to provide a clean product for vendors to use. Additional costs are incurred to sort the materials on site prior to shipping to the end facility. Increased outreach and enforcement are required to educate residents and businesses. Utilizing dual stream methods only allows for a quicker sort of materials if needed, as well as provides more structure and easier concepts to residents on how to recycle properly.

## 4.10 WASTE REDUCTION PROGRAMS

Sullivan County will continually look for viable approaches, and education programs geared toward reducing waste, increasing reuse, repurposing, and recycling. This approach, often referred to as "Zero Waste" is a long-term objective of the NYSDEC's SWMP that is expected to be kept in view by the County for the duration of this Plan. The County will promote reuse and upcycling facilities through education and media outlets, in an effort to have other local municipalities create their own facilities. The County, through enforcing Local Laws and promoting awareness about the urgency for alternative waste technologies, waste reduction, reuse, and diversion, will hopefully enlighten residents about the immediate need for change in their daily choices for purchasing and disposal of products.

Sullivan County collects and maintains excellent records for recyclable materials that enter and leave the County transfer stations. In 2021, 4,373 tons of recyclables that included single stream, mixed news, scrap metal, commingled paper, and E-Waste were collected/processed. The County has a recycling coordinator to help promote recycling, answer questions, and collaborate with residents, businesses, and institutions on how to best manage their recyclable materials. Staff at the transfer stations monitor the loads of residents and commercial haulers to ensure proper materials, segregation, and cleanliness of materials is occurring to ensure laws and regulations are being obeyed and practiced.

The New York State Returnable Container Act, also known as the "Bottle Bill" was originally enacted on June 15, 1982, and effective July 1, 1983. Over the years, changes to the law took place in order to keep up with the

continuous number of emerging products sold in bottles. The NYSDEC may potentially amend the Returnable Container Act. The Returnable Container Act is intended to take recyclables out of the waste stream handled by the County and local municipalities. The County does not sort redeemable containers from the recyclables they transfer to recyclable vendors.

Repair Cafes are particular locations within a community that offer free repairs on a variety of items. Repair Cafes were originally created in Europe and have recently been popping up in the Hudson Valley. The intent of these Repair Cafes is to divert waste from landfills. If items can be repaired relatively quickly and cheaply, instead of discarded, it will increase the lifetime use of that product and decrease volume sent to landfills. Many of these Repair Cafes have local community experts, such as electricians, welders, or wood workers, that volunteer their time to help residents repair these items. The Mamakating Repair Cafe grew out of an initiative by the Sullivan County Human Rights Commission called Dialogue to Change, conversations about the causes of poverty. The Dialogue group at the library formed a committee to initiate a Repair Cafe. The first event was held in July 2017. Other locations of repairs cafes can be found here: Repair Cafe — Hudson Valley The County promotes local Repair Cafés on their website and social media.

Other reuse and diversions from the waste stream can be made by donating food to local pantries and clothing to local shelters. Items can be brought to the Salvation Army, Good Will, among other locations within the County. Items can also be posted for free at online websites such as freerecycle.org, nextdoor, craigslist, and Facebook marketplace.

## 4.10.1 Organics

Sullivan County continues to focus diversion efforts related to organic materials. As noted previously, the County hired SCS Engineers to develop an organics management plan in order to manage organics locally, rather than exporting the materials to a landfill for disposal. The plan includes two phases. Phase 1 is a pilot project to collect residentially generated food scraps at the transfer stations. The County has recently purchased 400 residential totes for organics collection which will be provided to residents who voluntarily wish to participate. The residents would then bring the totes to a TS and place the material in a 64-gallon container. This material would then be shipped to the Ulster County Resource Recovery Agency for composting at their established facility. The link provides information to residents on how to join the program and why composting is important.

https://sullivanny.gov/sites/default/files/departments/DPW/SolidWaste/2%20Sullivan%20County%20Food-Scrap-Recycling-Guide.pdf



WELCOME TO SULLIVAN COUNTY'S

FOOD SCRAP RECYCLING PILOT PROGRAM

**Accepted Items:**

**ALL FOOD, including:**

- Fruits and Vegetables (remove stickers, bands, ties)
- Meat and Poultry (bones are ok)
- Fish and Shellfish (shells are ok)
- Dairy Products
- Bread and Pasta
- Rice and Grains
- Egg Shells
- Chips and Snacks
- Nuts and Seeds (shells are ok)
- Leftover or Spoiled Food
- Coffee Grounds & Paper Filters
- Tea Bags (remove staples)

**Not Accepted:**

- Compostable bags and other compostable packaging including plates, cups, take out containers, etc. are **NOT** accepted
- Plastic bags, packaging, stickers, rubber bands, twist ties are **NOT** accepted
- Pet waste, spent flowers, soiled paper (napkins/paper products) are **NOT** accepted

All material collected is brought to a commercial composting facility where it is turned into compost.

**Food scrap drop off is FREE!**

**Here's How to Do It:**

**SIGN UP and COLLECT** your food scraps in a countertop pail.

**TRANSFER** the food scraps from the countertop pail to a larger transfer bucket for storage. It is recommended that the buckets be stored in the house or garage.

**DROP OFF** food scraps weekly or as needed to your nearest participating Sullivan County Recycling & Transfer Station during regular business hours.

**CLEAN YOUR BINS AND RETURN TO SERVICE** Begin saving food scraps and prepare for your next visit to drop off food waste and compostable materials.

**DROP-OFF SITES** You may bring your food scrap bin to the Food Scrap Recycling drop-off area at any of the Sullivan County **Transfer Stations** during their operating hours as often as needed.

**For transfer station locations and hours, check out our website:**
https://www.sullivanny.us/Departments/SolidWasteRecycling

FOOD SCRAPS

**QUESTIONS? Email: recycling@sullivanny.us or Call: (845) 807-0291**

The County strongly encourages backyard composting by residents. Records of meetings and educational sessions will be tracked in the future. Residents who have the available space are encouraged to create composting piles on their property when practical. This includes green yard waste and food waste. The links below are from the Sullivan County Website and provide messages from the NYSDEC as to why backyard composting is important and best approaches/methods.

https://sullivanny.gov/sites/default/files/departments/DPW/SolidWaste/NYSDEC_Home_Compost_Guide.pdf

https://sullivanny.gov/sites/default/files/departments/DPW/SolidWaste/NYSDEC_Grass_Recycling_Guide.pdf

## 4.10.2 Education and Outreach

Because the success of any waste and recycling system depends heavily upon the materials that enter the system, education is key to the program's overall success. The Sullivan County Recycling Coordinator provides

countywide outreach education and community engagement programs that utilize a variety of promotional strategies, marketing, educational techniques, and technical supports to increase reuse, recycling, waste reduction, and composting among both residential and commercial waste generators in the County.

The County will utilize information available from Recycle Right New York to enhance public engagement and improve outreach to residents. https://recyclerightny.org/how-to-recycle-right

The County produces and distributes a variety of educational media and community resources such as brochures, flyers, guides, contacts list, and posters, two of which are included below.

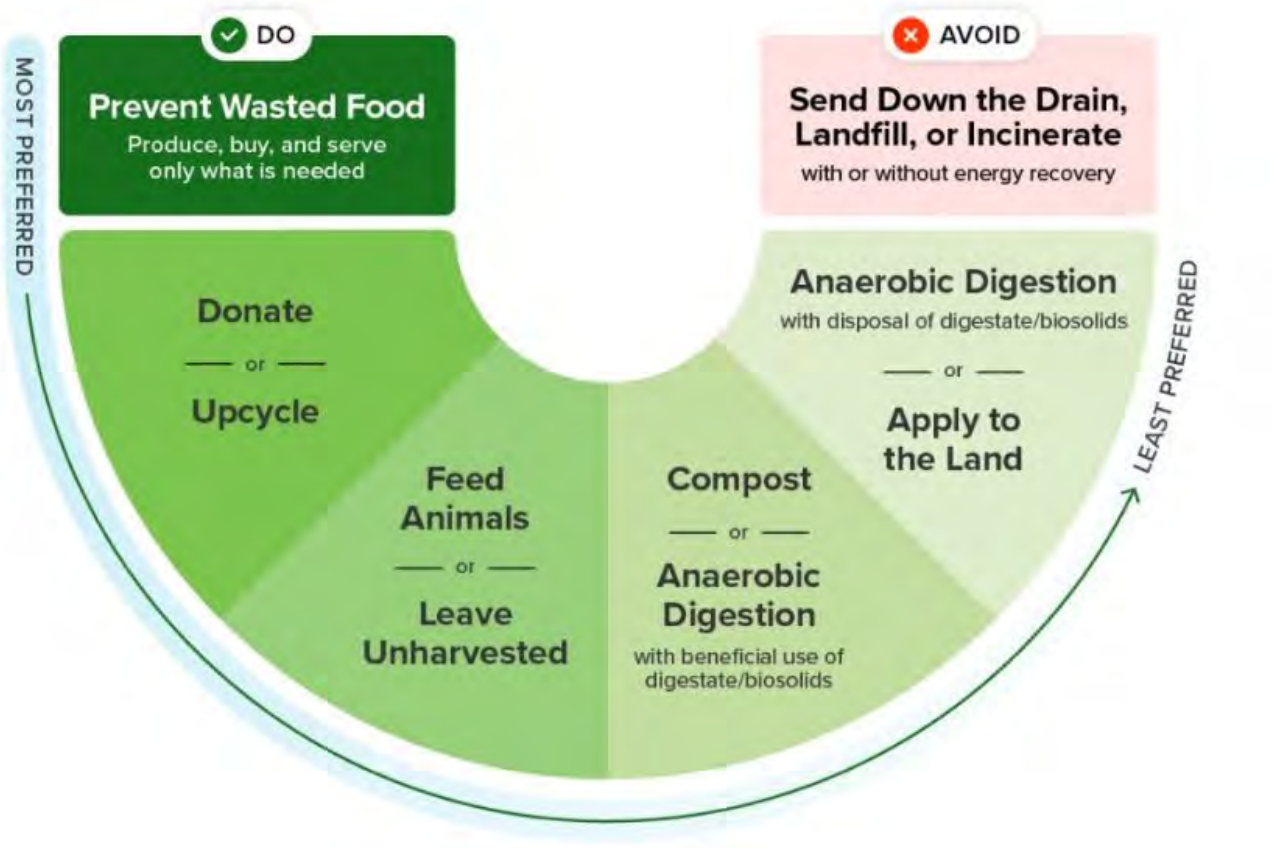
In addition to the County distributing information to residents, commercial haulers also provide flyers to their customers indicating what materials are acceptable to be placed in curbside pickup containers for single stream recycling.

The following is a flyer distributed by the County to residents identifying what materials can and cannot be recycled in single stream containers.


Sullivan County
Single Stream Recycling Guide
Place all CLEAN paper, glass, plastic and cans together in one recycling bin!
Countywide Curbside and Transfer Station Drop-off Instructions—SAVE!
Newsprint
Cardboard
Shredded Paper in Clear Bags
Mixed Paper
Paper Cartons
Paper Bags
Paper Egg Cartons
Books, Magazines & Junk Mail
Juice Boxes
Empty Metal Cans
Glass Bottles
#1—#7 Plastic Jugs, Bottles & Containers
Aluminum Cans
Pie Tins & Aluminum Foil
UNACCEPTABLE:
Garbage, cat litter, diapers, personal hygiene products, polystyrene foam, garden hoses, household-generated medical "Sharps," medical waste/pharmaceuticals/ medications, salves, ceramics, light bulbs, waxed paper, soiled paper, contaminated recyclables that can't be cleaned, spoiled/ unwanted food waste, bulk plastic bags, toys
Single Stream Recycling Bin!
Sullivan
COUNTY CATSKILLS
For more information about Single Stream Recycling in Sullivan County, please contact your sanitation hauler or the SC Dept. of Solid Waste & Recycling at 845-807-0291.


RECYCLING
Put these items in your RECYCLING container
Paperboard Boxes
Milk/Juice Cartons
Newspapers
Office Paper
Magazines
Corrugated Cardboard
Plastic Containers #1-7
Books
Glass Bottles & Jars
Metal Cans & Containers
TRANSFER STATION
Drop Off Only
Used Motor Oil
Antifreeze
Small Consumer Batteries
Tires
CFC Appliances
Textiles
Scrap Metal
Electronics
Fluorescent Bulbs
GARBAGE
Put these items in your GARBAGE container
Waxed Cardboard
Polystyrene Foam
Garden Hoses
Plastic Wrap
Diapers
Plastic Bags
Food / Soiled Containers
Plate Glass
Ceramics
Mirrors
Large Plastic Items / Toys
Condiment Packages / Food Wrappers
NOT ACCEPTED
Liquids
Car Batteries
Household Hazardous Waste
Yard Waste
Radioactive Material
Asbestos
Medical Waste/Sharps
Explosives/Ammunition

Below is the food recovery hierarchy established by the EPA that the Agency uses as a guide for food diversion out of the waste stream. This message is passed along to residents and promoted through the training sessions focusing on food waste reduction, reuse and donation. Food can be donated to soup kitchens and food pantries.




## 4.10.3 Online Resources

Sullivan County provides recycling information on their website, https://sullivanny.gov/Departments/SolidWasteRecycling regarding, among other things, the types of materials that must be recycled, where residents can drop off recyclable materials (and other solid waste items for processing) and the hours of operation. Included on the website is a list of links associated with recycling and waste management.

## 4.10.4 Electronics

The New York State Electronic Equipment Recycling and Reuse Act requires manufacturers to provide free and convenient recycling of electronic waste to most consumers in the state. Consumers eligible for free and convenient recycling include individuals, for-profit businesses, corporations with less than 50 full-time employees, not-for-profit corporations with less than 75 full-time employees, not-for-profit corporations designated under Section 501(c)(3) of the Internal Revenue Code, schools, and governmental entities located in NYS. For-profit businesses with 50 or more full-time employees and not-for-profit corporations with 75 or more full-time employees may be charged.

The disposal ban for this Act states that beginning April 1, 2011, no manufacturer, retailer, owner or operator of an electronic waste collection site, electronic waste consolidation facility or electronic waste recycling facility in the

state shall dispose of electronic waste at a solid waste management facility or hazardous waste management facility, or place electronic waste for collection which is intended for disposal at a solid waste management facility or hazardous waste management facility.

Beginning January 1, 2012, no person except for an individual or household shall place or dispose of any electronic waste in any solid waste management facility or place electronic waste for collection which is intended for disposal at a solid waste management facility or hazardous waste management facility in this state. Persons engaged in the collection of solid waste for delivery to a solid waste management facility shall provide written information to users of such facility on the proper methods for the recycling of electronic waste. Beginning January 1, 2015, no individual or household shall place or dispose of any electronic waste in any solid waste management facility or place electronic waste for collection which is intended for disposal at a solid waste management facility or hazardous waste management facility in this state. Beginning January 1, 2012, an owner or operator of a solid waste management facility or hazardous waste management facility shall educate users of such facility on the proper methods for the management of electronic waste.

Such education shall include:

(a) providing written information to users of such facility on the proper methods for recycling electronic waste; and

(b) posting, in conspicuous locations at such facility, signs stating that electronic waste may not be disposed of at the facility.

Sullivan County accepts electronics from residents and small businesses for free during normal operating hours. Below is a list of E-waste equipment covered by the New York State Electronic Equipment Recycling and Reuse Act. The County may also accept some additional E-waste items, as specified on their website.

| | Subcategory and/or Description |
|---|---|
| **Cathode Ray Tube (CRT)** | |
| **Computer** | All-in-one |
| | Desktop |
| | E-reader |
| | Interactive flat panel display (w/ processor) |
| | Laptop |
| | Tablet |
| | Thin client |
| | Virtual reality headset (w/ processor) |
| | Workstation |
| **Computer Peripheral** | 3-D printer (intended for use w/ a computer and weighing <100 lbs.) |
| | Document scanner (intended for use w/ a computer and weighing <100 lbs.) |
| | Electronic keyboard |
| | Electronic mouse or similar pointing device |
| | Facsimile machine (intended for use w/ a computer and weighing <100 lbs.) |
| | Label printer (intended for use w/ a computer and weighing <100 lbs.) |
| | Monitor (>4" diagonally) |
| | Printer ((intended for use w/ a computer and weighing <100 lbs.) |
| **Small Electronic Equipment** | Cable or satellite receiver |
| | Digital converter box |
| | Digital video recorder (DVR) |
| | Digital video disc (DVD) player |
| | Electronic or video game console (handheld and those intended for use w/ a video display device) |
| | Portable digital music player (w/ memory capability) |
| | Projector w/ DVD player capability |
| | Videocassette recorder (VCR) |
| **Small Scale Server** | (Designed in a desktop or similar form factor and capable of supporting only a single processor) |
| **Television** | (>4" diagonally) |

## 4.10.5 Other Wastes

Although some of the following items are accepted at the HHW events, there are other outlets available as noted below, which the County will promote in conjunction with their own programs:

Old cell phones and chargers may be donated to organizations for reuse. New York State residents now have a lot more opportunities to recycle their cell phones. Under the New York State Wireless Recycling Act, which became effective January 1, 2007, all wireless telephone service providers that offer phones for sale will accept cell phones for reuse or recycling. Verizon Wireless will donate cell phones or a portion of the proceeds from resale to charity.

Lead-acid batteries (most car batteries) are accepted for recycling by establishments that sell them. New York State Law requires a $5.00 deposit on the sale of every new battery, which is refunded when the battery is returned. Lead-acid batteries are currently accepted at the HHW events, and the County is planning to start accepting them on a regular basis.

Rechargeable batteries may be recycled at Home Depot, Lowes, Best Buy, Sam's Club, Verizon Wireless, Staples and Walmart, to name a few, through the program called Call2Recycle®. Call2Recycle® is a program of the Rechargeable Battery Recycling Corporation (RBRC) promoting environmental sustainability by providing free battery and cell phone recycling in North America. Call2Recycle® accepts old cell phones and used portable rechargeable batteries commonly found in cordless power tools, cellular and cordless phones, laptop computers, camcorders, digital cameras, and remote-control toys. This includes the following types of batteries: Nickel Cadmium (Ni-Cd), Nickel Metal Hydride (Ni-MH), Lithium Ion (Li-Ion) and Small Sealed Lead (Pb). Customers should bring their old batteries to the returns desk.

Domestically produced alkaline and carbon zinc household batteries no longer contain mercury and can be disposed of with solid waste. Large numbers of used alkaline batteries should not be disposed of together. Used batteries are often not completely dead and disposing of several used batteries together can bring these "live" batteries into contact with one another, creating safety risks.

New York State Rechargeable Battery Recycling Law was signed into law by Governor Paterson on December 10, 2010. The law requires manufacturers of covered rechargeable batteries to collect and recycle the batteries statewide in a manufacturer-funded program at no cost to consumers. Consumers are able to safely return rechargeable batteries to retailers, from a large number of electronic products, for recycling or proper management at the end of their useful life. The types of rechargeable batteries covered by the law are as follows:

- Nickel-cadmium
- Sealed lead
- Lithium ion
- Nickel metal hydride
- Any other such dry cell battery capable of being recharged
- Battery packs containing any of the above-mentioned batteries

The aforementioned law does not cover: any of the above-mentioned batteries/packs weighing 25 pounds or more; batteries used as the principal power source for a vehicle, such as an automobile, boat, truck, tractor, golf cart or wheelchair; batteries for storage of electricity generated by an alternative power source, such as solar or wind-driven generators; batteries for backup that is an integral component of an electronic device; or any non-rechargeable batteries such as common alkaline batteries.

Under the new law, manufacturers of covered rechargeable batteries or groups of collaborating manufacturers will be responsible for financing the collection and recycling of the batteries, advertising their program to consumers, and reporting on the progress of their programs. Beginning June 8, 2011, retailers that sell covered rechargeable batteries will be required to accept used rechargeable batteries from consumers during normal business hours and will need to post signs informing consumers about these requirements. A retailer must accept up to 10 batteries per day from any person regardless of whether such person purchases replacement batteries or shall accept as many such batteries as a consumer purchase from the retailer. The rechargeable battery disposal ban

states that no person shall knowingly dispose of rechargeable batteries as solid waste at any time within New York.

Small Freon-containing appliances are accepted at the transfer stations for a fee. Residents can contact their municipality for information on disposing larger items. Other locations that typically accept these appliances include scrap metal recycling facilities and Central Hudson. Hydrofluorocarbon such as Freon and other refrigerants are powerful greenhouse gases that need to be properly disposed of prior to recycling the product they were contained in. Many of these whitegoods are brought into scrap metal facilities already depleted of the refrigerant or HFCs, drained and improperly disposed of by residents contributing to environmental problems.

**Waste Tires** are accepted by tire dealers for a nominal fee. Tires can also be brought to the County transfer stations for a nominal fee. Some scrap metal recycling facilities also accept tires.

**Used Oil**: State law requires that establishments that sell more than 1,000 gallons of motor oil per year must accept up to 5 gallons of used oil per person per day. All County TS's accept used motor oil.

**Plastic grocery bags and other film plastics** are accepted for recycling by supermarkets and other large retail stores. New York State's Plastic Bag Reduction, Reuse and Recycling Act became effective January 1, 2009. New requirements became effective on March 14, 2020 and can be reviewed at the NYSDEC website https://dec.ny.gov/regulatory/regulations/adopted-part-351-plastic-bag-reduction-reuse-and-recycling.

Governor Andrew Cuomo passed the New York State Bag Waste Reduction Act that went into effect in March 1, 2020, eliminating single-use plastic bags within the state. Certain exceptions do apply. Bags that can still be used to contain or wrap uncooked meat, fish or poultry, to contain bulk items such as fruits, vegetables, grains or candy, to contain food sliced or prepared to order, to contain a newspaper for delivery to a subscriber, bags sold in bulk to a consumer, trash bags, food storage bags, garment bags, carryout bags provided by a restaurant for carry out or food delivery, and bags provided by a pharmacy to carry prescription drugs. Residents and business owners can visit the NYSDEC website at (https://www.dec.ny.gov/chemical/50034.html) for additional details.

It is estimated that New York uses more than 23 billion plastic bags every year with 50 percent of those plastic bags ending up in landfills and around the city and waterways. The plastic bag ban will not only reduce plastic bags in New York landfills and waterways, but it will also eliminate thousands of barrels of oil used to make plastic bags used by New York each year. New York is the third state, along with Hawaii and California, to ban single-use plastic bags. The New York State's Plastic Bag Reduction, Reuse and Recycling Act requires certain retail stores to accept plastic carryout bags and other film plastic for recycling. https://dec.ny.gov/environmental-protection/recycling-composting/bag-waste-reduction-law/recycling-for-retailers

**Wire Hangers** in good condition will be accepted by most dry cleaners or can be recycled as scrap metal.

**Shredded paper** should be accepted by haulers providing curbside pick-up. Individual haulers should be contacted for specifics. The County currently accepts shredded paper in their mixed paper stream. The majority of the County's mixed paper stream is combined with other recyclables for single stream recycling.

**Compact fluorescent light (CFL) bulbs** can be recycled at some store locations. CFL bulbs received at County facilities are charged a nominal fee per bulb. Currently Home Depot and Lowe's accept CFLs at the return desk.

**Non-Controlled Pharmaceutical Medication** including both prescription and nonprescription medications, as well as pet medications can be brought to various collection centers throughout the County such as town police departments or sheriff's department.

**Sharps** waste, such as syringes, needles and exposed dental wires, are to be collected in approved sharps containers. Drop-off locations for these materials include hospitals, nursing homes, and assisted living facilities.

**Asbestos** is a heat-resistant fibrous silicate mineral that can be woven into fabrics and is used in fire-resistant and insulating materials such as brake linings. Asbestos is known to be carcinogenic. Residents with friable asbestos must contact an abatement company.

# 5.0 ADMINISTRATIVE AND FINANCIAL STRUCTURE

## 5.1 ADMINISTRATIVE

Sullivan County's Solid Waste Management Program is managed through the County's Department of Public Works. Below is a summary of the main responsibilities for the personnel at Sullivan County in charge of managing key aspects of the Solid Waste Management Program.

**Department of Public Works Commissioner** – Edward McAndrew

Mr. McAndrew is responsible for overseeing the Department of Public Works, for implementing the strategic goals and objectives of the County, and for providing direction and leadership towards achieving the goals. The Commissioner is responsible for the implementation of the LSWMP.

**Executive Secretary** – **Tamara Browne**

Ms. Browne is responsible for organizing and filing documents, record keeping, assisting with scheduling, and general clerical work for the Department of Public Works.

**DPW Deputy Commissioner** – Mark Witkowski

Mr. Witkowski oversees the day-to-day operations of the Solid Waste Management System. He works directly with, and supervises, transfer station staff to ensure smooth and successful operations are implemented.

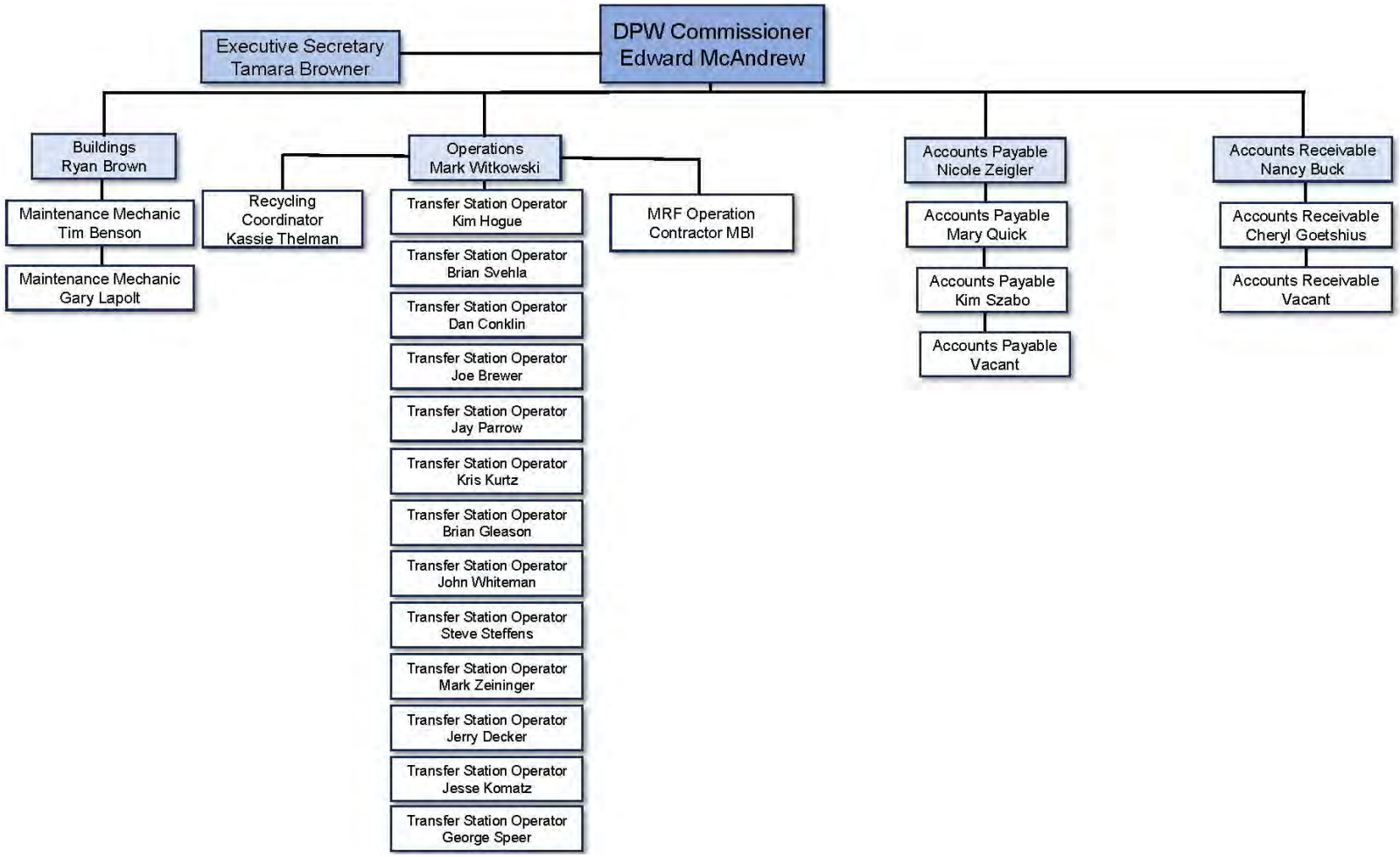
**Senior Financial Administrative Officer** – Nicole Ziegler

Ms. Ziegler is responsible for recorded keeping and tracking of financial aspects for the County.

**Recycling Coordinator** – Kassie Thelman

Ms. Thelman serves as the County's Recycling Coordinator and is responsible for encouraging and assisting municipalities, haulers, and generators in their recycling efforts. In addition, the Coordinator assists in developing, presenting, and implementing the County's recycling initiatives and programs to the residential and commercial sectors. The coordinator also researches and applies for grants for program funding.

The chart below presents the organization of the County's Solid Waste Management Program Staff.


DPW Commissioner
Edward McAndrew
Executive Secretary
Tamara Browner
Buildings
Ryan Brown
Maintenance Mechanic
Tim Benson
Maintenance Mechanic
Gary Lapolt
Recycling
Coordinator
Kassie Thelman
Operations
Mark Witkowski
Transfer Station Operator
Kim Hogue
Transfer Station Operator
Brian Svehla
Transfer Station Operator
Dan Conklin
Transfer Station Operator
Joe Brewer
Transfer Station Operator
Jay Parrow
Transfer Station Operator
Kris Kurtz
Transfer Station Operator
Brian Gleason
Transfer Station Operator
John Whiteman
Transfer Station Operator
Steve Steffens
Transfer Station Operator
Mark Zeininger
Transfer Station Operator
Jerry Decker
Transfer Station Operator
Jesse Komatz
Transfer Station Operator
George Speer
MRF Operation
Contractor MBI
Accounts Payable
Nicole Zeigler
Accounts Payable
Mary Quick
Accounts Payable
Kim Szabo
Accounts Payable
Vacant
Accounts Receivable
Nancy Buck
Accounts Receivable
Cheryl Goetshius
Accounts Receivable
Vacant

# 5.2 FINANCIAL STRUCTURE

## 5.2.1 Revenue Sources

The various solid waste management plan initiatives and programs are funded through revenue earned from the solid waste disposal charges, tip fees, and the revenue from the sale of recyclables. Each funding source is discussed in some detail below and an estimated budget of revenues and expenses is provided on the following table for 2024.

**County of Sullivan**
**GENERAL FUND OPERATING BUDGET**

| Account Number | Description | 2023 AMENDED BUDGET | 2024 DEPARTMENT REQUEST | 2024 RECOMMENDED | 2024 ADOPTED |
|---|---|---|---|---|---|
| Department : CL-8160 - SOLID WASTE | | | | | |
| Budgetary Appropriations | | | | | |
| 10.1011 | REGULAR PAY | $1,125,891 | $1,165,003 | $1,165,003 | $1,165,003 |
| 10.1012 | OVERTIME PAY | $23,000 | $23,000 | $23,000 | $23,000 |
| 10.1013 | LONGEVITY | $33,900 | $38,255 | $38,255 | $38,255 |
| **Total: Personal Services** | | **$1,182,791** | **$1,226,258** | **$1,226,258** | **$1,226,258** |
| 21.2101 | LAND/LAND IMPROVEMENTS | $259,893 | $350,000 | $200,000 | $200,000 |
| 21.2102 | BUILDINGS AND BUILDING IMPRVMTS | $98,900 | $130,000 | $130,000 | $130,000 |
| 21.2103 | MACHINERY/EQUIPMENT | $346,599 | $215,000 | $215,000 | $215,000 |
| 21.2105 | AUTOMOTIVE EQUIP | $828,393 | $280,000 | $0 | $0 |
| 21.2106 | ELECTRONIC/COMPUTER EQUIP | $0 | $0 | $0 | $0 |
| **Total: Equipment** | | **$1,533,785** | **$975,000** | **$545,000** | **$545,000** |
| 40.4006 | ENGINEER/ARCHITECT/DESIGN SERV | $127,601 | $60,000 | $60,000 | $60,000 |
| 40.4013 | CONTRACT OTHER | $8,375,000 | $10,302,000 | $10,302,000 | $10,302,000 |
| 40.4015 | PROPERTY MAINTENANCE | $74,000 | $74,752 | $74,752 | $74,752 |
| 41.4102 | LODGING | $500 | $500 | $500 | $500 |
| 41.4103 | MEALS | $100 | $100 | $100 | $100 |
| 41.4104 | MILEAGE/TOLLS | $2,200 | $4,000 | $4,000 | $4,000 |
| 41.4105 | REGISTRATION FEES | $500 | $500 | $500 | $500 |
| 41.4106 | REPAIRS/MAINTENANCE | $175,000 | $180,000 | $180,000 | $180,000 |
| 41.4109 | CO FLEET CHARGEBACK | $500 | $500 | $500 | $500 |
| 42.4201 | ADVERTISING | $7,600 | $5,000 | $5,000 | $5,000 |
| 42.4203 | OFFICE SUPPLIES | $800 | $900 | $900 | $900 |
| 42.4204 | POSTAGE | $250 | $250 | $250 | $250 |
| 42.4205 | PRINTING | $8,696 | $15,000 | $15,000 | $15,000 |
| 42.4207 | FURNITURE | $500 | $600 | $600 | $600 |
| 43.4301 | SUPPLIES | $5,000 | $6,000 | $6,000 | $6,000 |
| 43.4302 | HARDWARE PURCHASES/LEASES | $0 | $3,000 | $3,000 | $3,000 |
| 43.4303 | SOFTWARE PURCHSE/LEASE | $0 | $0 | $0 | $0 |
| 44.4401 | ELECTRIC | $85,000 | $85,000 | $85,000 | $85,000 |
| 44.4404 | PROPANE | $40,000 | $40,000 | $40,000 | $40,000 |
| 44.4405 | PHONE LAND LINES | $9,600 | $10,500 | $10,500 | $10,500 |
| 44.4406 | WIRELESS COMMUNICATIONS | $800 | $600 | $600 | $600 |
| 44.4407 | UTILITY OTHER | $15,000 | $15,000 | $15,000 | $15,000 |
| 44.4408 | CABLE/SATELLITE | $1,650 | $1,600 | $1,600 | $1,600 |
| 45.4501 | SPEC DEPT SUPPLY MISC/OTHER | $5,200 | $5,000 | $5,000 | $5,000 |
| 45.4505 | BLDG/PROP MAINTENANCE | $3,000 | $3,000 | $3,000 | $3,000 |
| 45.4526 | PAINT | $1,750 | $1,000 | $1,000 | $1,000 |
| 45.4527 | MISC STONE | $500 | $500 | $500 | $500 |
| 45.4532 | SEED/MULCH ETC | $50 | $100 | $100 | $100 |
| 45.4540 | PARTS/FLUIDS/FILTERS | $5,000 | $5,000 | $5,000 | $5,000 |
| 45.4541 | SM EQUIP TOOLS APPLNCS, SM ELECT | $18,619 | $7,000 | $7,000 | $7,000 |
| 45.4542 | WELDING | $600 | $1,200 | $1,200 | $1,200 |
| 45.4546 | BULK ROAD AND BAG SALT | $100 | $100 | $100 | $100 |
| 45.4547 | CHEMICALS | $28,284 | $45,000 | $45,000 | $45,000 |
| 45.4549 | SAFETY | $5,000 | $2,500 | $2,500 | $2,500 |
| 46.4603 | EMPL UNIFORM ALLOWANCE | $5,120 | $5,120 | $5,120 | $5,120 |
| 46.4609 | SPECIAL SERV/OTHER | $110,000 | $110,000 | $110,000 | $110,000 |
| 46.4611 | EMPL SAFETY/PHYSICAL EXAMS | $1,500 | $1,500 | $1,500 | $1,500 |
| 46.4644 | INTERDEPARTMENTAL CHARGEBACK | $137,700 | $147,589 | $147,589 | $147,589 |
| 47.4701 | RENTALS | $23,100 | $22,000 | $22,000 | $22,000 |
| 47.4703 | DUES | $500 | $400 | $400 | $400 |

**County of Sullivan**
**GENERAL FUND OPERATING BUDGET**

| Account Number | Description | 2023 AMENDED BUDGET | 2024 DEPARTMENT REQUEST | 2024 RECOMMENDED | 2024 ADOPTED |
|---|---|---|---|---|---|
| Department : CL-8160 - SOLID WASTE | | | | | |
| Budgetary Appropriations | | | | | |
| 47.4708 | INSURANCE | $1,532 | $20,000 | $7,020 | $7,020 |
| 47.4710 | DEPT MISC/OTHER | $300,001 | $500,000 | $350,000 | $350,000 |
| 47.4712 | EQUIP CALIBRATION | $7,500 | $7,500 | $7,500 | $7,500 |
| 47.4717 | BLDG/PROP/EQUIP REPAIRS&MAINTNCE | $181,511 | $170,000 | $170,000 | $170,000 |
| 47.4720 | LABORATORY/XRAY EXPENSE | $60,000 | $70,000 | $70,000 | $70,000 |
| 47.4729 | SPECIAL PROJECTS | $16,136 | $0 | $0 | $0 |
| 47.4732 | BLDG/PROP ELECTRONIC MONITORING | $8,796 | $4,000 | $4,000 | $4,000 |
| 47.4733 | INDIRECT COST ALLOCATION | $0 | $0 | $0 | $0 |
| 47.4766 | CLEAN UP/BEAUTIFICATION | $250 | $250 | $250 | $250 |
| 47.4767 | NYS/US REGLTRY FEES/FINES/ASSESS | $4,000 | $5,000 | $5,000 | $5,000 |
| **Total: Contract Services** | | **$9,856,046** | **$11,939,561** | **$11,776,581** | **$11,776,581** |
| 80.8001 | FICA AND MEDICARE | $90,876 | $94,201 | $94,201 | $94,201 |
| 80.8002 | HLTH INSUR ACTIVE EMPLOYEE | $294,091 | $322,358 | $322,358 | $410,596 |
| 80.8004 | HLTH INSUR OPT OUT | $8,000 | $18,000 | $18,000 | $18,000 |
| 80.8005 | RETIREMENT | $170,275 | $175,472 | $155,122 | $155,122 |
| 80.8006 | WORKERS COMPENSATION | $29,873 | $30,785 | $22,073 | $22,073 |
| 80.8007 | DISABILITY | $1,620 | $1,553 | $1,553 | $1,553 |
| 80.8010 | EMPL ANNUITIES | $0 | $0 | $0 | $0 |
| 80.8011 | HLTH REIMB ARRNGMNT - HRA | $19,000 | $19,000 | $19,000 | $19,000 |
| **Total: Employee Benefits** | | **$613,735** | **$661,369** | **$632,307** | **$720,545** |
| 90.9006 | TRANSFERS DEBT SERVICE | $787,501 | $788,547 | $788,547 | $788,547 |
| **Total: Interfund Transfer Debt Service** | | **$787,501** | **$788,547** | **$788,547** | **$788,547** |
| | Total Budgetary Appropriations for CL-8160 | $13,973,858 | $15,590,735 | $14,968,693 | $15,056,931 |
| Budgetary Revenues | | | | | |
| R2130.R148 | REF/GARBAGE FEE - COMMERCIAL HAULER LICENSE | $(6,000) | $(6,000) | $(6,000) | $(6,000) |
| R2130.R247 | REF/GARBAGE FEE - MISC FEE/REIMBURSMNT | $(10,200,000) | $(12,000,000) | $(12,000,000) | $(12,000,000) |
| R2401.R223 | INTEREST EARNED - INTEREST | $0 | $0 | $0 | $0 |
| R2651.R247 | SALE REF/RECYCLING - MISC FEE/REIMBRUSMNT | $(200,000) | $(215,000) | $(215,000) | $(215,000) |
| R2651.R318 | SALE REF/RECYCLING - TIRES | $(50,000) | $(50,000) | $(50,000) | $(50,000) |
| R2770.R247 | MISC REVENUE - MISC FEE/REIMBURSMNT | $0 | $0 | $0 | $0 |
| **Total: Departmental Revenue** | | **$(10,456,000)** | **$(12,271,000)** | **$(12,271,000)** | **$(12,271,000)** |
| R3989.R167 | ST AID HOME/COMM ASSIST - DEPARTMENTAL AID | $(50,000) | $(80,442) | $(80,442) | $(80,442) |
| **Total: State Aid** | | **$(50,000)** | **$(80,442)** | **$(80,442)** | **$(80,442)** |
| R5031.R166 | INTERFUND TRANSFR - DEBT SERVICE FUND | $(52,055) | $0 | $0 | $0 |
| R5031.R209 | INTERFUND TRANSFR - GENERAL FUND | $(1,183,862) | $(3,366,595) | $(1,495,796) | $(1,584,034) |
| **Total: Interfund Transfer General Fund** | | **$(1,235,917)** | **$(3,366,595)** | **$(1,495,796)** | **$(1,584,034)** |
| | Total Budgetary Revenues for CL-8160 | $(11,741,917) | $(15,718,037) | $(13,847,238) | $(13,935,476) |
| | COUNTY SHARE | $2,231,941 | $(127,302) | $1,121,455 | $1,121,455 |

## 5.2.2 Tip Fees

The table below displays the posted tipping fees charged at the County Transfer Stations. Tip Fees are subject to adjustment at a minimum on an annual basis. The County increased tip fees effective January 1, 2023, to $120/ton for MSW and C&D for TSs with a scale, and $60/cubic yard for MSW and C&D for TSs where a scale is not available for residential customers. Refer to the County website to find the most current Tip Fee information.

MARK WITKOWSKI
DEPUTY COMMISSIONER OF PUBLIC WORKS

TEL. 845-807-0294
FAX 845-807-0334

Sullivan COUNTY CATSKILLS Mountains of Opportunities

# COUNTY OF SULLIVAN
# DEPARTMENT OF SOLID WASTE & RECYCLING

100 NORTH STREET, P.O. Box 5012
MONTICELLO, NY 12701

**2024 DISPOSAL FEES - EFFECTIVE JANUARY 1, 2024**

***OUT-OF-COUNTY MATERIALS NOT ACCEPTED WITHOUT PROOF OF USER FEE PAYMENT!***

| | | |
|---|---|---|
| **Construction & Demolition Debris (C&D) and Other Bulky Waste Items:** | | |
| Transfer Stations | $60.00 per cubic yard<br>$120.00 per ton | $30.00 minimum<br>$20.00 minimum (330 lbs. or less) |
| **Municipal Solid Waste in Bulk:** | | |
| Transfer Stations | $60.00 per cubic yard<br>$120.00 per ton | Full rated truck size, unless calibrated at Landfill Scalehouse<br>$20.00 minimum (330 lbs. or less) |
| **Individual Drop (up to a 30 gallon size can or bag):** | | |
| Coupon Payment Required | 1 coupon per 30 gal. can or bag ***with recyclables removed!*** | |
| Coupon Book (5 coupons/book)<br>Coupon Book (10 coupons/book) | $15.00<br>$30.00 | |
| ******SPECIAL WASTES and Other Charges****** | | |
| **Out-of-County User Permits:** | | |
| Residential Solid Waste & Recyclables User Permit | | $ 120.00/year |
| Commercial Solid Waste & Recyclables User Permit | | $300.00/year |
| Decal Fee | | $ 5.00 each, Limit 2 |
| **Vehicle Tires: With or Without Rims:** | | |
| *Individual Drop:* (Maximum 4 tires per individual transaction) | | |
| 19" Rim or smaller | $ 3.00 per tire | |
| Over 19" Rim | $ 30.00 per tire | |
| *Bulk Drop:* Landfill Only | $300.00 per ton | Bulk = 5 or more tires per load |
| **CFC - Containing Appliances**, (refrigerators, freezers, air conditioners, dehumidifiers, etc) | | $15.00 each; **DOORS MUST BE REMOVED! FOOD MUST BE REMOVED!** |
| **Bulk Scrap Metal, & Non-CFC Appliances** - No Charge | | **Mercury Thermostats** – No Charge |
| **CRT (Cathode Ray Tube) Electronics** (TVs, Monitors) | No Charge | **LCD/Flat Panels, Computers & Other E-Waste** **No Charge** |
| **Fluorescent Bulbs** | No charge | |
| **Propane Tanks (1 lb.)**<br>**Propane Tanks (20 lbs.)** | No Charge<br>$ 2.00 per tank (Propane Tanks larger than 20lbs. ***NOT*** accepted) | |
| **Commercial Haulers License:** | $150.00 per account plus $25.00 per truck | |
| **Weight ticket service fee:** | $ 10.00 per weigh | |
| **Private Haulers – Single Stream Recycling:** | $ 110.00 per ton (or market rate as determined by Commissioner) | |

## 5.2.3 Recyclable and Re-usable Materials

The County earns revenue by selling the recyclable and re-usable materials it receives at its facilities. When it can be safely performed, metal, cardboard, e-waste, and other reclaimable items are culled from loads disposed of at the County's transfer stations for proper recycling. The Sections below describe the various ways the County earns revenue at each of its facilities.

## 5.2.4 Materials Recovery Facility

Tonnages received for recycling are provided below based on the 2021 Recyclables Handling & Recovery Facility Annual Report.

| 2021 MRF Materials Handled (tons) | | |
|---|---|---|
| | In | Out |
| Commingled | 697.27 | 0 |
| Mixed Paper | | 6.38 |
| Single Stream | 3375.51 | 3375.21 |
| Corrugated Cardboard | | 690.89 |
| Total | 4072.78 | 4072.48 |

The commingled paper materials are sorted and sold as separate materials - typically to Republic Waste in Beacon, NY. Single stream recycling was also brought to Republic Waste in 2021.

The County manages the off-site transportation of recyclables brought into each transfer station. Depending on the material and the ultimate point of transport, the County will utilize County owned vehicles and/or vehicles and hauling services hired under contract to the County. To the extent possible the County utilizes vendors located within the planning unit or, when not available, vendors located within adjacent planning units.

## 5.2.5 Composting/Organics

The County currently operates an organics collection program. The implementation of this program began in 2023. 400 home composting kits were provided to Sullivan County residents. Initially, organic materials received from residents at the County TSs are being transferred by the County to the Ulster County Resource Recovery Agency located in Kingston, NY for composting. The County is also considering constructing their own facility for composting at the Monticello TS, including the potential addition of an autoclave capable of handling up to 20 tons of material per day.

## 5.2.6 HHW Grant

The County typically administers 2 HHW events each year. The County receives approximately $25,000-$50,000 in grant revenues based on a 50% reimbursement of County expenses associated with operating these events. Grant revenue is received from the HHW State Assistance Program that is funded by the NYSDEC's Environmental Protection Fund.

## 5.2.7 Costs and Expenses

The solid waste management plan activities incur expenses related to solid waste disposal, maintenance and operations of equipment and facilities, long-term debt, recycling, composting, and employee wages. Each is discussed in some detail below.

## 5.2.8 Transportation and Disposal

Costs associated with transportation and disposal (T&D) include equipment and labor for waste transport to the landfill, fuel surcharges, and landfill tip fees. The transportation and disposal of waste is performed under contract to the County. Every few years the County solicits proposals for transportation and disposal. The disposal contract and end disposal facility are selected based upon the lowest cost bidder.

Fuel surcharges to the County are currently allowed within the disposal contract rate. The total rate may increase or decrease depending on current fuel prices and their relationship to the index price at the outset of the contract. Because fuel is a significant component of the transportation cost, the County may consider purchasing fuel to be provided to the waste transporter. Providing fuel at the Monticello TS (purchased by the County) for the transporter, would decrease T&D costs incurred by the County. Immediate cost saving would be realized as the County can purchase fuel at a lower rate than the transporter because the County is not subject to a portion of the fuel taxes and therefore, no fuel surcharge would be incurred from the transporter.

## 5.2.9 Facility Operations

Facility operations include the day-to-day activities at the Transfer Stations. This includes fuel costs and maintenance for equipment, labor, trucking, and costs for necessary utilities such as electricity, internet, water, and sewer.

## 5.2.10 Closed Landfills

The County is responsible for the post-closure monitoring and maintenance of two closed landfills located at 91 Landfill Drive in Monticello. The landfills are identified as the Phase 1 Landfill and the Old County Landfill. Costs associated with post-closure care at the two Landfills include leachate management, groundwater analytical testing, monthly LFG monitoring, quarterly perimeter methane monitoring, and general maintenance. Annual costs are approximately $600,000

## 5.2.11 Debt Service

Debt service is a major component in expenses for the County. The County has debt service for various loans and bonds, which are projected to be paid off in 2026 with a current remaining balance of approximately $2,750,500 which includes principal and interest.

## 5.2.12 Capital Outlay

Several different aspects comprise capital expenses. Land, buildings, equipment, infrastructure, computers, software, furniture, and vehicles are all included in capital costs. Capital expenses may vary year to year depending on the needs of the County. Upgrades and unforeseen repairs to equipment and buildings may increase capital costs for a given year. Capital expenditures are paid from County revenues collected from tips fees, hauler licenses, sales of recyclables, and state aid.

## 5.2.13 Personnel Expenses

Personnel expenses are responsible for one of the largest costs associated with the County's overall expenses. In 2022, approximately $1.78 million was put towards personnel expenses. Some of the costs

associated with County Personnel include salaries and wages, benefits, insurance, and pension contributions.

## 5.2.14 Administration Expenses

Most administration costs are a result of liability insurance and professional services such as auditors, legal, engineering, payroll service, and information technology. All basic office-related costs are included as administration expenses such as office supplies, as well as costs related to the collective bargaining agreement, bank/credit card fees, radio and computer equipment, and wireless communication.

## 5.2.15 Composting

The County has commenced a residential pilot composting initiative. By diverting organics from MSW, it is the County's goal to decrease disposal costs to landfills by implementing the new composting program which began in 2023.

## 5.2.16 Recycling

As mentioned in previous sections, the County operates a single stream recycling facility. In addition, contamination issues experienced with single stream recycling also resulted in increased disposal costs during recent years. Educating the public on these issues will be increased throughout the next planning period, in an effort to reduce contamination of loads. Fluctuating end markets also makes it difficult to quantify projected yearly revenues.

## 5.2.17 Education

Costs related to education and outreach include travel for recycling and composting conferences, seminars, onsite recycling and composting training for local schools and businesses, fliers, and information forums for public outreach to the community.

## 5.2.18 Funding Mechanisms

The various solid waste management plan initiatives and programs are funded through revenue earned from the solid waste disposal charges, tip fees, and the revenue from the sale of recyclables. In prior years some of the program funding came through a local property tax levy. However, as of 2023, this tax will no longer be collected. Typically, long-term debt to fund facility projects is acquired through issuance of municipal bonds. Grants are also sought to help cover costs on particular projects and recycling programs such as the HHW events.

## 5.2.19 Laws and Regulations

Various rules and regulations were administered to establish the requirements for increasing the rate of recycling, and for eliminating or reducing the amount of County-generated solid waste disposed of in landfills. The Sullivan County Solid Waste Management Rules includes a list of regulations and laws adopted from 1983 to present. The Rules include 9 titles focused on general provisions; definitions; administration; prohibited activities; regulated wastes and other wastes designated for separate collection or disposal; permits and licenses; violations; criminal, civil and administrative penalties and enforcement; and separability and effective date.

The full text of the Solid Waste Management Rules is available at the link below and provided in Appendix A. Local Law No.1 of 1992 entitled Sullivan County Solid Waste Management Law of 1992 is included in Appendix A as an attachment. Several resolutions have been adopted since 1992 including flow control.

Solid Waste Management Rules 2023.pdf (sullivanny.gov)

## 5.2.20 Product Stewardship

Product stewardship is a product-centered approach that is gaining increasing attention in public policy as an effective mechanism for solid waste management. Some of the goals of product stewardship include shifting waste management costs away from the general tax base back onto the product producer, reducing waste destined for landfills and waste to energy facilities, improving product and packaging design for recycling and materials recovery, and economic development in new industries and job growth within New York State.

Consumer engagement is critical in product stewardship because it is the consumer who makes the choice between competing products and who must use and dispose of products responsibly. State and local governments are essential to fostering product stewardship as it relates to waste management, because solid waste and recycling programs are administered by local governments pursuant to state regulation and policy.

A national non-profit organization called the Product Stewardship Institute (PSI) was formed in 2000 to work with state and local governments to partner with manufacturers, retailers, environmental groups, federal agencies, and other key stakeholders to reduce the health and environmental impacts of consumer products (PSI, 2009). The PSI is a national, membership-based nonprofit committed to reducing the health, safety, and environmental impacts of consumer products across their lifecycle with a strong focus on sustainable end-of-life management. Currently, PSI is involved in the following product categories:

- Appliances Containing Refrigerants
- Auto Switches
- Batteries
- Carpet
- Electronics
- Fluorescent lighting
- Gas cylinders
- Household Hazardous Waste
- Junk Mail
- Mattresses
- Medical sharps
- Packaging
- Paint
- Pesticides
- Pharmaceuticals
- Phone books
- Radioactive devices
- Solar Panels
- Thermostats
- Tires

The New York Product Stewardship Council was founded in 2009 by the New York State Association for Solid Waste Management. The mission of this Council is to promote product stewardship as the priority policy for solid waste management, thereby shifting the waste management system from one focused on government-funded and ratepayer-financed waste diversion to one that relies on product stewardship to reduce public costs and drive improvements in product and packaging design that promotes environmental sustainability.

Extended Producer Responsibility (EPR) is a mandatory type of product stewardship that places responsibility for end-of-life product management on the producers instead of the public. EPR uses legislative authority and financial incentives to encourage manufacturers to design environmentally friendly products by holding producers responsible for costs associated with managing their products at the end of their life. The NYSDEC defines EPR as a mandatory type of product stewardship that includes, at a minimum, the requirement that the producer's responsibility for their product extends to post-consumer management of that product and its packaging. There are two related features of EPR policy: (1) shifting financial and management responsibility, with government oversight, upstream to the producer and away from the public sector; and (2) providing incentives to producers to incorporate environmental considerations into the design of their products and packaging. Product stewardship can be a powerful driver for the reduction of waste volume and toxicity. By placing the responsibility for end-of-life management on the manufacturer, these programs ensure that end-of-life impacts of the product or package are considered during the earliest stages of design. Product stewardship programs create incentives for manufacturers to redesign products and packaging to be less toxic, less bulky and lighter,

as well as more recyclable. Reducing material use and toxicity and increasing recycling results in significant environmental, economic, energy, and greenhouse gas (GHG) reduction benefits.

The County uses Elot Electronics Recycling Inc. in Glenmont, NY for recycling of electronic devices collected at the transfer stations. Also, the County setup PaintCare locations at each of the transfer stations. The nearest locations are located over the border in Orange County. The County also hosts household hazardous waste collection events in an effort to keep certain materials from being improperly disposed of in landfills.

As discussed in Section 4.10, the New York State Rechargeable Battery Recycling Act (Article 27, Title 18 of the Environmental Conservation Law) was signed into law on December 10, 2010. The law requires manufacturers of covered rechargeable batteries to collect and recycle the batteries statewide in a manufacturer-funded program at no cost to consumers. Most rechargeable batteries contain toxic metals that can be released into the environment when improperly disposed. The New York State Electronic Equipment Recycling and Reuse Act requires manufacturers to provide free and convenient recycling of electronic waste to most consumers in the state. The Act also identifies disposal bans that require adherence.

On December 18, 2013 the Governor signed the Mercury Thermostat Collection Act of 2013 into law. This legislation adds a new Title 29 to Environmental Conservation Law (ECL) Article 27, "Mercury Thermostat Collection Act" and provides for the mandatory collection and environmentally sound management of mercury thermostats. Homeowners will now have more convenient opportunities for the safe drop-off and recycling of out-of-service mercury thermostats, thereby diverting them from being improperly disposed of in the trash, ultimately ending up in landfills and at municipal waste combustion facilities.

As discussed in Section 3.7, The New York State Legislature has approved legislation creating a "Post-consumer Paint Collection Program." This legislation directs NYSDEC to develop a plan for paint manufacturers and sellers to form and cover the costs of a statewide, not-for-profit Paint Stewardship Program. The plan would seek to minimize the involvement of local governments in the management of post-consumer paint by reducing its generation and establishing agreements to collect, transport, reuse, recycle, and/or burn for energy recovery at appropriately licensed collection sites and facilities using environmentally sound management practices.

## 5.2.21 Sustainability Initiatives

Sustainability initiatives are the policies and procedures a company or organization adopts to demonstrate a commitment to environmentally-friendly practices.

In its operations, the Sullivan County government is committed to reducing waste production, reusing and recycling old materials, and following green procurement policies when new materials are purchased. Sullivan County has several sustainability initiatives that focus on green purchasing, energy usage and climate protection, and eliminating or reducing potential toxins and pollutants from entering the environment. The full text of the County's climate action plan can be found here:

SULLIVAN COUNTY CLIMATE ACTION PLAN 2014 (sullivanny.gov)

In addition to the composting program to be implemented in 2023, the County has implemented several sustainability initiatives with staff and in their daily operations. The following is a list of the changes that have been made followed by a more detailed description of current techniques utilized within the County to be more environmentally friendly:

- The County has established a Fleet Efficiency Policy which involves incorporating hybrid and electric vehicles into their fleet as appropriate.
- A Benchmarking Policy to monitor and report energy costs and emissions generated by County buildings. Upgrades to new infrastructure has reduced energy consumption and costs.
- Implementation of renewable energy projects such as solar systems.
- Purchasing electricity from renewable generation sources.

- An electric vehicle (EV) infrastructure reimbursement program to promote the development of EV infrastructure in the County.

Sullivan County achieved certification as a Climate Smart Community and designation as a Clean Energy Community in 2017 and is pursuing recertification in 2024. The County's sustainability achievements reflect the work of multiple departments and divisions including Public Works, Planning, Public Health, the Office of Sustainable Energy, the County Manager, and the County Legislature. They include: improved energy efficiency at numerous County facilities; solar energy onsite at County facilities; a highly effective recycling program and community education; robust support for farmland protection and farmers' markets; adoption of policies such Fuel Efficiency for the County fleet and Benchmarking of County Facilities; and a Climate Action Plan with specific goals for GHG reduction in County operations.
https://sullivanny.gov/Departments/SustainableEnergy

**Renewable Energy at County Facilities**

Since 2009, the County has developed 4.46MW in nameplate capacity of solar and hydropower, including onsite and accessed remotely through power purchase agreements and operating agreements.
GHG reduction = ~ 1,747.2 $MTCO_2e$ in 2022 (including 6 months of hydro power from Lake Goodyear)
Renewable energy is expected to supply ~ 70% of demand for County operations in 2023.

**Solar development**

In 2017 the County completed a 2.4MW PV system at the Liberty Human Services Complex, financed under a power purchase agreement with Solar City (now Tesla), which powers various County facilities. In 2023, the solar array generated 2,356,811 kWh at a cost of $167,333.58 to the County. This generation was used to offset $222,129.41 in utility bills for the same time period, representing a savings of $54,795.83.

**Hydroelectric power**

In May 2022, the County began purchasing electricity through an operating agreement with a small hydroelectric facility (refurbished by and operated on behalf of the County by Gravity Renewables, Inc.) located on Goodyear Lake. The County retains ownership of the Renewable Energy Credits (RECs), which bolsters our portfolio of clean energy resources and reduces overall emissions for County operations. In 2023, the hydroelectric plant generated 2,667,007 kWh at a cost of $232,575.31 to the County. This generation was used to offset $344,311.59 in utility bills for the same time period, representing savings of $111,736.28.

**Benchmarking of County Facilities**

With 2016 as the baseline year, the County annually benchmarks 19 County owned or leased buildings that are larger than 1,000 square feet and use energy to heat or cool the occupied space, using the EPA's Portfolio Manager software. Benchmarking reports can be found at the Office of Sustainable Energy's website: https://sullivanny.gov/Departments/SustainableEnergy/BenchmarkingData

**Energy Retrofits**

*Government Center, Monticello*
In 2016, the County contracted with the New York Power Authority (NYPA) to carry out a major energy retrofit at the 90,000sf Government Center. The resulting energy efficiency measures have yielded significant GHG reductions and energy and cost savings while delivering improved indoor air quality. Total GHG emissions intensity for the facility was 5.8 kg$CO_2$e/square foot in the baseline year of 2016; that metric dropped to 4.2 kg$CO_2$e/square foot in 2018, a 27.6% improvement in GHG emissions. Site energy use dropped from 12,204,734.1 kBtu in 2016 to 8,389,333.9 in 2018, a 31.3%. Site Energy Use Intensity at the Government Center was 107.8 kBtu/square foot in 2016, and dropped to 74.1 kBtu/square foot in 2018, a 31% improvement.

*State University of New York Sullivan*

SUNY Sullivan's 2018 Facilities Master Plan identified deficiencies critical to the basic operation of the County-owned campus. NYPA developed a scope of work including Energy Conservation Measures that affect approximately 297,500 square feet of building space. Completed in 2024, the ECMs include 4 replacement, high-efficiency boilers; replacement high efficiency heat pumps; control upgrades; energy recovery ventilators; lighting upgrades to LED lamps and ballasts throughout; building envelope improvements (high efficiency windows); culinary exhaust controls; and heat pump domestic hot water.

## 5.2.22 Planning Initiatives

**Resilient Sullivan**

In 2022-2024, Sullivan County worked with Metropolitan Urban Design (MUD) Workshop to develop a countywide resiliency plan that identifies strengths and vulnerabilities through multiple perspectives to improve the County's ability to withstand and recover from damaging economic, environmental and climate events. The MUD team analyzed the County's physical, economic, social and institutional infrastructure; identified threats and challenges; and, with the participation of numerous County agencies and NGOs, developed key actions in the categories of Housing; Farms and Farmland; Natural Resources; Food, Jobs, Health and Services; and Utilities. "Resilient Sullivan" was developed with funding provided by the New York State Department of State under Title 3 of the Environmental Protection Fund. Help the County Be More Resilient | Sullivan County NY

**Climate Action Plan update**

In 2022, the County's Office of Sustainable Energy (OSE) completed an internal update of the 2014 Climate Action Plan, noting goals from the original plan that have been met or exceeded as well as making note of progress on several initiatives identified in the 2014 plan.
https://sullivanny.gov/Departments/SustainableEnergy/SustainabilityInitiatives

**Bicycle and Pedestrian Infrastructure Master Plan**

In 2022, the County secured funding to develop a Bicycle and Pedestrian Infrastructure Master Plan. The planning project supports the County's commitment to GHG reduction by identifying safe and convenient connections that reduce vehicle trips to common destinations for work, school, shopping and essential services such as medical care, counselling and job placement services. The resulting projects will encourage healthy active transportation, guide County efforts to improve physical infrastructure in villages

and hamlets, and promote equity, especially in the County's 10 Environmental Justice Working Group-designated disadvantaged communities (DACs), and for people with disabilities. This project is funded in part by The Climate Smart Community Grant Program, Title 15 of the Environmental Protection Fund through the NYS Department of Environmental Conservation.

#### Neversink Watershed Management Plan

Sullivan County has collaborated with Friends of the Upper Delaware River, Trout Unlimited and other conservation partners to develop a Neversink Watershed Management Plan (NWMP). This effort is funded by the federal Delaware Watershed Conservation Fund, a grant program supported by the US Fish & Wildlife Service and administered by The National Fish & Wildlife Foundation. The NWMP will build a shared vision regarding land use, flood control, recreation, water quality and quantity, recreation, and ecological services relating to the Neversink Watershed. https://www.fudr.org/neversinkwmp

#### Municipal Trainings

The Division of Planning works with NYSERDA to provide training for municipal board members, planning and zoning officials and code enforcement officers, who can apply credits toward their annual required training. Recent trainings have included "Clean Energy and the Comprehensive Plan" and "Model Battery Energy Storage System Law."

#### Organics Diversion

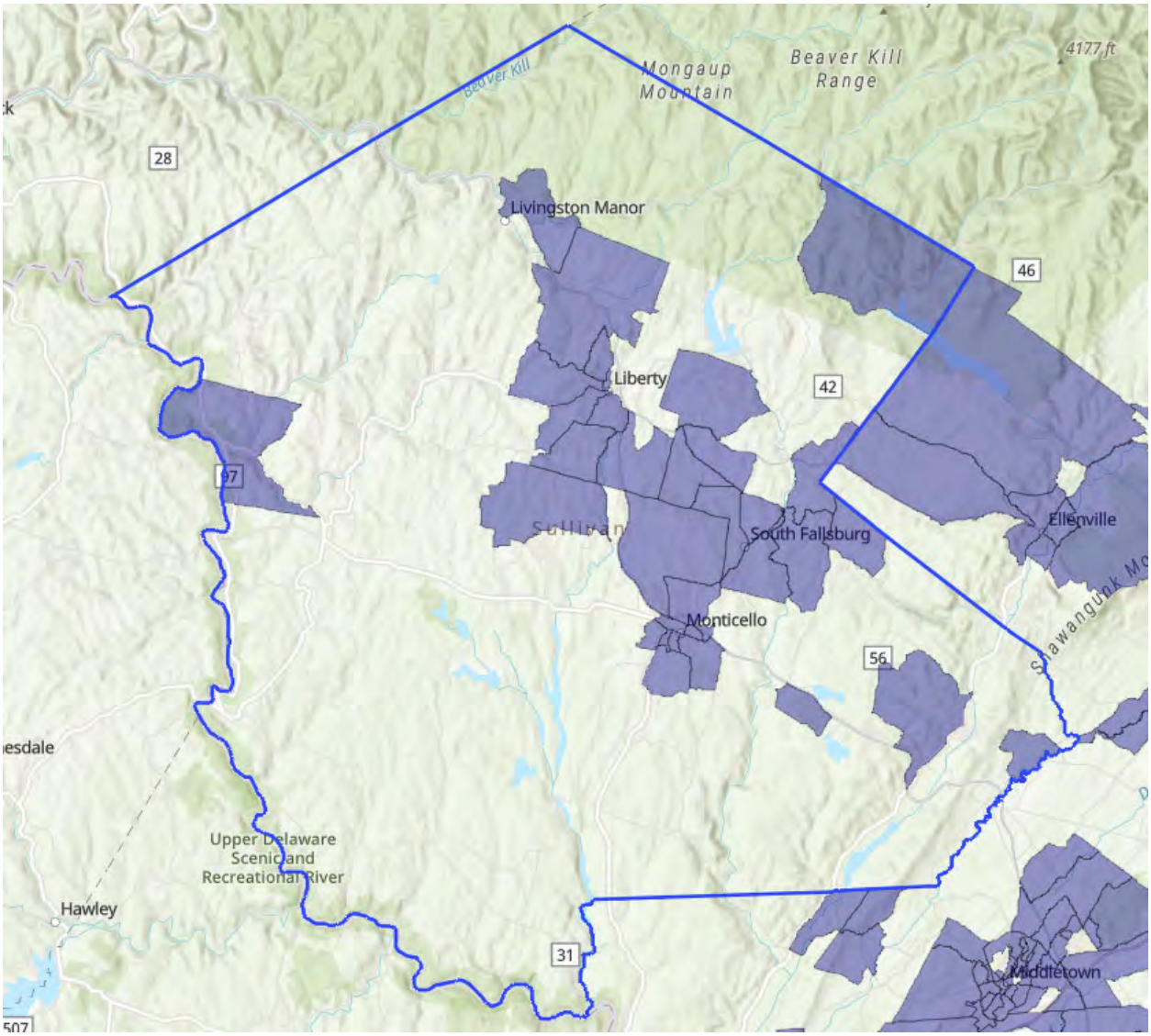
The County implemented an organics collection program to divert organic material from the waste steam. The program commenced in 2023 will continue to expand. Currently, collected organics are being shipped to the Ulster County Resouce Recovery Agency in Kingston, NY, with a future goal of establishing a composting facility at the Monticello Transfer Station.

## 5.2.23 Local Environmental Justice

Environmental justice means the fair treatment and meaningful involvement of all people regardless of race, color, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. Environmental justice, under the NYSDEC Policy 29 aims to enhance public participation and the review of environmental impacts from proposed construction of facilities in environmental justice communities, and to reduce disproportionate environmental impacts in overburdened communities. The County is required to follow all laws, rules, and regulations mandated by Federal, State, and Local agencies pertaining to waste management and recyclables. County transfer stations are located strategically throughout the County to make it convenient for residents to use. Three of the six County transfer stations are located within environmental justice areas. The County is proactive in learning about emerging technologies, environmental concerns, and implementing ways to enhance the reduction of waste within the County without infringing on any laws or communities.

The map below identifies the environmental justice areas (shown in purple) within Sullivan County border shown in blue.

Environmental Justice Areas within Sullivan County



# 6.0 REGIONALIZATION

## 6.1 OVERVIEW

Regionalization or working cooperatively among neighboring planning units creates a larger geographical area and larger population base within which synergies with materials management practices and transportation logistics can be developed. Aggregating solid waste volumes from multiple planning units can result in better positioning for negotiation of disposal contracts. Larger waste volumes are typically associated with lower disposal or tip fees. Increased recyclable materials tonnages resulting from the combination of materials collected within each planning unit will result in better positioning with recycling markets. Collaborating among systems and programs of multiple planning units opens access to the variety of educational outreach programs currently in place in the various planning units. Sharing services among planning units may create an opportunity for outlying communities of one planning unit to take advantage of the closest disposal facility – which may be in another planning unit. At the same time this collaboration creates a platform for conveyance of a consistent message to residents regarding waste and recycling practices over a broader geographic area. In the absence of local disposal facilities, waste is currently transported long distances for disposal. Together, the waste generated from multiple planning units creates the potential for facilities such as a large-scale local organics management system, local landfill, and/or alternative technology for the disposal of waste to become financially and environmentally viable.

## 6.2 FEASIBILITY

In evaluating the feasibility of regionalization or working cooperatively, a review of waste management operations of neighboring entities would be assessed in order to:

- Observe the general compatibility of the waste management systems within each operating unit.
- Evaluate the extent to which each entity manages materials relative to population and national statistics.
- Perform a high-level review of annual operating costs including transportation and disposal.
- Identify the potential for environmental enhancements resulting from the combination of operations from multiple entities.

History has shown us that many of the existing solid waste authorities were formed primarily for two reasons. First, dwindling regional landfill airspace availability and second, escalating operational expenses. In the late 1980s, many towns and counties were faced with the regulatory requirement for all landfills to come into compliance with EPA Subtitle D standards. The then, new, Subtitle D standards would require significant capital cost and expenses to come into compliance with these new regulations. These new standards, along with strict siting requirements to construct a new landfill, resulted with the closure of many town and county owned landfills in New York and across the country. This prompted discussion among towns and/or counties to review their current solid waste management plans and devise a new plan and or model with emphasis to protect public health and the environment, promote sustainable materials management, and implement the best solid waste practices available. Combining solid waste assets in relation to geographical area – typically along county boundary lines - in many instances resulted in reduced operating expenses and leverage to lower pricing for disposal and obtain better commodity pricing on larger combined tonnages for recyclable materials. In some cases, the newly formed authorities also developed their own disposal facility.

With respect to Sullivan County, the below table provides a summary of the C&D and MSW totals collected at County/Authority run transfer stations in the neighboring planning units.

| County/Authority Facilities Only | C&D | MSW | Total |
|---|---|---|---|
| Sullivan County | 29,718 | 42,931 | 72,649 |
| UCRRA (Ulster County) | 38,184 | 100,564 | 138,748 |
| Orange County | 0 | 91,126 | 91,126 |
| Greene County | 15,742 | 51,439 | 67,181 |
| Dutchess County | 149,066 | 337,203 | 486,269 |
| Delaware County | NA | NA | *54,000 |
| **Totals** | 202,992 | 580,332 | 783,324 |

1. Information reported to NYSDEC in 2020 Annual Reports
2. 2020 Annual Reports are most recent reports available on NYSDEC website during the preparation of the Plan in 2022
3. Totals do not include private facilities within each planning unit
4. NA – Unable to find precise data
5. *Actual tonnage may vary

## 6.3 EDUCATION

A unified education program would be anticipated to increase participation from residents within each planning unit. Conveying the same messages and providing the same containers for disposal and recycling will more easily allow residents and haulers to successfully participate in waste management practices – particularly for residents who frequently cross county lines for work, shopping or recreation. A consistent message and program should also create less contamination of recyclables, reduce manual sorting and cleaning, and increase revenues. Education efforts are necessary in order to increase diversion of products from the waste stream that can be repurposed or reused, preventing these items from being landfilled. For those residents who routinely cross county boundaries the unified program and readily recognizable signs and containers will serve to optimize program participation in each planning unit.

## 6.4 ENVIRONMENTAL AND FINANCIAL RESPONSIBILITY

Transportation of materials within each operating unit to the final destination landfill is not only a large operating cost, but also negatively impacts the environment with the consumption of fuel and production of combustion emissions from vehicle exhaust. With consideration of possible regional disposal options when adjacent planning units work collaboratively, reductions in transportation cost, fuel consumption, and greenhouse gas emissions will be immediately observed. In addition, with trucks traveling less miles, maintenance costs will be lowered with less frequent oil changes and replacement of tires. Third party haulers are currently transporting waste long distances to landfills in Upstate NY.

With the high level of environmental regulation and the increasing sophistication of waste and recyclable material management systems, waste management is no longer an afterthought and must be addressed

head on in order to assure the health and welfare of the general public and counties to be both environmentally and fiscally responsible.

## 6.5 GUS FEASIBILITY STUDY

The Ulster County Resource Recovery Agency retained Cornerstone in 2017, on behalf of the counties of Greene, Ulster, and Sullivan, to prepare an engineering feasibility study addressing the possible formation of a new Greene, Ulster and Sullivan (GUS) Solid Waste Management Authority. Formation of a new Solid Waste Management Authority was being considered with the goals of improving waste management operations, creating efficiencies among the three counties, and the potential for reduction of both long-haul truck miles and their associated greenhouse gas emissions. Currently, each of the three counties has existing systems in place for the management of waste and recyclable materials. Formation of the new Authority was predicated upon the expectation that the combination of the various county assets under one organization will facilitate a greater level of operational efficiency and allow the new Authority to provide a broader range of services. Aggregating the material managed into one entity will create a stronger negotiating position than can currently be obtained through each county maintaining independent operations and will create new opportunities to take advantage of waste management technologies that would now be possible with a larger quantity of materials managed.

Site visits were conducted at each county to meet with county solid waste management directors and staff, to observe the facilities infrastructure, and to evaluate the geographical spacing.

In review of the proposed operating area of GUS, Cornerstone found that the combined area of Greene, Ulster and Sullivan counties are compatible for the logistics of moving material within the operating area. The area is linear in nature with Ulster County sitting between Greene County to the north and Sullivan County to the south. All three counties are located on the west side of the Hudson River, so having to move material across the river will not be an issue. The highway infrastructure is excellent with I-87 NY Thruway running north and south through Greene and Ulster Counties. Route 17 provides a highway corridor running east to west in Sullivan. Secondary routes are well maintained for industrial and commercial activities in the Hudson Valley and Route 17 corridor in Sullivan County. All three counties are influenced by the Catskill Mountains making much of the west side of GUS operating area limited to state and county routes to service this area.

Primary transfer stations operating in the proposed GUS area are well-positioned to the secondary transfer stations and other town transfer stations and/or drop-off centers to be serviced by GUS. Most of the secondary transfer stations and town drop-off centers fall within a 20-mile radius of a primary transfer. There are a few town transfer stations and/or drop-off areas located about 30 miles from a primary or secondary transfer station, all located on the western side of the operating area and in the Catskill Mountain Range. The combining of these fixed assets may offer better and more efficient truck routes to service some of the rural town drop-off centers. During the site visits, buildings and operations equipment appeared to be well-maintained and in good condition.

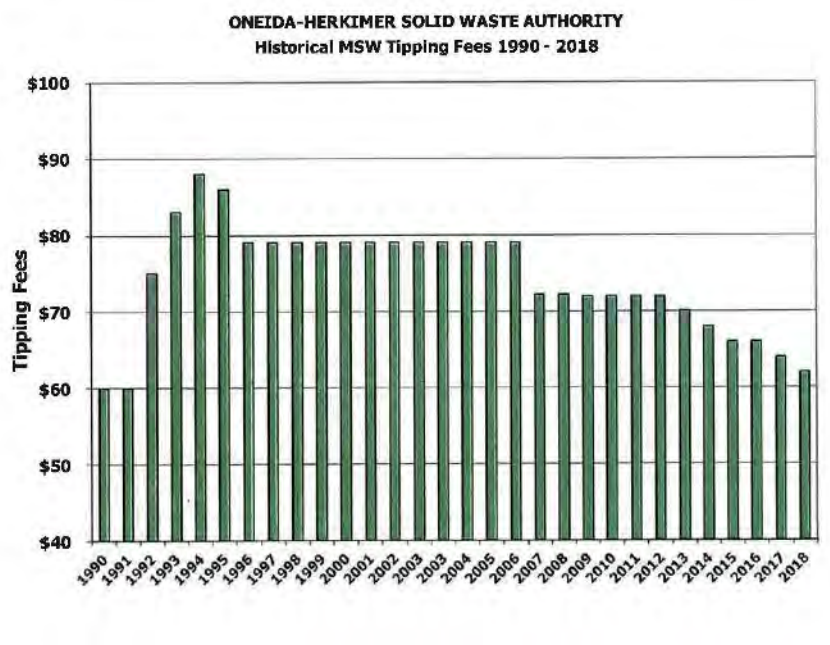
A major reason for combining with other counties is to increase the overall volumes of waste the County will manage. Currently, each county is handling between 60,000 to 100,000 tons of MSW annually. Independently, each county does not have the tonnage that is required to make constructing an energy from waste or similar facility financially viable. The capital and operational costs would be too immense, and the tipping fee, in order to recoup investments, would be upwards of $200/ton or more. However, combining the counties would allow the new Authority to process around 250,000 tons which would allow tipping fees to be in a more economical range and make constructing a local facility a viable option. Even if a local facility or landfill was not constructed, having the large volume of waste would help when trying to contract landfills and haulers for disposal by guaranteeing them a higher volume of MSW. The increased tonnage from combining with other counties would be more attractive to private entities offering alternative waste technologies as well. As stated above, by guaranteeing a larger waste volume to a particular disposal company, whether it is a landfill, biomass, or waste-to-energy facility, the Authority may receive better cost savings per disposal ton for the planning unit.

Based upon the information reviewed for this study, the formation of a multi-county, Greene, Ulster and Sullivan (GUS) Solid Waste Authority would be a feasible project. The synergies demonstrated in demographics, operating area, operations, and comparable assets, that all the necessary components for a successful Solid Waste Authority exist.

The development of a local facility or facilities would result in a significant environmental benefit through the reduction in greenhouse gas emissions.

## 6.6 ONEIDA-HERKIMER SOLID WASTE AUTHORITY

Oneida-Herkimer is an example of the successful implementation of a solid waste authority model. The Oneida-Herkimer Solid Waste Authority is one of a few solid waste authorities that formed in the early 1990's. Their history and public information of tipping fees provides an informative timeline of tip fees implemented over the years to operating cost and generated revenues. The chart below is the Oneida-Herkimer historical MSW tipping fees provided for reference. The information provided is from the Oneida-Herkimer website and part of their 2018 proposed budget and tip fees. The 2023 rate/ton for disposal of MSW for authority residents is $60/ton.




- 1990-1991. Tip fees $ 60/Ton. The formation of the Solid Waste Authority has been created, and flow control has been implemented. Operations continue with smaller transfer stations and volume of waste being transported and disposed of at out-of-state disposal sites.
- 1992-1995, Tip fees increase to $ 87/Ton. The authority implements capital improvements of new construction of a state of the art transfer station and Material Recovery Facility. Increase tip fee in part for capital improvement made during that time period.
- 1996-2006, Tip fees steady around $ 79/ton. For this 10-year period the authority was able to maintain their budget. They had steady revenue generated through flow control for volume of waste entering the system and were able to maintain operating cost with long term disposal contracts in state. Since revenues were maxed out for the volume of waste received within the authority operating area, they looked at ways to cut operating costs. As with any solid waste operating unit without a regional end disposal facility nearby, a large part of the operating cost will

be for the transportation and disposal of waste to a landfill or incinerator. Oneida-Herkimer being in that situation looked at ways to either reduce the amount of waste heading to a final disposal destination or cut down the distance of transport to a disposal facility.

In 1996 the authority decided to create its own regional landfill within its operating area. It took the authority over 10 years to site and permit a regional landfill. They restructured long term debt for capital improvements of the construction of the landfill and their cost savings for third party transportation and disposal were significant enough to bring down tip fees to about $72/ton once the landfill was open in late 2006. Flow control was also implemented for materials generated within the borders of the authority.

- 2007-2013, Tip fees $ 72/Ton. With the creation of the regional landfill Tips fees remained constant through 2013.
- 2013-2018, Tip Fee $ 62/ton. The decline of Tip fees during this period is largely due to the long-term debt service being paid down, processing some outside third-party recyclables for some increase revenue and best management practices being offered in the industry to be more cost effective and keeping operating expenses down.

The Oneida-Herkimer Solid Waste Authority is an example of how a local landfill within the planning unit can be instrumental in lowering tip fees, and therefore costs to residents and local businesses. Although the process of siting a landfill, costs to construct, permit and operate may initially be high, overtime there is a tremendous cost savings. In addition, the environmental impacts, reducing emissions from long haul trucks, less fuel consumption, and less debris blowing out of trucks traveling on the highway, is a significant value. By having a local landfill, the authority has better control over the year to year costs for budgeting and financial planning. By increasing education efforts to promote recycling and composting, this diverts materials from the landfill, increasing the lifetime expectancy.

# 7.0 TECHNOLOGY EVALUATION AND SELECTION

This section presents a discussion of commercially proven waste management technologies which, while not currently used in the planning unit, could potentially be integrated into the material management program. Feasibility evaluations of these technologies and selected technologies to implement into the 10-year plan are included. The proven waste management technologies and practices currently being employed in the planning unit include single stream collection to a Materials Recovery Facility (MRF) for recovery of recyclable materials, transfer stations, and long-haul trucking of MSW and C&D for landfill disposal. Other potentially feasible proven technologies and practices discussed below include local landfilling, enhanced organics diversion, energy from waste, MSW composting practices, pyrolysis/gasification, and biomass technologies.

Multiple material management technologies and practices are in use today to address the treatment, storage, and disposal of solid waste. Several of these are currently employed within the planning unit, such as transfer stations and hauling to MSW landfills. Other potentially feasible technologies and practices that are anticipated to be evaluated in an effort to minimize disposal quantities, minimize discrete cost, and possibly generate alternative energy include diversion, composting, regional landfilling, and thermal processing facilities. The combination of technologies and practices utilized by a planning unit are dependent on many factors, the most important being integration with existing facilities, access, and economics, all of which will be considered as new or alternative technologies are evaluated.

The County emphasizes reduction in waste by focusing on organics diversion from the waste stream. Backyard composting of food scraps and yard waste is promoted by the County with various links on their website containing informational messages and practices that residents and businesses should implement. The County also started a pilot program for food waste as discussed within this Plan. Recyclables, scrap metal, and various other products are collected at the transfer stations which are further processed at out-of-county recycling facilities. Collection of various hazardous materials at the HHW events reduce waste and prevent potential harmful materials from entering the MSW/C&D waste stream. By collecting these materials, the County diverts thousands of tons of material otherwise destined to be landfilled. Incentive based pricing on a per ton or per bag rate, encourages individuals and businesses to recycle, reducing tonnages to be disposed of and therefore resulting in a cost savings. Commercial Hauler's pay a license fee and must adhere to laws and regulations the County has in place for disposal of waste and collection of recyclables. Flow control is also written into law within Sullivan County. It is a goal of the County to increase enforcement of this law and other regulations during the 10-year planning period. All materials brought into a transfer station are recorded for data management purposes. By collecting this information, it allows the County to plan financially for disposal and equipment needs, but more importantly helps identify what education and outreach is needed. Flyers, brochures, and the County website, as well as in person trainings, enforces to individuals to properly divert, manage, and dispose/recycle of various materials in the waste stream.

The following sections provide an explanation and evaluation of the known, viable technologies available for the storage, treatment, and disposal of solid waste generated and collected within the planning unit.

## 7.1 WASTE EXPORT

The export of waste from facilities within New York, and particularly the transportation of that exported waste, has, over the last few decades, been both the only viable waste management alternative and a major concern for planning units across the state.

According to the NYSDEC, landfilling of solid waste will continue to be a necessary part of integrated solid waste management systems, since there will always be a need to dispose of waste that cannot be economically reused, recycled, or incinerated for energy recovery.

As of December 2022, there were 25 active MSW landfills in New York State. At the end of 2020, the landfills had approximately 202 million tons of capacity remaining including capacity actually constructed as well as capacity that has been permitted but which has not yet been constructed. This equates to approximately 22 years of capacity at 9 million tons disposed of per year in New York State. Recent closures of solid waste management facilities and landfills in nearby states, especially Massachusetts, has resulted in an influx of waste importation

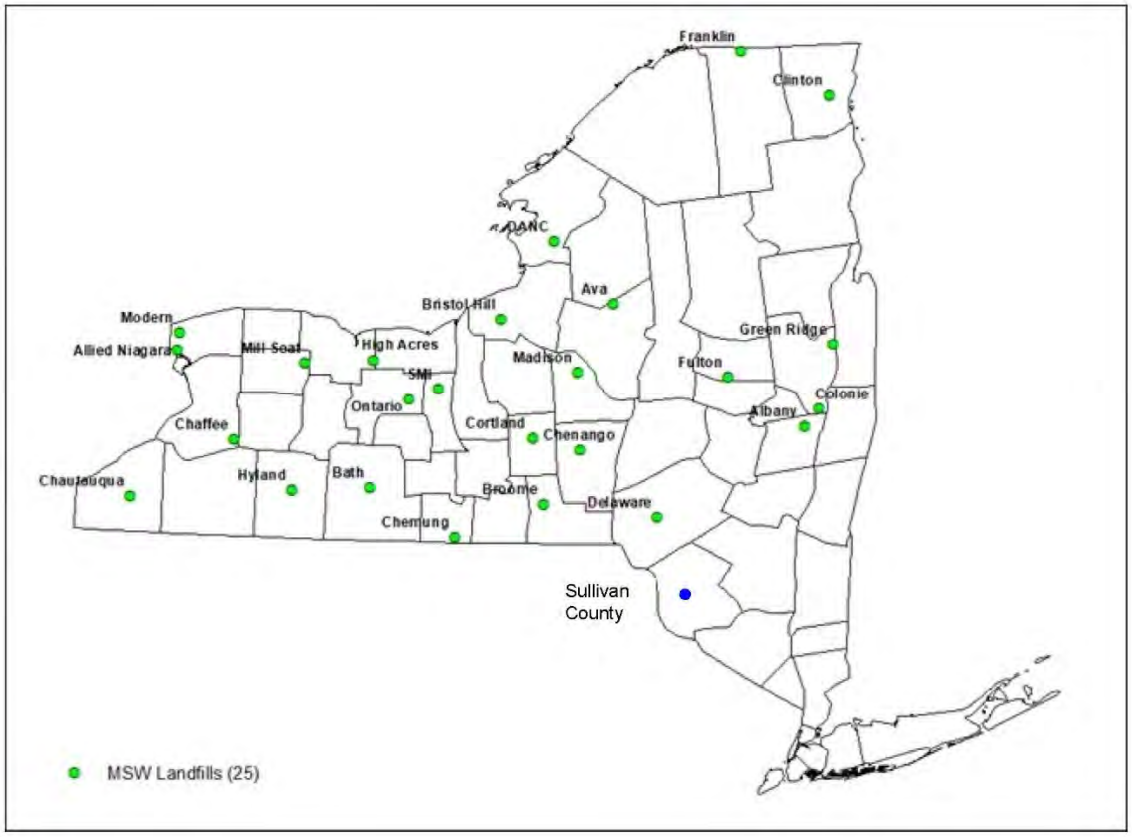
into New York State resulting in an acceleration of consumption of in-state disposal capacity and an associated reduction in remaining landfill life.

It is important to note that while the above state-wide remaining disposal capacity appears to be adequate for New York State for the near term, not all of these facilities are available to Sullivan County, or available at comparable cost to the County's current disposal fees. Some of the facilities, like Madison County for example, limit waste to in-county generators only. Other facilities, because of their particular circumstances have standard tip fees that are measurably higher than those currently paid by the County. The driving distance to more than half of the other state landfills would be longer than is currently travelled increasing fuel consumption and greenhouse gas from vehicle emissions.

The table below presents the landfills in New York State and the travel distance to each landfill from Monticello Transfer Station. It also notes if the landfill would accept waste from Sullivan County and the constructed/permitted capacity of the landfill based on the 2020 annual reports submitted to the NYSDEC.

| Landfill | Miles to LF from Monticello Transfer Station | Would accept waste from Sullivan Y/N | Available Constructed or Permitted Capacity as of 2020 (cy) |
|---|---|---|---|
| Albany | 120 | Y | 607,250 |
| Allied Niagara | 327 | N | 2,699,101 |
| Ava | 336 | N | 23,691,040 |
| Bath | 197 | Y | 901,622 |
| Bristol Hill | 198 | N | 2,119,474 |
| Broome | 108 | N | 9,570,135 |
| Chaffee | 265 | Y | 3,800,000 |
| Chautauqua | 321 | Y | 7,608,676 |
| Chemung | 144 | Y | 6,308,239 |
| Chenango | 107 | N | 1,652,009 |
| Clinton | 261 | Y | 4,612,934 |
| Colonie | 118 | Y | 9,314,522 |
| Cortland | 136 | N | 971,911 |
| DANC | 235 | N | 13,402,534 |
| Delaware | 56 | N | 32,953 |
| Franklin | 312 | Y | 1,829,150 |
| Fulton | 151 | Y | 7,256,324 |
| Green Ridge | 151 | Y | 3,661,811 |
| High Acres | 242 | Y | 47,761,354 |
| Hyland | 234 | Y | 5,858,906 |
| Madison | 182 | N | 9,223,863 |
| Mill Seat | 270 | Y | 30,608,908 |
| Modern | 337 | Y | 18,500,000 |
| Ontario | 194 | Y | 6,874,439 |
| Seneca Meadows | 191 | Y | 10,024,038 |

Below is a figure depicting the active MSW landfills in New York State. Sullivan County is identified in blue.




Source: NYSDEC March 2023

Trucking MSW to landfills within the state, to destinations in neighboring states, or even to Canada consumes a large portion of transfer station's revenues brought in by tipping fees. These transportation and disposal costs typically result in 40% to 60% or more of a facility's expenses. Increased fuel prices and limited capacity continue to drive the cost higher every year. Long haul trucks and trailers travelling in state can carry up to 30 to 35 tons of waste per load and average around 5-6 miles per gallon. Hauling waste long distances consumes non-renewable fossil fuels and generate exhaust emissions which contribute to greenhouse gas. Sullivan County currently has a transportation and disposal contract with Seneca Meadows Landfill. The original contract was a 10-year term signed in December 2009 with three optional 5-year extensions. The original agreement was extended for a 5-year period from January 1, 2020 through December 31, 2024. The original contract had a base T&D price of $57.50/ton for year 1 and subject to CPI-U increase/decrease due every September 1st. Currently, to date the County's T&D cost is $86.04 per ton plus a variable fuel surcharge of $7.51 for March 2023. "Drop and Hook" loads are assessed an additional fee resulting in a cost of $87.04 per ton. The Contract has a minimum annual average of 50,000 tons of waste to be transported and disposed of per year. If volumes drop below 50,000 tons annually then an increase of $1.50/ton will be charged. As the county sends both MSW and C&D to Seneca Meadows with an approximate yearly volume of 90,000 tons, the county will most likely not drop below the 50,000 ton minimum unless C&D is sent to another landfill when it is time to renew contracts.

Based on the County's MSW tonnage for 2021 of 49,723 ton and an average of 32.5 tons of waste being loaded per long trailer to Seneca Meadows Landfill, it would require 1,530 trips to dispose of the material. The table below assumes trucks averaging 5 miles per gallon and an average 5-year cost of $3.64/gallon for diesel fuel (Source: US energy information administration – Diesel PADD 1B, Central Atlantic). A cost saving of

approximately $598,731 would be immediately recognized per year if MSW could be processed and/or disposed within the County.

| | SMI | Local | Difference |
|---|---|---|---|
| Round trip miles | 382 | 70 | 312 |
| Miles per year | 1,006,952 | 184,520 | 822,432 |
| Fuel cost per year | $733,061 | $134,331 | $598,731 |

Currently fuel is purchased by the transporter. Through municipal contract, the County has the option to purchase and provide fuel for transportation. The County's purchase options are lower in cost than the purchase price for the transporter. Therefore, if the County were to provide the transportation fuel additional cost savings could be realized for the County. In addition, C&D is also currently going to Seneca Meadows. By providing fuel to the transporter, an even greater cost savings would be realized. No processing of C&D is performed at the County transfer stations. Seneca Meadows also does not process C&D material.

The table below summarizes the emission differences traveling to Seneca Meadows Landfill compared to a local landfill in pounds per year. The US EPA emission standards were utilized for calculations, assuming a full truck and trailer load, emitting at the emission limit for trucks year 2007 or newer.

| Engine Emissions (lbs per year) | | | | | |
|---|---|---|---|---|---|
| Destination | NOx | PM10 | PM2.5 | VOC | CO |
| Seneca Meadows Landfill | 4,474.69 | 223.73 | 223.73 | 3,132.28 | 346,788.58 |
| Landfill within Sullivan County | 813.58 | 40.68 | 40.68 | 569.51 | 63,052.47 |
| Difference | 3,661.11 | 183.06 | 183.06 | 2,562.78 | 283,736.11 |

Another way to export waste is by railroad. Waste export by rail typically involves either the development of new direct to rail facilities or, more likely, transmodal transportation. A transmodal model is more likely given Sullivan County's rural setting and limited access to rail. This means that trucks would need to transport the container loaded with MSW to a rail spur where it would then be transferred to a railcar for shipment. Once the railcar has reached the final destination, the container may need to be transferred to a second truck which would bring the full container to a landfill for disposal. Using a rail system that can haul high volumes of containers would limit the amount of fuel consumption and emissions from trucking long distances to landfills. In addition, using a railroad system would help to limit truck traffic on the roads and alleviate congestion especially in high density population areas. Currently, the closest railroad line is New York Susquehanna & Western Railway Corp. located approximately 25 miles northwest of the Monticello Transfer Station.

## 7.2 LOCAL LANDFILL

Sullivan County currently does not have an operating landfill. Therefore, in order to implement a local landfill option a new landfill would need to be developed within the county. Currently, there are 25 active landfills in New York State with the majority of facilities located northwest of Sullivan County. Operating landfills are depicted on the map in Section 7.1.

Siting a local regional landfill is a time-consuming process. Finding available land and travel routes to avoid congesting local streets and avoid interfering with water supply sources can prove difficult. Permitting and construction of the landfill and infrastructure can take years, if not decades, especially with political and local community apprehension to having a landfill in "their backyard". No MSW landfill has been sited in the state since Ava Landfill in 2004. This landfill was sited as a result of Oneida-Herkimer Solid Waste Authority realizing that exporting waste was no longer a viable solution and that the Authority needed to dispose of their waste locally. In

New York State, the minimum liner required for an MSW landfill is a double composite liner with primary and secondary leachate collection and removal systems. The double composite liner system allows for the performance of the system to be regularly evaluated to ensure adequate protection of groundwater resources. NYSDEC reports show that all active landfills in NY are in compliance with leak performance standards.

Having a local landfill will help to bring stabilization of transportation and disposal costs to the County. Decreased trucking costs and lower fuel consumption will allow for the County to see an immediate cost savings and environmental benefit in reduced greenhouse gas generation.

In an effort to maximize the landfill lifetime expectancy and lower tipping fees, it would be in the best interest of the residents and the County to divert as much waste as possible from being landfilled. This includes organics, food, and yard waste, which can be composted, as well as recycling all applicable products and materials.

The EPA summarizes modern landfills as well engineered facilities that are located, designed, operated, and monitored to ensure compliance with federal regulations. Solid waste landfills must be designed to protect the environment from contaminants which may be present in the solid waste stream. The landfill siting plan, which prevents the siting of landfills in environmentally-sensitive areas, as well as onsite environmental monitoring systems, which monitor for signs of groundwater contamination and for landfill gas emission, provide additional safeguards. All MSW landfills must comply with the federal regulations in 40 CFR Part 258 (Subtitle D). Some of the standards for modern landfills include the following:

- Location restrictions – Ensure that landfills are built in suitable geological areas away from faults, wetlands, flood plains, or other restricted areas.
- Composite liners requirements - include a flexible membrane (geomembrane) overlaying two feet of compacted clay soil lining the bottom and sides of the landfill, which protect groundwater and the underlying soil from leachate releases.
- Leachate collection and removal systems - sit on top of the composite liner and remove leachate from the landfill for recirculation or treatment and disposal.
- Operating practices - include compacting and covering waste daily with several inches of soil to help reduce odor; control litter, insects, and rodents; and protect public health.
- Closure and post-closure care requirements - include capping landfills and providing long-term care and maintenance.
- Corrective action provisions - control and clean up landfill releases and ensures groundwater protection standards are being satisfied.
- Financial assurance - provides funding for environmental protection during and after landfill closure.

An approximate cost to site and construct a landfill is on the order of $30 to $40 million dollars. Financial responsibilities include property acquisition, designing, permitting, construction, operations equipment, scale, administration offices, maintenance building, and other miscellaneous infrastructure.

## 7.3 ORGANICS DIVERSION

Organics diversion is considered the removal and conversion of organic, biodegradable materials from the waste stream so that these organic materials are not sent to a landfill. Materials include green yard waste, food waste, and food soiled paper products. There are two general types of organic processing technologies: composting (aerobic decomposition) and anaerobic digestion. Both types utilize microbial degradation where microorganisms break down the organic fraction of MSW into valuable products (e.g. energy and soil amendment/compost). In Composting, the decomposition occurs aerobically or in the presence of oxygen. This decomposition of the materials can also be enhanced through forced aeration. In anaerobic digestion, the decomposition occurs in the absence of oxygen. The following section is a general description of a few common types of organic processing technologies.

## 7.3.1 Composting Basics

Composting is an aerobic (in the presence of oxygen) biological decomposition process that reduces organic material to produce a peat-like humus. Composting processes can range from very simple pile systems, generally only suitable for composting yard and garden waste, to more complex self-contained systems that are capable of processing mixed organics.

Composting is utilized in many jurisdictions for processing food scraps, food soiled paper, yard and garden waste, animal by-products, manure, and biosolids. Composting is also often used after anaerobic digestion processes to produce a more stable and marketable organic rich compost. The composting process can generally be described in three steps: pre-processing, active stage, and curing stage.

The pre-processing stage includes the steps to create a relatively homogenous mixture. This includes screening and removing contaminants (metals, plastics, glass), reducing overall particle size, developing desired moisture, achieving target density and obtaining an appropriate mix ratio of high nitrogen feedstocks and high carbon feedstocks. This stage is critical to performance of successive stages, as high contamination or poor mix design can lead to inconsistent decomposition of materials, high odor generation, and poor finished compost. The active stage encompasses the majority of organic decomposition of material which generally lasts approximately 8 weeks. The curing stage is where material is allowed to stabilize over several months before it is screened and marketed as finished compost and/or soil amendment.

## 7.3.2 Processing Characteristics - Composting

The composting process can range from a simple outdoor process (static pile or windrow) to more mechanical indoor processes. Simple composting approaches typically involve placing material in windrows or piles and waiting for the bacteria in the piles to degrade the materials (can take up to 2 years). The simple approach generally takes more time to compost and requires a larger footprint to process the materials.

The composting process can be accelerated by forcing air through the composting piles to enhance the degradation process. Placing a cover on the pile further speeds up the degradation process by controlling moisture levels in the piles. By enhancing the degradation process, the required footprint of the facility also decreases.

Optimizing the environmental conditions in the composting piles reduces the amount of time to produce compost. It also allows for better control of off gases such as odor, which is an important consideration especially if the facility is located close to residences or businesses. The table below lists some of the key features from the various composting approaches.

*Composting Processing Characteristics*

| Composting Approach | Odor & Nuisance Control Measures | Maintenance Requirement | Staffing Needs | Capital Cost | Operating Cost | Space Required | Typical Process Time | Additional Curing Required |
|---|---|---|---|---|---|---|---|---|
| **Turned Windrow or Static Pile** | Low – Moderate | Low – Moderate | Moderate | Low – Moderate | Low – Moderate | High | 4 to 12 months | No |
| **Aerated Windrow or Static Pile** | Low – High | Low | Low – Moderate | Low – Moderate | Low – Moderate | Low – Moderate | 3 to 6 months | Yes |
| **Membrane Covered Aerated Static Pile** | High | Low – Moderate | Low – Moderate | Moderate – High | Low – Moderate | Low – Moderate | 2 to 4 months | Yes |

| Composting Approach | Odor & Nuisance Control Measures | Maintenance Requirement | Staffing Needs | Capital Cost | Operating Cost | Space Required | Typical Process Time | Additional Curing Required |
|---|---|---|---|---|---|---|---|---|
| **In-Vessel Composting** | High | Moderate | Low – Moderate | High | High | Low – Moderate | 1 to 4 months | Yes |
| **Modular Agitated Container** | High | Moderate – High | Low – Moderate | Moderate – High | Moderate | Low | 1 to 4 weeks | Yes |

## 7.3.3 Feedstock - Composting

Sullivan County roughly receives 45,000-50,000 tons per year of MSW, with organic waste comprising approximately 40% of the waste stream. A comprehensive organics diversion program should be able to capture 50%-70% of total organics from the waste stream. In addition to organics from MSW, clean wood waste from the C&D stream could be chipped and used as a bulking amendment for the composting process (~9,000 tons). For Sullivan County, a reasonably sized organics processing facility taking organics and clean wood waste would be approximately 21,000 tons per year not accounting for seasonal fluctuations. For unit cost estimate purposes, the design capacity was increased to 26,000 tons per year equivalent to account for peak flow fluctuations.

## 7.3.4 Windrow Composting



Windrow composting consists of placing the mixture of organic materials into long narrow piles, or windrows, which are agitated or turned on a regular basis. Typically, these windrows are three feet high for dense or tightly packed materials such as manures, and 10 to 15 feet high for porous or less dense materials such as yard waste (leaves and branches). In colder climates, windrows tend to be taller and wider to reduce heat loss. The equipment used for turning these windrows determines the size, shape, and spacing of the windrows. Front-end bucket loaders or telescopic handlers with a long reach can build higher windrows, while turning machines tend to produce low and wide windrows.

Windrows aerate primarily by natural or passive air movement (convection and gaseous diffusion). The rate of air exchange depends on the porosity of the windrow. Turning the rows mixes the materials, rebuilds the porosity of the windrow, and releases trapped heat, water vapor, and gases. This type of compost technology is best suited to composting yard and garden waste. Composting times are typically over six months.

*Windrow Composting Advantages and Disadvantages*

| Advantages | Disadvantages |
|---|---|
| ▪ Can handle feedstocks with lower Carbon to Nitrogen (C:N) ratios<br>▪ Relatively-low capital costs and low technology requirements (windrow turners, front-end loaders, or farm equipment will suffice)<br>▪ Relatively low operating costs | ▪ Large land area required<br>▪ More labor-intensive than aerated static pile, particularly for feedstock with low C:N ratio or porosity<br>▪ No odor control, which may require larger buffer area between operation and neighbors |

| | |
|---|---|
| ▪ No electric power needed<br>▪ Large amount of industry practical experience | ▪ More challenges to overcome if food waste or biosolids are included due to increased odors and reduced markets<br>▪ Exposure to rain, wind, and cold can be problematic |

## 7.3.5 Aerated Windrow or Static Pile



This composting approach should have the composting area built on an impermeable surface such as a concrete or asphalt pad with a shallow grade to allow for leachate collection. Each windrow or pile can be equipped with a trench-style, concrete aeration floor or perforated distribution system frequently comprised of perforated pipes placed on the ground with the compost piles built on top. The aeration pipes are connected to a blower equipped with a control system to moderate temperature and oxygen content in the pile. The control system tracks operating conditions to determine aeration rates. Condensate and leachate are collected in the trench. Odor is managed by maintaining aerobic conditions in the pile (for positive air systems) or with a simple biofilter made with a wood chip-based medium (for negative air systems). The composting time for this type of system ranges from three to six months.

*Aerated Static Pile Composting Advantages and Disadvantages*

| Advantages | Disadvantages |
|---|---|
| ▪ Forced aeration reduces land requirements and mixing<br>▪ Use of negative aeration can help control odorsLower operating costs from shorter processing times and less mixing/turning<br>▪ Material handling requirements are less than windrow system (less turning required) | ▪ Slightly higher capital cost for forced-aeration equipment<br>▪ Over-aeration can remove moisture<br>▪ Feedstock pre-processing requires a higher degree of care; feedstocks must be well mixed and properly sized and moistened<br>▪ More operator skill required to manage aeration systems<br>▪ Aeration systems generally require more complex (three phase) electrical supply |

## 7.3.6 Membrane Covered Aerated Static Pile



The covered aerated static pile composting area is typically constructed on an impermeable surface such as concrete or asphalt with a 2% grade to allow for leachate collection. The aeration system design uses a trench built into the impermeable surface to allow for leachate collection and aeration of the pile. The system being shown, GORE® Cover System, operates using positive aeration. The cover is made of a Goretex material that covers the pile and is secured to the ground or support walls on the side of the pile. As air is injected into the pile, the breathable membrane expands like a balloon to create an in-vessel like environment. The sealed edges create a fully-enclosed system. This membrane allows for the management and retention of moisture, temperature, and odor. The control system measures oxygen and temperature which helps dictate the aeration rate. The composting process consists of the main active phase (4

weeks under GORE® cover), second active phase (2 weeks under GORE® cover) and curing phase (2 weeks without GORE® cover). The residence time for this type of system is approximately 56 days.

*Membrane Covered Aerated Static Pile Composting Advantages and Disadvantages*

| Advantages | Disadvantages |
|---|---|
| ▪ Newer facilities use coverall (low cost) buildings for better odor control<br>▪ Lower space requirements than windrow systems<br>▪ Contained system reduces potential for odor emissions and contaminated storm water | ▪ Potential steam or dust issues inside the enclosure<br>▪ Indoor air must be managed in odor control system prior to release<br>▪ Operating and maintenance expertise required<br>▪ Moderate to high capital and operating costs |

## 7.3.7 In-Vessel Composting



The in-vessel composting process is similar to covered aerated static pile composting in that the piles are aerated continuously (with a combination of positive and negative air flow) and contained in a vessel. The difference is that the piles are contained in a rigid structure. The vessels are made of concrete, with gasketed and insulated stainless steel doors. The residence time for this type of system is in the order of 28 days with several additional weeks for curing. The vessel is equipped with an aeration floor and condensate/leachate collection system. The control system tracks operating conditions to optimize aeration rates. Exhaust gases are treated with wet scrubbers and biofilters to control odors. Types of in-vessel composting include agitated bin, vertical plug-flow, horizontal plug-flow and autoclave.

*In-Vessel Composting Advantages and Disadvantages*

| Advantages | Disadvantages |
|---|---|
| ▪ High degree of odor control except for receiving area and when doors are opened<br>▪ Lower space requirements | ▪ Operating and maintenance expertise required<br>▪ Higher capital and operating costs.<br>▪ Some vendors claim shorter residence time (1 to 4 weeks) and used in combination with another composting method/technology. |

*Comparison of Composting Approaches*

| Composting Approach | Odor & Nuisance Control Requirements | Maintenance Requirements | Staffing Needs | Capital Cost | Operating Cost | Space Requirements | Typical Processing Time |
|---|---|---|---|---|---|---|---|
| Windrow | Low – Moderate | Low | Low – Moderate | Low – Moderate | Low – Moderate | Large | 4 to 12 months |
| Aerated Windrow or Static Pile | Low – High | Low | Low – Moderate | Low – Moderate | Low – Moderate | Low – Moderate | 3 to 6 months |
| Covered Aerated Static Pile | High | Low | Low – Moderate | Moderate – High | Low – Moderate | Low – Moderate | 2 to 4 months |

| Composting Approach | Odor & Nuisance Control Requirements | Maintenance Requirements | Staffing Needs | Capital Cost | Operating Cost | Space Requirements | Typical Processing Time |
|---|---|---|---|---|---|---|---|
| In-Vessel Composting | High | Moderate – High | Low – Moderate | High | High | Low – Moderate | 1 to 4 months |

## 7.3.8 End Products - Compost

The end product of composting is a peat-like humus material that is suitable as a soil amendment. End markets for processed organics from municipal solid waste sources typically include soil amendments used for landscaping purposes, soil erosion control, and horticultural/agricultural applications. Some rural solid waste authorities stockpile processed organics at their landfills for future use as final topsoil cover to promote vegetative growth once the landfill is closed. Some of the benefits of using compost include improvements in soil quality which in turn yield healthier plants, grass, and crops. Compost adds valuable nutrients to soils, acting as a natural slow-release fertilizer, reducing the need for chemical fertilizers that may be carcinogenic, and saves money by using the compost amendments. The compost material helps to retain moisture content, reducing the time and costs of watering. Compost helps to reduce and prevent pests and diseases, increasing soil life while aiding in balancing soil pH. By composting in the backyard or by bringing organics to a composting facility, one can reduce the overall tonnage needed to be trucked to a landfill, ultimately extending the life of a landfill and reducing GHGs.

Most States have compost quality standards that dictate acceptable uses and distribution of compost from municipal solid waste sources. Pathogen levels are typically regulated to protect public health. Having markets for the compost material is critical to the success of any organic processing operation. Producing high quality compost usually results in more available markets and higher revenues for the end products.

## 7.3.9 Financial Considerations - Composting

The following table summarizes the expected capital and operating costs for the three most likely composting scenarios for Sullivan County and applies those figures to calculate the unit processing cost. The facilities are assumed to be constructed on paved surfaces to facilitate operations and leachate management. For annualized capital costs, an interest rate of 5% over 15 years was used on equipment and construction costs. Operation costs predominantly include labor and equipment maintenance and replacement.

*Financial Considerations – Composting*

| Description | Aerated Windrow or Static Pile | Membrane Covered Aerated Static Pile | In-Vessel Composting |
|---|---|---|---|
| Capital Cost | $13,560,000 | $18,910,000 | $27,275,000 |
| Operating Cost | $1,140,000 | $1,650,000 | $3,780,000 |
| Total Annualized Capital | $1,080,000 | $1,660,000 | $2,460,000 |
| Total Annual Cost | $2,220,000 | $3,310,000 | $6,240,000 |
| Cost Per Ton | $85 | $127 | $240 |

# 7.4 ANAEROBIC DIGESTION – BASICS





Anaerobic digestion (AD) is the biological decomposition of organic materials in the absence of oxygen. The process is carried out by anaerobic micro-organisms that convert carbon-containing compounds to biogas, which consists primarily of methane (CH4) and carbon dioxide (CO2), with trace amounts of other gases. This methane-rich biogas can be used to generate electricity or can be cleaned and upgraded to be sold and transported as renewable natural gas (RNG).

Anaerobic digestion can occur in a dry state called “Dry AD” (also known as high solids anaerobic digestion) or in a wet state call “Wet AD”. Dry AD technologies require substrates to be 20% – 50% solid by mass, whereas Wet AD technologies require a feedstock that is less than 20% total solids by mass. Wet AD facilities are more appropriate for waste generators that produce source separated food waste (source separated organics) for facility feedstocks, as those materials typically contain high water content and high methanogenic production potential. Dry AD technologies (high solids AD) are commonly used for source separated organics (SSO) that contain woody materials such as yard and garden waste. Dry AD has a similar biological process to Wet AD, however, the substrate consists of 40% to 50% solids by mass instead of a “slurry” that contains less than 20% solids (by mass). This falls well within the range of available high “solid” or “stackable” substrates such as MSW, food waste, yard waste, and other organic substrates.

Wet AD Systems have been in operation for over 20 years at municipal wastewater treatment plants. Some of these plants are co-digesting source separated organics (SSO) with wastewater treatment residuals (biosolids). This tends to occur when there is unused digester capacity at existing wastewater treatment plants.

## 7.4.1 Organics – Anaerobic Digestion

### 7.4.1.1 Processing Characteristics – Organics Anaerobic Digestion

For AD processing, the SSO feedstock typically requires pre-processing in order to remove contaminants (plastics, inert materials, etc.) prior to being placed into the digester. The pre-processed SSO is subsequently fed into the anaerobic digestion reactor by wheel loaders, conveyor or pump. During the digestion phase, organic material is broken down by microbes and convert the organic material into biogas (generally 55% CH4, 45% CO2). AD systems usually include multiple automated control systems, such as heaters, probes and sprinklers. These controls are crucial to ensuring that optimal conditions for the methanogenic microbes are maintained, and gas production is maximized.

The biogas generated from the digestion process can be recovered, stored and combusted to produce marketable heat and electricity (combined heat and power – CHP), or cleaned and upgraded for injection into a natural gas distribution system. Residual digestate from the process can be composted to produce a stabilized soil amendment.

A portion of the residual liquid leachate is typically re-integrated into the AD and composting processes. The remaining leachate can be utilized as agricultural fertilizer amendment or processed in a wastewater treatment plant. The following table summarizes the high-level characteristics of Wet and Dry AD processes.

*Anaerobic Digestion Processing Characteristics*

| Technology | Feedstocks | Processing | Products |
|---|---|---|---|
| Wet AD | ▪ Food Waste<br>▪ Biosolids<br>▪ Fats, Oils, Greases | ▪ High Pre-processing<br>▪ High Digester Control | ▪ Higher Gas Production<br>▪ Solid Digestate<br>▪ Liquid Leachate |
| Dry AD<br>("High Solids") | ▪ Food Waste<br>▪ Yard Waste<br>▪ Biosolids<br>▪ MSW | ▪ Low Pre-Processing<br>▪ Low-Moderate Digester Control | ▪ Low-Moderate Gas Production<br>▪ Solid Digestate<br>▪ Liquid Leachate<br>▪ Residual Contaminants |

### 7.4.1.2 Feedstock – Anaerobic Digestion

Sullivan County receives roughly 45,000 tons per year of MSW, with organic waste comprising approximately 40% of the waste stream. A comprehensive organics diversion program should be able to capture 50%-70% of total organics from the waste stream, representing 9,000 to 13,000 tons per year, not accounting for seasonal fluctuations. Food waste is estimated to make up 40% of the feedstock and 60% is green/wood waste. For unit cost estimate purposed, the design capacity was assumed to be 15,000 tons per year.

Securing additional organic feedstocks typically lowers the unit processing cost ($ per ton) of the facility. Desirable feedstocks for a Dry AD facility include commercial sector organics and food processing waste. Securing reliable feedstocks from commercial sources generally adds stability to the AD process, as commercial feedstocks are typically more consistent than residential sources.

### 7.4.1.3 Financial Considerations – Anaerobic Digestion

Annual revenue was primarily based off electricity sales from combusting produced gas at $55.44 per MWh assuming 85% availability. For annualized capital costs and annual operating costs, an amortization rate of 15 years at 5% interest was used. The following table summarizes the expected capital and operating costs for a conceptual dry anaerobic digestion facility.

*Financial Considerations – Anaerobic Digestion*

| Description | Costs |
|---|---|
| Capital Cost | $38,380,000 |
| Annualized Capital Cost | $3,480,000 |
| Operating Cost | $1,340,000 |
| Total Annual Cost | $4,820,000 |
| Total Annual Revenue | $190,000 |
| **Net Annual Cost** | **$4,680,000** |
| **Cost per Ton** | **$312** |




## 7.4.2 Processing Characteristics – MSW Anaerobic Digestion

For a mixed waste stream application, incoming material will have a small amount of processing (to remove bulky inert items that would not decompose) before being placed in a bunker. Once the bunker is filled, the vessel is sealed, oxygen is removed, the bunker is heated to approximately 98˚F, and the substrate is "irrigated" with liquids that contain methanogenic microbes for a period of 25-30 days (which varies based upon substrate and technology provider). Methane-rich biogas would be produced through this process and is continuously collected from the bunker. This process is similar to the process that occurs in a landfill.

Due to the characteristics of the feedstock, Dry AD facilities lack the ability to stir the materials during the process, resulting in fewer materials that are exposed to the methanogenic microbes. As such, gas production suffers compared to Wet AD processes. Depending on preprocessing activities, Dry AD typically achieves a fraction of the efficiencies (as low as 50% to 60%) in comparison to production rates achieved by Wet AD technologies but can accommodate a much higher level of contaminants (up to 90%).

As with the Wet AD process, the biogas is collected and used to generate energy (electricity, heat and/or RNG). Depending on the level of contamination in the processed feedstock, there may be substantial amounts of residuals that will require landfilling. The following table lists some of the feedstock, processing and end-product considerations for anaerobically digesting MSW.

*MSW Anaerobic Digestion Processing Characteristics*

| Technology | Feedstocks | Processing | Products |
|---|---|---|---|
| Dry ("High Solids") AD of MSW | ▪ Food Waste<br>▪ Yard Waste<br>▪ Biosolids<br>▪ MSW | ▪ Pre-Processing to remove bulky and inert materials<br>▪ Shredding to produce a uniform sized materials<br>▪ Mix to homogenize waste stream | ▪ Low-Moderate Gas Production<br>▪ Solid Digestate<br>▪ Liquid Leachate<br>▪ Residual Contaminants requiring disposal<br>▪ Residuals less likely to generate GHG emissions |

### 7.4.2.1 Feedstock – MSW Anaerobic Digestion

The MSW AD facility can accommodate a wide variety of feedstocks, including the entire MSW stream. Sullivan County receives roughly 45,000 tons per year of MSW, so this number was used as the design capacity, and utilized for cost estimations. This technology is only appropriate for reducing the quantity of organics present in the material stream through methanogenic decomposition. There are communities that process waste in this manner to reduce greenhouse gas emissions from disposal. The majority of materials (assuming limited source separation) entering the bunker remain intact throughout the process. Developing a MSW AD system can incur significant unit processing costs since a sizeable proportion of materials require further management (typically landfilling), assumed to be 75% of the feedstock. MSW AD systems can be successful for processing organics (food and yard waste) collected from sources with contamination challenges, as capital costs can be managed by reducing facility size, maximizing gas production by increasing the proportion of decomposable material, and operating costs managed by limiting the quantity of residuals produced.

### 7.4.2.2 Financial Considerations – MSW Anaerobic Digestion

Annual revenue was primarily based on electricity sales at $55.44 per MWh at 85% availability. For annualized capital costs, an amortization rate of 15 years at 5% interest was used. Annual operating costs for the facility include facility labor and maintenance, as well as prospective disposal costs for the residuals (estimated to be 75% of incoming feedstocks). The following table summarizes the expected capital and operating costs for Sullivan County's conceptual MSW anaerobic digestion facility.

*Aerated Static Pile Composting Advantages and Disadvantages*

| Description | Costs |
|---|---|
| Capital Cost | $89,560,000 |
| Annualized Capital Cost | $8,750,000 |
| Operating Cost (including disposal) | $7,780,000 |
| Total Annual Cost | $16,530,000 |
| Total Annual Revenue | $180,000 |
| **Net Annual Cost** | **$16,310,000** |
| **Cost per Ton** | **$362** |





## 7.5 WASTE TO ENERGY – THERMAL CONVERSION (MASS BURN) - BASICS

Waste to energy (WTE) thermal conversion is a straightforward and viable alternative to landfilling in certain cases, as waste materials are thermally converted to energy, which can then be used to generate heat and electricity. Conventional direct combustion, or thermal conversion, is the most prevalent technology for WTE in the industry, as there are hundreds of operating plants worldwide. With this technology, waste is combusted as received with minimal pre-processing. This is commonly known as an incineration process. WTE facilities typically create energy in the form of high-pressure steam that can be used directly for industrial processes or to generate marketable electricity and/or district heating.

### 7.5.1 Processing Characteristics – Thermal Conversion (WTE)

In most mass-burn systems, municipal solid waste (MSW) is received and pushed into a waste bunker and manipulated using grapple cranes. Some facilities use pre-processing equipment such as a shredder to reduce the size of large bulky items (e.g. furniture) and remove inert items (including metals, appliances, etc.) and/or hazardous substances. The waste material is then loaded into a hopper where it is fed into the combustion chamber. The heat in the combustion chamber, fuel from the waste stream and oxygen which is injected into the chamber are the three elements that sustain the combustion process which produces significant amounts of thermal energy, which is used to produce steam or hot water. Modern facilities typically achieve a waste volume reduction of more than 90%. By-products from the process typically include two forms of ash: bottom ash from the actual burning of the feedstock, and fly ash from the flue gas cleaning process. These ashes can be hazardous depending on the composition of feedstocks and require additional processes to safely dispose in a landfill.

Environmental concerns associated with mass burn thermal conversion include emissions that could impact air quality and generate significant public opposition. There have been several instances on the East Coast where environmental concerns were expressed from aging WTE plants near urban populations. Air pollution concerns and public opposition has led to the closure of some WTE facilities. The following table outlines the key characteristics of a mass-burn WTE facility.

*Thermal Conversion (WTE) Processing Characteristics*

| Advantages | Disadvantages |
|---|---|
| ▪ Minimal pre-processing required of incoming materials and can process most feedstocks | ▪ Process produces emissions that require proper treatment and management |

| | |
|---|---|
| ▪ Well established technology with reliable facilities and developed industry expertise<br>▪ Reduction in residual waste volume by up to 90%<br>▪ Potential revenue from sale of heat and electricity.<br>▪ Potential revenue from recoverable metals. | ▪ Residuals include fly ash and bottom ash waste that require treatment and proper disposal<br>▪ Capital costs are high, requiring energy markets and significant economies of scale to ensure financial feasibility<br>▪ High level of public opposition due to air pollution concerns |

## 7.5.2 Feedstock – Thermal Conversion (WTE)

The mass burn system can thermally process much of Sullivan County's waste stream. This includes the majority of the 45,000 tons of MSW, as well as approximately 24,000 tons of wood waste from the construction and demolition (C&D) sector. Any prospective facility should take into account seasonal fluctuations in the waste stream when determining design capacity. The financial analysis below assumes a facility designed to manage the collected MSW and would utilize stored wood waste from the C&D sector during the months when waste disposal rates are below the annual average.

## 7.5.3 Financial Considerations – Thermal Conversion (WTE)

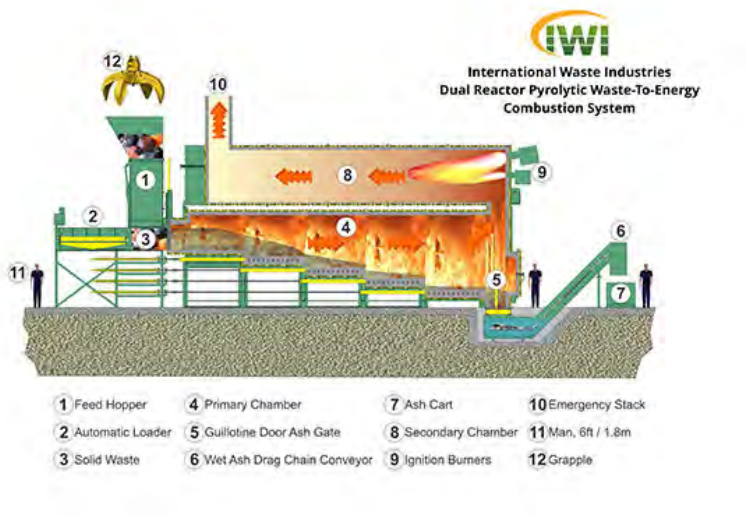
High level capital costs for mass burn WTE facilities are typically between $900 and $1500 per ton of incoming feedstock. Larger facilities generally have lower unit capital costs due to economies of scale. Since Sullivan County's current intake is considered small, the unit capital cost is likely on the higher end and has been assumed at $1500 for this estimate. Operating costs for similarly sized facilities are approximately $150 per ton based on Sullivan County's current intake of approximately 77,000 tons per year. Annualized costs were conducted using an amortization period of 15 years at an interest rate of 5%. Estimated revenues include sales of electrical energy at $55.44 per MWh (at 85% availability) and metal sales at $90 per ton (assuming that 95% of metals are recovered). Estimated costs include disposal of residuals including bottom ash and other inerts from the MSW and C&D waste streams representing approximately 25% of the total feedstock. Some inerts will be removed in pre-processing such as bulky concrete and metals from C&D loads, whereas smaller items will be removed after combustion. The following table summarizes the expected capital and operating costs of a prospective mass burn WTE facility for Sullivan County.

*Financial Considerations – Thermal Conversion (WTE)*

| Description | Costs |
|---|---|
| Capital Cost | $146,110,000 |
| Annualized Capital Cost | $14,080,000 |
| Operating Cost | $12,320,000 |
| Total Annual Cost | $26,400,000 |
| **Total Annual Revenue** | **$2,190,000** |
| **Net Annual Cost** | **$24,210,000** |
| **Cost per Ton** | **$314** |

# 7.6 THERMAL PROCESSES






## 7.6.1 Gasification – Basics

Thermal gasification systems utilize MSW and generate synthetic gas (Syngas) and carbon-rich ash. Gasification can proceed via Standard Gasification Systems (combustion in an anaerobic atmosphere) or Controlled Air Gasification Systems (partial combustion in an oxygen-deficient atmosphere). The latter of which is more complex, more expensive, and requires some preprocessing of the MSW feedstock.

Gasification processes allow for the recovery of Syngas (predominantly hydrogen, carbon monoxide, carbon dioxide, and other trace gases) which can be used to generate a variety of chemicals or fuels, such as synthetic gasoline, diesel, or natural gas (RNG). Furthermore, Syngas can be utilized to drive engines and turbines to generate electricity that could be used internally or sold to a local electricity grid.

Compared to standard mass-burn facilities, gasification systems are much more complex and expensive. However, the cost can be offset by the increases in overall efficiency as gasifier facilities can realize up to 30% higher efficiency than mass-burn technologies.

### 7.6.1.1 Processing Characteristics - Gasification

Generally, standard gasifiers require some pre-processing in order to maximize the efficiency of the gasification process. This involves reducing the particle size of incoming materials via use of shredders and grinders, as well as screening out non-combustible materials such as metals, glass, and other inerts that cannot be gasified. Ideally, pre-processed feedstocks should predominantly be made up of materials with medium to high energy contents, such as dry biomass, plastics, and shredded tires. Further refining of feedstocks can be undertaken to maximize gas production. Controlled air gasifiers do not require as much preprocessing of material, as any produced syngas is combusted later in the process along with solid materials.

The MSW feedstock (either raw or preprocessed) is loaded into a gasifier and mixed with a gasification agent, typically in a low oxygen environment to achieve a partial combustion state. Modifying operating parameters such as using pure oxygen versus air can impact the quality and types of resulting products. Moreover, facilities can be designed to use other catalytic conversions such as the Fischer-Tropsch process to create liquid fuels. Produced syngas (or other fuels) is continuously extracted from the gasification vessel as additional feedstocks are added.

### 7.6.1.2 Feedstock – Gasification

Feedstocks for gasification systems include the bulk of the MSW stream. As such, the 45,000 tons of MSW, as well as approximately 32,000 tons from construction and demolition (C&D) managed by Sullivan County each year are considered in developing the facility design capacities. The cost analysis below takes into consideration

the collected MSW and C&D streams. For both gasification scenarios, the estimated annual processing rate 77,000 tons per year. It is assumed that 20% of the MSW and wood waste from C&D will be diverted for disposal. Additionally, the remaining C&D waste is assumed disposed in the cost model.

### 7.6.1.3 Financial Considerations – Gasification

High level capital costs for standard gasification facilities are typically between $900 and $1800 dollars per ton. Capital costs for controlled air gasification facilities are between $900 and $1500 per ton. Larger facilities generally have lower unit capital costs due to economies of scale. Since Sullivan County's current intake is small, the unit capital cost is likely on the higher end of the cost scale. Annual revenue was primarily based off of electricity sales, estimated at $55.44 per MWh (at 85% availability), and metal sales at $90 per ton (Standard Gasification Only). The following table summarizes the expected capital and operating costs of prospective standard and controlled air gasification facilities.

*Financial Considerations – Gasification*

| Description | Standard Gasification | Controlled Air Gasification |
|---|---|---|
| Capital Cost | $175,330,000 | $146,110,000 |
| Annualized Capital Cost | $16,890,000 | $14,080,000 |
| Operating Cost | $13,090,000 | $13,090,000 |
| Total Annual Cost | $29,980,000 | $27,160,000 |
| Total Annual Revenue | $2,190,000 | $2,190,000 |
| **Net Annual Cost** | **$27,790,000** | **$24,980,000** |
| **Cost per Ton** | **$361** | **$324** |






## 7.6.2 Ethanol Production from Gasification – Basics

This technology is based on Enerkem's gasification process that converts non-recyclable and non-compostable waste into biofuels (methanol and ethanol) or other chemical products. It can be implemented to complement existing recycling and composting systems or requires construction of preprocessing equipment to remove inert materials (i.e. metal, glass, masonry, etc.) and produce a uniform sized feedstock.

The Enerkem gasification technology is still being developed and fine-tuned even though a facility has been constructed in Edmonton, Alberta. The process differs from other gasification processes due to its considerably lower operating temperatures, which should result in lower energy requirements and utility costs.

### 7.6.2.1 Processing Characteristics - Ethanol Production

The residual waste feedstock must undergo pre-processing prior to the gasification process. This includes screening out contaminants and inerts, reducing particle size via shredding, and drying the material, which incurs additional capital costs in comparison to mass burn.

The remaining carbon-rich residues are subsequently fed into the Enerkem gasification vessel, where it is converted into synthetic gas (Syngas), which is constantly drawn out of the gasification vessel. This process is conducted in a low temperature and low oxygen environment, eliminating the possibility of combustion. Residual solids (10-20% of feedstock by weight) are removed to be disposed of in a landfill.

The syngas is then purified by a sequence of cleaning and conditioning steps. Lastly, the purified syngas is converted into biofuels, such as ethanol via the use of catalysts. Variables such as temperature and pressure can be precisely controlled at every level of the Enerkem gasification process.

### 7.6.2.2 Feedstock – Ethanol Production

Feedstocks for an Enerkem gasification system is processed MSW, which has inert materials removed and shredded to produce a uniformly sized feedstock. An ideal feedstock is primarily made up of materials such as plastics or synthetic textiles. An estimated value of 25% of total MSW was considered for Enerkem design capacity calculations. Considering the current rate of 45,000 tons of MSW Sullivan County manages annually, a design capacity of 11,000 tons per year was utilized. However, additional feedstocks could potentially be drawn from neighboring counties to increase output of products.

### 7.6.2.3 Financial Considerations – Ethanol Production

Annual revenue was primarily based on ethanol sales, at a price point of approximately $1.76 per gallon (80% of current ethanol prices). Enerkem states that capital costs generally reside around $1600 per annual processing ton however Tetra Tech has increased the capital costs per annual ton to reflect the very small size of facility that would process waste from Sullivan County. Ethanol production is estimated at 77.6 gallons per ton of residual waste processed. Annualized capital costs and annual operating costs were determined using an amortization rate of 15 years at 5% interest. The following table summarizes the expected capital and operating costs for a proposed Sullivan County gasification facility that produces ethanol. It should be noted below that the unit processing cost includes pre-processing costs which are estimated to be $110 per ton, based on the preprocessing facility that was built in Edmonton, Alberta and rising inflation over the past five years. Additionally, as this technology would only process a quarter of the waste stream, Sullivan County would still require management for the majority of generated waste.

*Financial Considerations – Ethanol Production*

| Description | Costs |
|---|---|
| Capital Cost | $30,360,000 |
| Annualized Capital Cost | $2,920,000 |
| Pre-Processing Cost | $1,210,000 |
| Operating Cost | $1,610,000 |
| Total Annual Cost | $5,740,000 |
| Total Annual Revenue | $1,500,000 |
| **Net Annual Cost** | **$4,240,000** |
| **Cost per Ton** | **$385** |

It should be noted that depending on the incoming feedstock composition, pre-processing costs may be significant ($800 - $900 per operating ton), which amounts to an additional $20 million in capital costs. Moreover, this would involve additional operating costs to staff and manage pre-processing.

## 7.6.3 Pyrolysis - Plastic to oil – Basics

Pyrolysis (similar to the process developed by Agilyx) is a thermal depolymerization process that converts plastic waste into a synthetic crude oil using heat, motion, and careful reactions. It has the potential to divert plastics destined for the landfill, displace virgin fossil fuel production, and reduce greenhouse gas emissions. Hydrocarbons including crude oil produced by pyrolysis can be marketed as feedstock for oil refineries, petrochemical processors, or consumed on site.

Plastic waste makes up roughly 15% of all waste destined for the landfill. This plastic could be processed back into its primary hydrocarbon constituents and used as feedstock for refineries.

Compared to incineration, demonstration facilities similar to Agilyx's solution have been able to achieve performances that are five times more efficient in terms of energy efficiency, carbon intensity, and resource productivity. However, capital and operational costs still remain relatively high as this technology is still in evolving.

### 7.6.3.1 Processing Characteristics - Pyrolysis

Plastic feedstocks must be pre-processed, including shredding and densification in order to optimize the pyrolysis process.

After pre-processing, the batch of densified plastic is placed into a large, airtight processing vessel. The vessel is subsequently heated with a light industrial burner, depolymerizing the plastic (solid → liquid → gas). Through a combination of temperature and vacuum, the plastic gases are pulled from the vessel into a central condensing unit where the off gases are cooled and condensed into a synthetic crude oil.

The synthetic crude oil is transferred to an exterior tank to be transported to an oil refinery, and feedstock impurities are separated out into a char.

Outputs from pyrolysis can achieve marketable crude oil (75-82%), solid carbon residuals (7-12%), non-condensable gases (7-10%), and dissolved organics (less than 1%). These performance specifications are based on a clean feedstock.

### 7.6.3.2 Feedstock - Pyrolysis

The facility design is based on Agilyx's Gen 5 processing system which was designed to process up to 17,000 tons per year of plastics (50 tons/day). Sullivan County receives roughly 7,000 tons per year of plastics. For unit cost purposes, a 30% cost premium was applied to reflect increased costs compared to the 17,000 tons per year existing Gen 5 Agilyx demonstration facility.

### 7.6.3.3 Financial Considerations - Pyrolysis

The following table summarizes the expected capital and operating costs for an Agilyx style plastic to oil scenario for Sullivan County and applies those figures to calculate the unit processing cost. The facilities are assumed to be on paved surfaces. For annualized capital costs, an interest rate of 5% over 15 years was used on equipment and construction costs. Operation costs predominantly include labor, equipment maintenance, and replacement.

Assessment of end-markets will need to be considered prior to construction. Bi-product revenues were determined using a crude oil price of 60.00 USD/Barrel. End market availability for petroleum products will need to be considered, as well as suitability for refining.

It should be noted that this scenario does not address the other parts of the solid waste streams which represents about 62,000 tons per year of MSW and C&D waste.

*Financial Considerations – Pyrolysis*

| Description | Costs |
|---|---|
| Capital Cost | $31,650,000 |
| Annualized Capital Cost | $4,430,000 |
| Operating Cost | $1,070,000 |
| Total Annual Cost | $5,500,000 |
| **Total Annual Revenue** | **$2,100,000** |
| **Net Annual Cost** | **$3,400,000** |
| **Cost per Ton** | **$486** |

Bay Aeration system. Photo provided by BDP Industries.





## 7.7 BIOMASS – RDF BASICS

Refuse Derived Fuels (RDF) are typically manufactured from municipal solid waste (MSW) and wood waste inputs and are suitable solid fuel replacements for fossil fuel equivalents in boilers, the cement industry, or other purposes. Most RDFs are engineered to be co-fired with coal, as a solid fuel. Producing RDF has the potential to displace significant amounts of coal feedstocks in appropriate applications such as the cement industry. While the energy content of RDF is about 20% to 25% lower than coal on a per ton basis, it represents 70% fewer greenhouse gas emissions resulting from manufacturing and combustion.

RDF facilities focus on transforming non-homogenous MSW into a homogenous, predictable, carbon-rich feedstock. This includes standardizing material size through use of shredders and screens, removing non-combustible materials, and stabilizing the material for storage and transport. End products can be marketed in its raw shredded form or compressed into a more compact pelletized form.

### 7.7.1 Processing Characteristics - RDF

The process to produce RDF material typically involves a dozen stages, with additional stages to manufacture solid fuel pellets. Material is first pre-shredded before entering the system, where a series of screens and equipment removes all metals, and inert materials. The remaining material is shredded again into the final product

dimensions, before going through a hydrolyzation process to dehydrate and stabilize any organic material. After hydrolyzation, RDF material is screened again, before being further processed into fuel pellets if desired.

The quality of the end product is dependent on the incoming feedstock and desired fuel characteristics of the end markets. For example, chloride content is a primary concern for cement manufacturing, posing processing challenges as research suggests that food scraps could be a significant source of chlorides in MSW. Moreover, end markets may have varying requirements for acceptable heating values, and levels of certain compounds. Beyond produced RDF (75%), separated metals (5%) can be sold for additional revenue, whereas inerts and residual overs (approximately 20%) typically require disposal.

A large amount of maintenance is required to ensure optimal operation. In particular, the initial shredding process can be harsh on machinery, as a wide variety of materials need to be broken down. As such, the knives of the shredder tend to wear out every 1 to 2 months requiring frequent and diligent maintenance to maintain processing rates. The following table outlines some of the main positive characteristics and challenges of this technology.

*RDF Processing Characteristics*

| Advantages | Disadvantages |
|---|---|
| • Environmentally friendly alternative to traditional fossil fuels<br>• Potential to create a significant revenue if fuel end-markets are secured<br>• Potential to recover energy from waste | • End markets may need to be developed including obtaining regulatory approval to use RDF as a feedstock for industrial applications.<br>• Feedstock quality variance may affect end-product value depending on end-market requirements<br>• Capital cost is relatively high in addition to transportation costs<br>• High amount of maintenance required to maintain operation in good working order |

## 7.7.2 Feedstock - RDF

Feedstocks for RDF systems can encompass the bulk of the solid waste streams, as the end-product includes all combustible materials. As such, the 45,000 tons per year of MSW as well as approximately 33,000 tons per year of construction and demolition (C&D) materials could be processed from Sullivan County. 77,000 tons per year of feedstock is considered in developing the facility cost estimates. Asphalt roofing, carpet, and tire waste are other materials that are appropriate for RDF processing systems. It is assumed that 20% of the MSW and wood waste from C&D will be diverted for disposal. Additionally, the remaining C&D waste is assumed disposed in the cost model.

## 7.7.3 Financial Considerations - RDF

Annual revenue was primarily based on RDF sales, estimated at a price point of approximately $30/ton as a fuel replacement for coal in the cement industry. Other sources of revenue considered are from the sale of recyclable biproducts (ferrous metals, non-ferrous metals, and plastics). Note that the revenue created via sales of RDF is dependent on end-market demands and can vary depending on the price point of comparable feedstocks and relevant legislation (e.g. carbon levies, low carbon fuel policy, regulatory approvals for end users). Therefore, significant consultation is required prior to the implementation of an RDF manufacturing system to ensure viable end-markets for the RDF. To account for the high equipment replacement costs, an additional 10% contingency factor is applied to the annual operating costs. For annualized capital costs and annual operating costs, an amortization rate of 15 years at 5% interest rate was used. The following table summarizes the expected capital and operating costs for Sullivan County's RDF scenario.

*Financial Considerations - RDF*

| Description | Costs |
|---|---|
| Capital Cost | $44,850,000 |
| Operating Cost | $9,680,000 |
| Annualized Capital Cost | $4,320,000 |
| Total Annual Cost | $14,000,000 |
| Annual Bi-Product Revenue | $2,020,000 |
| **Net Annual Cost** | **$11,980,000** |
| **Cost per ton** | **$156** |

## 7.8 ALTERNATIVE TECHNOLOGY FINANCIAL SUMMARY

A summary of the estimated costs of the above alternative technologies is listed in the table below. With current 2023 County tip fee for MSW and C&D set at $120/ton, most of the evaluated technologies would not be cost effective. Dry AD, wet AD, energy from waste, gasification, pyrolysis, ethanol, biomass, and some types of composting have capital and operating costs that, when combined with yearly waste generation in the County, would result in the need of drastically increased tip fees.

**Technology Summary for Waste Stream Capture and Cost**

| Technology | Report Section | Percent of Waste Stream | Cost per ton |
|---|---|---|---|
| Export to Landfill | 7.1 | 100% | $100-$120 |
| Export by Rail | 7.1 | 100% | $60-$120 |
| Local Landfill | 7.2 | 100% | $60-$90 |
| Composting | 7.3 | 30-50% | $85-$312 |
| Anaerobic Digestion (Organics) | 7.4 | 15-25% | $362 |
| Dry Anaerobic Digestion (MSW) | 7.4.2 | 50-60% | $312 |
| Waste to Energy (Mass Burn) | 7.5 | 70-90% | $314 |
| Gasification | 7.6.1 | 70-90% | $324-361 |
| Ethanol | 7.6.2 | 15-25% | $385 |
| Pyrolysis | 7.6.3 | 15-25% | $486 |
| Biomass (Refuse Derived Fuel) | 7.7 | 70-90% | $156 |

# 7.9 TECHNOLOGY SELECTION

Waste handling, processing and disposal is a major issue for every solid waste authority within New York State. With available air space diminishing in the existing in-state permitted landfills, planning units are being forced to look for out-of-state disposal and to alternative technologies.

Based on the information provided above related to facility size, required tonnages, and waste stream characterization, one technology and two operational feasibility studies have been selected to pursue during the 10-year planning period. Feasibility studies for a waste to energy burn facility, privatization and an efficiency evaluation have been selected to fully understanded the pros and cons. MSW and C&D will continue to be shipped to a landfill. Recyclables will be sent to vendors who provide the best revenue opportunities. Due to recent success of food waste diversion pilot program, organics diversion and composting program will be expanded upon. Educational programs and community outreach will be increased to inform residents, businesses, and local institutions of best management practices on how to handle their waste and recyclables in an efficient and environmentally safe manner. The 10-year planning period goals and milestones are outlined in Section 8.

In addition to the above the County recently setup PaintCare locations at each of the transfer station and the County works with Elot Recycling Inc. for management of electronics collected at the transfer stations. The County's pilot composting program was also started in 2023. Expansion of this program is anticipated to occur throughout the 10-year planning period.

## 7.9.1 Feasibility Studies

### 7.9.1.1 Waste to Energy Facility

A feasibility to evaluate potential construction of a waste to energy facility in Sullivan County will be performed. The study will include facility size, location, tonnages required, potential agreements with neighboring planning units, financial requirements, energy production, disposal needs, waste diversion expectations, and to the extent that specific locations are incorporated, will be evaluated for environmental justice considerations.

### 7.9.1.2 Privatization

Privatization or the daily control and operation of county facilities by a commercial entity will be considered. As a County, Sullivan is primarily exposed only to its own in-county facilities and operations. Private waste companies, particularly the larger national firms, are exposed to multiple facilities and remain successful by learning and applying construction and operational efficiencies. As such it is possible that a private entity could manage the County's materials more efficiently and cost effectively. To address this question, a feasibility study will be performed to assess the potential to privatize various operations within the County. The transfer station operations and financials will be reviewed to determine if having a private entity operate the transfer stations or other aspects of the solid waste program could be more cost effective for the County.

### 7.9.1.3 Efficiency review of existing facilities and operations

A feasibility study of the current practices being implemented by the County, as well as equipment needs and maintenance, facility upgrades and spacing, transportation and labor costs would be evaluated in an attempt to streamline operations while improving operational efficiency of waste and recycling practices in a safe, environmentally and financially responsible manner. This will include, but not necessarily be limited to potential upgrades to safety devices, operation hours, loading and hauling practices, autoclave processing of materials, operation of a dirty MRF, compaction of materials within containers prior to hauling, direct hauling to recycling and disposal facilities. Consideration for installation of onsite fueling for the third-party hauler will be evaluated. Providing fuel to the third-party hauler will save hundreds of thousands of dollars by eliminating the steep fuel surcharges being applied under the current contract.

## 7.9.2 Additional Reviews

### 7.9.2.1 Regionalization

Regionalization through collaboration between Sullivan County and potentially interested neighboring planning units would create better bargaining positioning for disposal contracts. Regionalization would be done with the goals of improving waste management operations, creating efficiencies among the planning units, and the potential for reduction of both long-haul truck miles and their associated greenhouse gas emissions. The County will create a panel of staff to explore various aspects of waste management practices and the potential interest of adjacent planning units to create a larger authority or work cooperatively. This includes the potential siting of a local landfill, development of a waste to energy (burn plant), and other various concepts. Depending on the interest of other planning units, a larger evaluation may be required.

### 7.9.2.2 Composting

The County has initiated a pilot composting program. Composting kits were distributed to 400 residents within the County. Initially, compost is brought by residents to the Monticello TS (expansion to any of the County operated and town TSs to be determined) or placed in bins located throughout the County. The material is then collected and hauled to Ulster County Resource Recovery Agency's (UCRRA) compost facility in Kingston, NY. As the program expands, organics are anticipated to be accepted at most of the TS's. Depending on the success of the pilot and Phase 1 activities, Phase 2 includes an aerated static stockpile located at the Monticello Transfer Station. Continued review of potential sources of organics within the County and regulations of the New York State Food Donation and Food Scrap Recycling Law will assist in determining the scalability of the compost program and where to focus education efforts.

### 7.9.2.3 Enforcement of flow control and recycling practices for residents and haulers

Flow control for MSW and C&D is currently implemented within Sullivan County; however, it has not been enforced. The County plans to promote flow control as well as improve recycling efforts through increased training and information distribution to both residents and haulers. Periodic curbside inspections and patrols will be completed to verify proper disposal and recycling methods are being implemented. Potential hire of a compliance officer will be considered.

Until these evaluations have been completed and a full understanding of the pros and cons of each option has been compiled, Sullivan County will continue operations as they currently are implemented. MSW and C&D will be shipped to Seneca Meadows Landfill in northern New York for the remaining contract which expires at the end of 2024, at which point the contract will be extended or a new contract with another landfill will be established. Recyclables will be sent to vendors who provide the best revenue opportunities. Educational programs and community outreach will be increased to inform residents, businesses, and local institutions of best management practices on how to handle their waste and recyclables in an efficient and environmentally safe manner. The 10-year planning period goals and milestones are outlined in Section 8.

# 7.10 ENVIRONMENTAL JUSTICE AND OTHER IMPACTS

In accordance with the regulatory guidance for the preparation of the LSWMP, the alternative evaluation and selection process must include an assessment of the environmental justice impacts within the planning unit. Since the above evaluation has not included a construction design for any new facilities or technologies, environmental justice issues would not apply and do not require a need to be specifically addressed at this point in time.

If the evaluations or feasibility studies prove the need for facility development the required assessments related to environmental justice issues would be reviewed. Other factors included within this category are the impact or effect on natural resource conservation, energy production, and employment-creating opportunities.

# 7.11 ALTERNATIVES ASSESSMENT

In addition to the Technology Assessment discussed above, the County evaluated various programs and concepts that could potentially be implemented to enhance waste management practices in Sullivan County. Majority of the items that are discussed in sections 7.11.1 through 7.11.15 have already been discussed throughout the plan, but the following sections provide an overview of each topic with additional details provided in Appendix C.

The 2023 NYS SWMP sets forth six major Focus Areas which have been incorporated within Sullivan County's LSWMP.

- Waste Reduction and Reuse
- Recycling and Recycling Market Development and Resiliency
- Product Stewardship and Extended Producer Responsibility
- Organics Reduction and Recycling
- Toxics Reduction in Products
- Advanced Design and Operation of Solid Waste Management Facilities and Related Activities

## 7.11.1 Waste Reduction Programs

Waste reduction is a primary focus within NYS SWMP as they move towards the goal of zero waste. By creating changes from manufacturing through consumer purchasing habits will assist in achieving this goal. Although the County cannot directly alter the choices of product manufactures and decision of consumers to purchase particular products, the County can educate and implement small changes to reduce waste generation.

The County will promote textile and scrap metal collection during the planning period. These materials are currently collected by the County. Additional education and promotion to residents and businesses will be implemented. This will reduce tonnages of materials required to be landfilled. Collection of textiles may help low income families by allowing them to have more access to free or reduced pricing of clothing. The County currently estimates quantities collected, moving forward the County will weigh the materials collected to provide more accurate data. Scrap metal can be brought to the transfer stations and placed in designated metal bins for free. The metal rolloff containers when full, are picked up by a metal recycling facility and the County receives approximately $108/ton for the metal.

The Administrative/Technical Impacts, Jurisdictional Impacts, and Selected Alternatives Identification can be found in more detail in Appendix C.

## 7.11.2 Reuse Programs

There are several reuse programs and reuse resource websites currently available that the County can promote to increase the reuse, repurposing, or repair of items. This includes repair cafés, thrift shops, and giving items for free to friends, family and other members of the community that an individual no longer needs or wants. The County will continue to promote reuse of materials throughout the planning period.

The Administrative/Technical Impacts, Jurisdictional Impacts, and Selected Alternatives Identification can be found in more detail in Appendix C.

## 7.11.3 Recyclables Recovery Programs

Recycling programs are a tremendous way to remove items from the waste stream that would have otherwise been destined for a landfill. Finding solutions for beneficial reuse or recycling waste into new raw materials protects and preserves our environment by limiting our dependence on landfills, conserving natural resources and decreasing the human environmental footprint. Recyclables are accepted at all County run transfer stations and two town run transfer stations. By educating the community to recycle as much as feasible, and providing a clean, consistent product to recycling centers will allow for end markets to continue to exist. Also, developing additional recycling markets for different products and expansion of existing programs will reduce the volume sent to landfills for disposal. The County accepts single stream recycling as well as various other products including e-waste, oil, and scrap metal. During the planning period the County will continue to focus on promoting recycling, in particular focusing on ink cartridges, plastic bags and batteries. The County also hosts household hazardous waste events throughout the year to collect harmful products that would otherwise be disposed of as MSW.

The Administrative/Technical Impacts, Jurisdictional Impacts, and Selected Alternatives Identification can be found in more detail in Appendix C.

## 7.11.4 Organics Recovery Programs

Organics within the solid waste stream is a main contributor to the total volume of tonnage disposed of in landfills. The County promotes backyard composting and as discussed in previous sections has also implemented a pilot organics program in response to the New York State Food Donation and Food Scrap Recycling Act in 2022. Expansion of the program throughout the planning period is expected to occur, removing thousands of tons from the waste stream. The organics removed can be turned into composted material for soil amendments/fertilizer and sold for revenue. A full evaluation of the composting program was conducted previously and is included as Appendix B. An alternatives assessment is not required at this time.

## 7.11.5 Programs to develop or improve local and regional markets for recyclables

The recyclables collected at the County Transfer Stations are ultimately sent to a final offsite recycling facility that provides the best financial compensation for the products. In 2022, majority of recyclables were sent to Republic Waste in Beacon, NY. The County has limited influence over regional markets. The County promotes the collection of proper and clean recyclable materials to reduce costs or rejection of dirty loads from end recycling facilities. As regional markets allow and are developed for additional products, Sullivan County will modify their existing programs to accept these materials and further reduce tonnage required to be landfilled.

The County is a member of the Hudson Valley Regional Council Materials Management Working Group. The group is working with DEC Region 3 to develop regional solutions, actionable plans have not been developed yet. If actionable items are created they will be added to the Plan during the biennial updates. An alternatives assessment is not required at this time.

## 7.11.6 Enforcement Programs

The County has identified areas in which the existing Solid Waste and Recycling Laws could be improved to adequately ensure that waste is disposed of or recycled in accordance with state and local regulations. It is a goal of the County to increase enforcement of flow control and to perform routine checks to ensure proper recycling and waste disposal methods are being implemented by residents and haulers throughout the County. Enforcement will also be increased to confirm haulers/contractors are removing hazardous/unaccepted materials prior to entering the transfer stations. Security cameras are used to do load inspections from the ticketing desk and the County is able to charge haulers for contamination or dumping in the wrong areas at the transfer stations. The cameras are able to provide screenshots/evidence of the violation. Action items are to install cameras in the cardboard building/MRF to further identify contamination and implementation of a regular inspection schedule.

The Administrative/Technical Impacts, Jurisdictional Impacts, and Selected Alternatives Identification can be found in more detail in Appendix C.

## 7.11.7 Incentive Based Pricing

The County has implemented a Pay As You Throw (PAYT) program which means residents pay only on what they discard. Typically, 30-gallon bags can be disposed of for around $3. Recyclables can be disposed of for free and must be separated into the correct corresponding rolloffs at the transfer stations. By implementing the PAYT program, this incentivizes the residents to reduce waste as much as possible, and results in recycling and composting food and yard waste. Haulers and contractors dispose of large volumes are charged by the ton. This is an incentive to reduce tonnages prior to disposal by recycling and reusing materials. SSR, paint, metal, food scraps, electronics, cardboard, textiles, oil are all free for residents to dispose/recycle at County transfer stations. Disposal at County stations is significantly cheaper than curbside, which encourages residents to come to the transfer stations where they have more recycling options than just single stream for curbside pickup. As a PAYT program is already in place, an alternatives assessment is not required at this time.

## 7.11.8 Education and Outreach

The success of any waste and recycling system depends heavily upon the materials that enter the system, and education is a key component to the program's overall success. The Sullivan County Recycling Coordinator provides countywide outreach, education and community engagement programs which utilizes a variety of promotional strategies, marketing, educational techniques, and technical support to increase reuse, recycling, waste reduction, and composting among both residential and commercial waste generators in the County.

The County produces and distributes a variety of educational media and community resources such as brochures, flyers, guides, contacts list, and posters. The County will strive to implement a monthly training session via online discussion or by visiting a school/business.

The Administrative/Technical Impacts, Jurisdictional Impacts, and Selected Alternatives Identification can be found in more detail in Appendix C.

## 7.11.9 Data collection and evaluation efforts

The County collects data on all materials that are brought into and exported from each of the County run transfer stations. Collecting data allows the County to quantify the total materials handled and provides critical information that the County relies on to set tip fees and budgets, allowing for the correct infrastructure and staffing to be in place to properly manage waste and recyclables. Additional efforts will be made moving forward to quantify volumes of biosolids, industrial waste and organics used in agricultural operations/composting. Surveys will be sent to identified generators. Follow-up visits may be required if no response is received via mail.

The Administrative/Technical Impacts, Jurisdictional Impacts, and Selected Alternatives Identification can be found in more detail in Appendix C.

## 7.11.10 Local Hauler Licensing

Commercial haulers (public or private) must apply for an annual license with the Sullivan County Division of Solid Waste. There is a $150 license fee plus $25 per truck labeling fee for haulers (2023). Haulers and Sullivan County Facilities must obey Article 27, Title 6 of Environmental Conservation Law which briefly states it is a requirement to separate recyclables and unauthorized waste from all other solid waste set at curbside or otherwise for collection by municipal or private carriers, or directly at solid waste facilities. As there are set fees currently in place, an alternatives assessment is not required at this time.

## 7.11.11 Flow Control and Districting Potential

Regulations implementing flow control are currently established within the County for MSW and C&D. By capturing the majority of MSW and recyclables produced in the County allows for a consistent and known volume of waste to be managed. This helps in contract negotiations and identifying operational strategies, goals, and where improvements are needed. As discussed in Section 7.11.6, increased enforcement efforts on flow control will be completed. As flow control is currently established, and enforcement will be carried out via Section 7.11.6, an alternatives assessment is not required at this time.

## 7.11.12 C&D Debris Reduction

The County currently does not sort or recycle C&D debris at any of the transfer stations. Manual sorting is very time-consuming, unsafe, and not cost effective. C&D and MSW are commingled for disposal to a landfill. Educational efforts can be enforced to have contractors recycle and reuse as much material as possible prior to bringing the remaining material to the transfer stations. The County can promote deconstruction of infrastructures and provide guidance and resources from Programs | CR0WD.

The Administrative/Technical Impacts, Jurisdictional Impacts, and Selected Alternatives Identification can be found in more detail in Appendix C.

## 7.11.13 Private Sector Management and Coordination

The Monticello Transfer Station is operated under contract by IESI NY Corporation. IESI loads long haul trailers with MSW and C&D, as well as manages recycles that are brought into the facility.

The County plans to complete a feasibility study for privatizing waste management within the County as discussed in Section 7.9.1.2. These collaborations with a private entity could include potential waste reduction, diversion, or funding opportunities for the County. An alternatives assessment is not required at this time as a feasibility study will be conducted during the beginning of the 10-year planning period.

## 7.11.14 Management of Waste through Thermal Treatment Technologies

Gasification and Pyrolysis technologies were evaluated in prior sections and were determined to be financially unachievable for the County based on the current waste stream composition and volumes of material handled within the County. These thermal treatment technologies will not be pursued.

The Administrative/Technical Impacts, Jurisdictional Impacts, and Selected Alternatives Identification can be found in more detail in Appendix C.

## 7.11.15 Waste Disposal Options

The County currently disposes of waste that is not diverted or recycled from the waste stream to a landfill in upstate NY. Several disposal options and technologies were evaluated as part of this Plan. Among the technologies reviewed, a Waste to Energy (WTE) facility is a proven and a viable alternative to landfilling in certain cases, as waste materials are converted to energy, which can then be used to generate heat and electricity. The County plans to conduct a feasibility study in the near future that focuses on the establishment of a WTE facility in Sullivan County. The need for a local disposal option is a pressing issue for many planning units in the Hudson Valley area. The feasibility study would include, but is not limited to identifying financial obligations, job creation, funding mechanisms, greenhouse gas emissions, and traffic studies. Additional technologies and disposal methods will continue to be evaluated throughout the planning period.

The Administrative/Technical Impacts, Jurisdictional Impacts, and Selected Alternatives Identification can be found in more detail in Appendix C.

# 8.0 IMPLEMENTATION PLAN AND SCHEDULE

A key component to the LSWMP is the creation of the Implementation Plan and Schedule. The following schedule is a culmination of tasks the County anticipates performing and outlines the timeframe for each task to be completed. The Implementation Plan and Schedule provides a general timeline and sequence of all these tasks.

The Plan is considered a living document that will be updated throughout the planning period as elements of the Plan are pursued and implemented, which includes the Implementation Plan and Schedule. Efforts will be made to surpass the timelines laid out in the schedule when possible, particularly regarding the time frame of the feasibility studies and facility evaluations.

**Solid Waste Management Plan**

- Implementation
- Biennial Updates
- Draft new LSWMP (2032)

**Law and Legislation**

- Periodic review of Legislation on all levels
- Enforcement of laws
- Collaboration with planning departments
- PaintCare locations at transfer stations

**Recyclables**

- Continuous monitoring of changing recyclables market
- Continuous monitoring of local and regional programs and initiatives

**Data**

- Continue to submit required reports
- Collect data on all materials managed, including agricultural uses
- Collect data on materials generated in the County, including biosolids and industrial waste

**Finance**

- Debt Service
- Apply for Grants
- Contract renewals

**Feasibility Studies and Evaluations**

- Privatization
- Regionalization
- Efficiency review of facilities and operations

**Facility Upgrades and Improvements**

- Maintenance, upgrades, and new equipment as needed
- Facility safety improvements
- Conceptualize proposed infrastructure determined by feasibility study

**Organics Diversion**

- Composting program implementation
- Composting demonstration site
- Evaluate volume of organic waste to be accepted
- Promote backyard composting and assist with implementation practices to residents, schools and business as needed

**Education and Outreach**

- Measure effectiveness of education programs
- Presentations for local groups (libraries, rotary clubs etc.) and schools
- Update Website
- Social media communication
- Tours and hands-on learning
- Targeted outreach community engagement efforts
- Memberships, conferences
- Keep a record of meetings and educational outreach

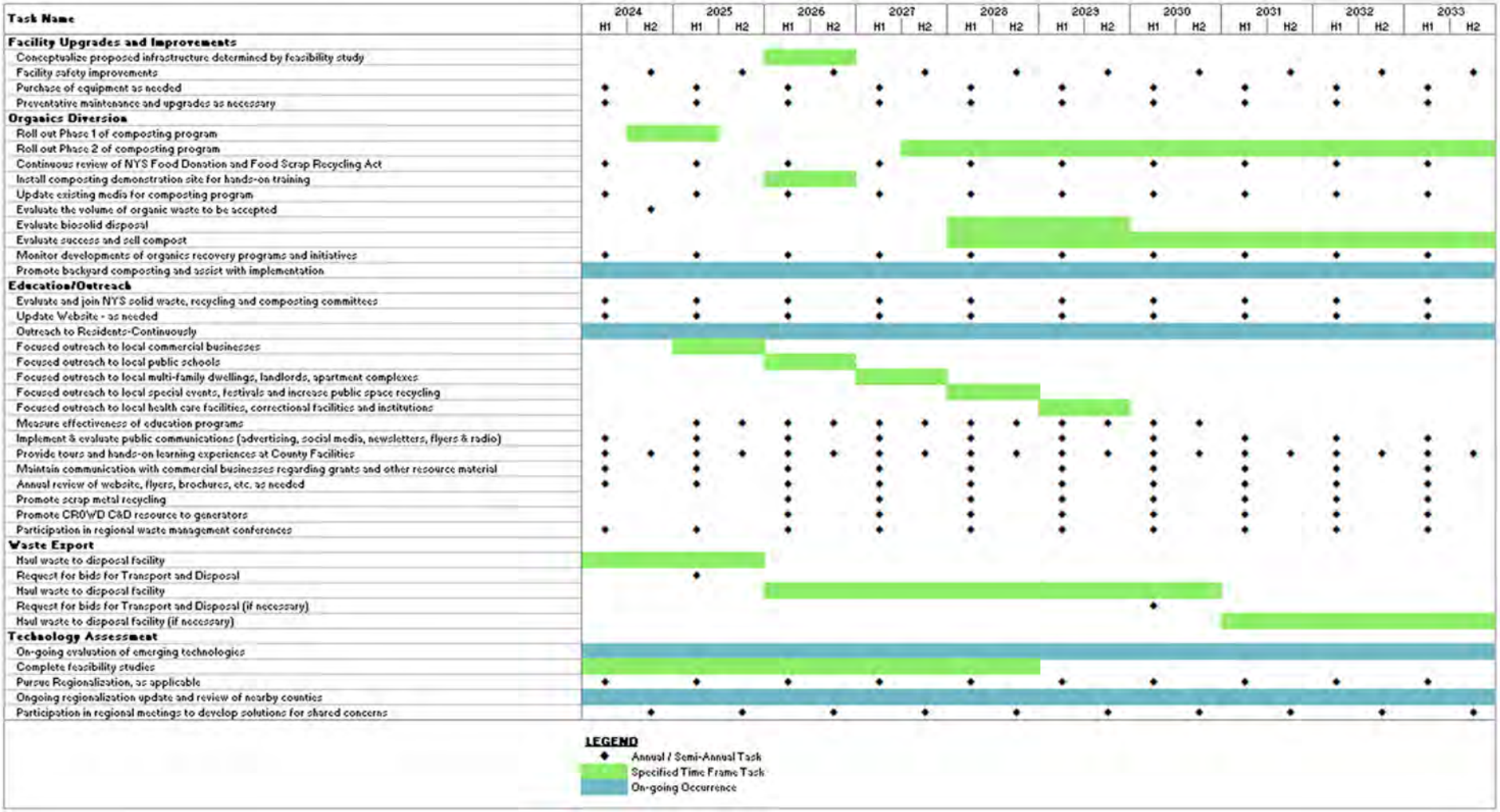
**Waste Export**

- Disposal to landfill

**Technology Assessment**

- On-going evaluation of emerging technologies for waste management
- Feasibility Studies
- Regionalization


Task Name
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
H1
H2
Solid Waste Management Plan
Biennial SWMP Update
Draft new SWMP for upcoming 10-year period
Finalize and adopt a new LSWMP for the following 10-year planning period
Transfer Stations
Renew transfer station registrations
Renew Monticello Transfer Station Permit
Setup PaintCare facilities at each Transfer Station
Law and Legislation
Review & post new laws and regulations, update staff
Review NYS Food Donation and Food Scrap Recycling Act
Provide education about source separation requirements and consequences of failure to comply
Provide education/assistance regarding expectations and enforcement steps to waste haulers
Actively enforce laws and regulations through education and fines as needed
Establish PaintCare legislation
Inspection of waste hauler collection practices and enforcement
Recyclables
Review pricing for recyclables market
Enforce recycling protocols with residents and haulers
Install cameras at transfer facilities to help with enforcement
Monitor local and regional development of recycling programs and initiatives
Continue to optimize recycling activities and alternatives
Data
Collect tonnages of materials into and out of Sullivan County Facilities
Collect and report data on facilities outside of County operated facilities but within Sullivan County
Continue to collect data on all materials generated in Sullivan County that are transported outside of the County
Collect data for industrial waste, biosolid waste and agricultural composting
Submit yearly solid waste and recycling report to DEC
Determine budget estimates and tip fees
Reach out to large generators, annually, to understand tonnages produced
Improve textile estimates by getting rough weight on vendor collection box
Finance
Apply for grants for future projects
Apply for grants funding HHW events and educational programs
Secure funding for compost expansion
Secure funding for current facility upgrades and operations feasibility study
Secure funding for composting and regionalization feasibility studies
Secure funding for privatization, dirty material recovery facility feasibility study
Pay down debt service
Feasibility Studies and Evaluations
Efficiency review of facilities and operations feasibility study
Waste to Engery Facility
Composting, regionalization, and enforcement evaluation
Privatization feasibility study
Use results of feasibility studies to choose path forward
Begin Design and Permitting as needed
Secure funding and request bids for project
Address comments from public
Construction of new technology or facility improvements


Task Name
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
H1
H2
Facility Upgrades and Improvements
Conceptualize proposed infrastructure determined by feasibility study
Facility safety improvements
Purchase of equipment as needed
Preventative maintenance and upgrades as necessary
Organics Diversion
Roll out Phase 1 of composting program
Roll out Phase 2 of composting program
Continuous review of NYS Food Donation and Food Scrap Recycling Act
Install composting demonstration site for hands-on training
Update existing media for composting program
Evaluate the volume of organic waste to be accepted
Evaluate biosolid disposal
Evaluate success and sell compost
Monitor developments of organics recovery programs and initiatives
Promote backyard composting and assist with implementation
Education/Outreach
Evaluate and join NYS solid waste, recycling and composting committees
Update Website - as needed
Outreach to Residents-Continuously
Focused outreach to local commercial businesses
Focused outreach to local public schools
Focused outreach to local multi-family dwellings, landlords, apartment complexes
Focused outreach to local special events, festivals and increase public space recycling
Focused outreach to local health care facilities, correctional facilities and institutions
Measure effectiveness of education programs
Implement & evaluate public communications (advertising, social media, newsletters, flyers & radio)
Provide tours and hands-on learning experiences at County Facilities
Maintain communication with commercial businesses regarding grants and other resource material
Annual review of website, flyers, brochures, etc. as needed
Promote scrap metal recycling
Promote CR0WD C&D resource to generators
Participation in regional waste management conferences
Waste Export
Haul waste to disposal facility
Request for bids for Transport and Disposal
Haul waste to disposal facility
Request for bids for Transport and Disposal (if necessary)
Haul waste to disposal facility (if necessary)
Technology Assessment
On-going evaluation of emerging technologies
Complete feasibility studies
Pursue Regionalization, as applicable
Ongoing regionalization update and review of nearby counties
Participation in regional meetings to develop solutions for shared concerns
LEGEND
Annual / Semi-Annual Task
Specified Time Frame Task
On-going Occurrence

# 2024 Implementation Plan and Schedule

**Solid Waste Management Plan**

- Implementation

**Law and Legislation**

- Review and post new laws and regulations
- Provide updated laws and regulations to all staff
- Review New York State Food Donations and Food Scrap Recycling Act
- Provide education about source separation requirements and consequences of failure to comply
- Inspection of waste hauler collection practices and enforcement
- Provide education/ assistance regarding expectations and enforcement steps to haulers
- Actively enforce laws and regulations through education and fines as needed
- Set up PaintCare locations at each transfer station

**Recyclables**

- Review pricing for recyclables market
- Enforce recycling protocols with residents and haulers
- Monitor local and regional development of recycling programs and initiatives
- Continue to optimize recycling activities and alternatives

**Data**

- Collect tonnages of materials into and out of Sullivan County facilities
- Collect and report data on facilities that are not County run but are within the County
- Continue to collect data on all materials generated in Sullivan County that are transported outside of the County
- Submit yearly solid waste and recycling reports to DEC
- Determine budget estimates and tip fees
- Reach out to large generators annually to understand tonnages produced

**Finance**

- Continue to pay down debt service (expected until 2026)
- Apply for grants for future projects
- Apply for grants funding HHW events and educational programs
- Secure funding for compost expansion
- Secure funding for current facility upgrades and operations feasibility study

**Facility Upgrades and Improvements**

- Facility safety improvements
- Purchase of equipment as needed
- Preventative maintenance and upgrades as necessary

**Organics Diversion**

- Roll out Phase I of composting program (including distribution of at home composting kits)
- Continuous review of New York State Food Donation and Food Scrap Recycling Act
- Update existing media for composting program
- Evaluate the volume of organic waste to be accepted
- Monitor local and regional developments of organics recovery programs and initiatives
- Promote backyard composting and assist with implementation practices for residents, schools and business as needed

**Education and Outreach**

- Evaluate and join New York State solid waste, recycling, and composting committees
- Update County website
- Provide outreach to residents
- Implement and evaluate public communications through print media advertising, social media, newsletters, flyers, and radio public service announcements
- Actively engage the community to be involved with recycling and waste programs
- Maintain communication with commercial businesses regarding grant information, available programs, and resource material
- Annual review of website, flyers, brochures, etc. as needed
- Participation in regional waste management conferences

- Keep a record of meetings and educational outreach

**Waste Export**

- Continue to ship MSW and C&D via long haul trailers to Landfill

**Technology Assessment**

- Continue to evaluate different and emerging technologies for waste management
- Feasibility Studies
- Pursue regionalization, as applicable
- On-going regionalization update and review of nearby counties
- Participation in regional meetings to develop solutions to shared concerns

# 2025 Implementation Plan and Schedule

**Solid Waste Management Plan**

- Implementation

**Law and Legislation**

- Review and post new laws and regulations
- Provide updated laws and regulations to all staff
- Review New York State Food Donations and Food Scrap Recycling Act
- Provide education about source separation requirements and consequences of failure to comply
- Inspection of waste hauler collection practices and enforcement
- Provide education/ assistance regarding expectations and enforcement steps to haulers
- Actively enforce laws and regulations through education and fines as needed

**Recyclables**

- Review pricing for recyclables market
- Enforce recycling protocols with residents and haulers
- Monitor local and regional development of recycling programs and initiatives
- Continue to optimize recycling activities and alternatives

**Data**

- Collect tonnages of materials into and out of Sullivan County facilities
- Collect and report data on facilities that are not County run but are within the County
- Continue to collect data on all materials generated in Sullivan County that are transported outside of the County
- Submit yearly solid waste and recycling reports to DEC
- Determine budget estimates and tip fees
- Reach out to large generators annually to understand tonnages produced

**Finance**

- Continue to pay down debt service (expected until 2026)
- Apply for grants for future projects
- Apply for grants funding HHW events and educational programs

- Secure funding for compost expansion
- Secure funding for current facility upgrades and operations feasibility study
- Secure funding for composition and regionalization feasibility studies
- Secure funding for privatization and dirty material recovery feasibility studies

**Facility Upgrades and Improvements**

- Facility safety improvements
- Purchase of equipment as needed
- Preventative maintenance and upgrades as necessary

**Organics Diversion**

- Roll out Phase I of composting program (including distribution of at home composting kits)
- Continuous review of New York State Food Donation and Food Scrap Recycling Act
- Update existing media for composting program
- Monitor local and regional developments of organics recovery programs and initiatives
- Promote backyard composting and assist with implementation practices to residents, schools and business as needed

**Education and Outreach**

- Evaluate and join New York State solid waste, recycling, and composting committees
- Update County website
- Provide outreach to residents
- Focused outreach to local commercial businesses
- Provide tours and hands-on learning experiences at County facilities
- Measure effectiveness of education programs
- Implement and evaluate public communications through print media advertising, social media, newsletters, flyers, and radio public service announcements
- Actively engage the community to be involved with recycling and waste programs
- Maintain communication with commercial businesses regarding grant information, available programs, and resource material
- Annual review of website, flyers, brochures, etc. as needed
- Participation in regional waste management conferences

- Keep a record of meetings and educational outreach

**Waste Export**

- Request for bids for Transportation and Disposal
- Haul waste to disposal facility

**Technology Assessment**

- Continue to evaluate different and emerging technologies for waste management
- Feasibility Studies
- Pursue regionalization, as applicable
- On-going regionalization update and review of nearby counties
- Participation in regional meetings to develop solutions to shared concerns

# 2026 Implementation Plan and Schedule

**Solid Waste Management Plan**

- Implementation
- Biennial update to NYSDEC

**Law and Legislation**

- Review and post new laws and regulations
- Provide updated laws and regulations to all staff
- Review New York State Food Donations and Food Scrap Recycling Act
- Provide education about source separation requirements and consequences of failure to comply
- Inspection of waste hauler collection practices and enforcement
- Provide education/ assistance regarding expectations and enforcement steps to haulers
- Actively enforce laws and regulations through education and fines as needed

**Recyclables**

- Review pricing for recyclables market
- Enforce recycling protocols with residents and haulers
- Monitor local and regional development of recycling programs and initiatives
- Install cameras at transfer facilities to help with enforcement
- Continue to optimize recycling activities and alternatives

**Data**

- Collect tonnages of materials into and out of Sullivan County facilities
- Collect and report data on facilities that are not County run but are within the County
- Continue to collect data on all materials generated in Sullivan County that are transported outside of the County
- Submit yearly solid waste and recycling reports to DEC
- Determine budget estimates and tip fees
- Reach out to large generators annually to understand tonnages produced

- Make an effort to quantify biosolids, industrial waste, and organic components of MSW used in agricultural practices. Identify producers and provide notification that the County will be requesting data
- Attempt to better quantify textiles by getting tare weight on vendor collection box

**Finance**

- Continue to pay down debt service (expected until 2026)
- Apply for grants for future projects
- Apply for grants funding HHW events and educational programs
- Secure funding for composition and regionalization feasibility studies
- Secure funding for privatization and dirty material recovery feasibility studies

**Feasibility Studies and Evaluations**

- Efficiency review of facilities and operations feasibility study

**Facility Upgrades and Improvements**

- Facility safety improvements
- Purchase of equipment as needed
- Preventative maintenance and upgrades as necessary
- Conceptualize proposed infrastructure determined by feasibility study

**Organics Diversion**

- Continuous review of New York State Food Donation and Food Scrap Recycling Act
- Install composting demonstration site for hands on learning
- Update existing media for composting program
- Monitor local and regional developments of organics recovery programs and initiatives
- Promote backyard composting and assist with implementation practices to residents, schools and business as needed

**Education and Outreach**

- Evaluate and join New York State solid waste, recycling, and composting committees
- Update County website
- Provide outreach to residents
- Focused outreach to local public schools
- Provide tours and hands-on learning experiences at County facilities

- Measure effectiveness of education programs
- Implement and evaluate public communications through print media advertising, social media, newsletters, flyers, and radio public service announcements
- Actively engage the community to be involved with recycling and waste programs
- Maintain communication with commercial businesses regarding grant information, available programs, and resource material
- Annual review of website, flyers, brochures, etc. as needed
- Participation in regional waste management conferences
- Promote scrap metal recycling
- Promote CR0WD C&D resource to generators
- Keep a record of meetings and educational outreach

**Waste Export**

- Haul waste to contracted disposal facility

**Technology Assessment**

- Continue to evaluate different and emerging technologies for waste management
- Feasibility Studies
- Pursue regionalization, as applicable
- On-going regionalization update and review of nearby counties
- Participation in regional meetings to develop solutions to shared concerns

# 2027 Implementation Plan and Schedule

**Solid Waste Management Plan**

- Implementation

**Law and Legislation**

- Review and post new laws and regulations
- Provide updated laws and regulations to all staff
- Review New York State Food Donations and Food Scrap Recycling Act
- Provide education about source separation requirements and consequences of failure to comply
- Inspection of waste hauler collection practices and enforcement
- Provide education/ assistance regarding expectations and enforcement steps to haulers
- Actively enforce laws and regulations through education and fines as needed

**Recyclables**

- Review pricing for recyclables market
- Enforce recycling protocols with residents and haulers
- Monitor local and regional development of recycling programs and initiatives
- Continue to optimize recycling activities and alternatives

**Data**

- Collect tonnages of materials into and out of Sullivan County facilities
- Collect and report data on facilities that are not County run but are within the County
- Continue to collect data on all materials generated in Sullivan County that are transported outside of the County
- Submit yearly solid waste and recycling reports to DEC
- Determine budget estimates and tip fees
- Reach out to large generators annually to understand tonnages produced
- Quantify biosolids, industrial waste, and organic components of MSW used in agricultural practices by reaching out to identified generators.
- Attempt to better quantify textiles by getting tare weight on vendor collection box

**Finance**

- Complete payment of debt service

- Apply for grants for future projects
- Apply for grants funding HHW events and educational programs

**Feasibility Studies and Evaluations**

- Composting, regionalization, and enforcement evaluation
- Privatization feasibility study

**Facility Upgrades and Improvements**

- Facility safety improvements
- Purchase of equipment as needed
- Preventative maintenance and upgrades as necessary

**Organics Diversion**

- Roll out Phase II of composting program
- Continuous review of New York State Food Donation and Food Scrap Recycling Act
- Update existing media for composting program
- Monitor local and regional developments of organics recovery programs and initiatives
- Promote backyard composting and assist with implementation practices to residents, schools and business as needed

**Education and Outreach**

- Evaluate and join New York State solid waste, recycling, and composting committees
- Update County website
- Provide outreach to residents
- Focused outreach to local multi-family dwellings, landlords, and apartment complexes
- Provide tours and hands-on learning experiences at County facilities
- Measure effectiveness of education programs
- Implement and evaluate public communications through print media advertising, social media, newsletters, flyers, and radio public service announcements
- Actively engage the community to be involved with recycling and waste programs
- Maintain communication with commercial businesses regarding grant information, available programs, and resource material
- Annual review of website, flyers, brochures, etc. as needed

- Promote scrap metal recycling
- Promote CR0WD C&D resource to generators
- Participation in regional waste management conferences
- Keep a record of meetings and educational outreach

**Waste Export**

- Haul waste to contracted disposal facility

**Technology Assessment**

- Continue to evaluate different and emerging technologies for waste management
- Feasibility Studies
- Pursue regionalization, as applicable
- On-going regionalization update and review of nearby counties
- Participation in regional meetings to develop solutions to shared concerns

# 2028 Implementation Plan and Schedule

**Solid Waste Management Plan**

- Implementation
- Biennial update to NYSDEC

**Transfer Stations**

- Renew transfer station registrations
- Renew Monticello TS Permit

**Law and Legislation**

- Review and post new laws and regulations
- Provide updated laws and regulations to all staff
- Review New York State Food Donations and Food Scrap Recycling Act
- Provide education about source separation requirements and consequences of failure to comply
- Inspection of waste hauler collection practices and enforcement
- Provide education/ assistance regarding expectations and enforcement steps to haulers
- Actively enforce laws and regulations through education and fines as needed

**Recyclables**

- Review pricing for recyclables market
- Enforce recycling protocols with residents and haulers
- Monitor local and regional development of recycling programs and initiatives
- Continue to optimize recycling activities and alternatives

**Data**

- Collect tonnages of materials into and out of Sullivan County facilities
- Collect and report data on facilities that are not County run but are within the County
- Continue to collect data on all materials generated in Sullivan County that are transported outside of the County
- Submit yearly solid waste and recycling reports to DEC
- Determine budget estimates and tip fees

- Reach out to large generators annually to understand tonnages produced
- Based on data collected to quantify biosolids, industrial waste, and organic components of MSW used in agricultural practices determine if there are increasing or decreasing trends and how the County could assist in recycling or disposal opportunities for generators.
- Attempt to better quantify textiles by getting tare weight on vendor collection box

**Finance**

- Apply for grants for future projects
- Apply for grants funding HHW events and educational programs

**Feasibility Studies and Evaluations**

- Use results from feasibility studies to choose a path forward
- Begin design and permitting as needed

**Facility Upgrades and Improvements**

- Facility safety improvements
- Purchase of equipment as needed
- Preventative maintenance and upgrades as necessary

**Organics Diversion**

- Roll out Phase II of composting program
- Continuous review of New York State Food Donation and Food Scrap Recycling Act
- Update existing media for composting program
- Evaluate biosolid disposal
- Evaluate success of composting program and sell compost
- Monitor local and regional developments of organics recovery programs and initiative
- Promote backyard composting and assist with implementation practices to residents, schools and business as needed

**Education and Outreach**

- Evaluate and join New York State solid waste, recycling, and composting committees
- Update County website
- Provide outreach to residents
- Focused outreach to local special events, festivals, and increase public space recycling

- Provide tours and hands-on learning experiences at County facilities
- Measure effectiveness of education programs
- Implement and evaluate public communications through print media advertising, social media, newsletters, flyers, and radio public service announcements
- Actively engage the community to be involved with recycling and waste programs
- Maintain communication with commercial businesses regarding grant information, available programs, and resource material
- Annual review of website, flyers, brochures, etc. as needed
- Promote scrap metal recycling
- Promote CR0WD C&D resource to generators
- Participation in regional waste management conferences
- Keep a record of meetings and educational outreach

**Waste Export**

- Haul waste to contracted disposal facility

**Technology Assessment**

- Continue to evaluate different and emerging technologies for waste management
- Pursue regionalization, as applicable
- On-going regionalization update and review of nearby counties
- Participation in regional meetings to develop solutions to shared concerns

# 2029 Implementation Plan and Schedule

**Solid Waste Management Plan**

- Implementation

**Law and Legislation**

- Review and post new laws and regulations
- Provide updated laws and regulations to all staff
- Review New York State Food Donations and Food Scrap Recycling Act
- Provide education about source separation requirements and consequences of failure to comply
- Inspection of waste hauler collection practices and enforcement
- Provide education/ assistance regarding expectations and enforcement steps to haulers
- Actively enforce laws and regulations through education and fines as needed

**Recyclables**

- Review pricing for recyclables market
- Enforce recycling protocols with residents and haulers
- Monitor local and regional development of recycling programs and initiatives
- Continue to optimize recycling activities and alternatives

**Data**

- Collect tonnages of materials into and out of Sullivan County facilities
- Collect and report data on facilities that are not County run but are within the County
- Continue to collect data on all materials generated in Sullivan County that are transported outside of the County
- Submit yearly solid waste and recycling reports to DEC
- Determine budget estimates and tip fees
- Reach out to large generators annually to understand tonnages produced
- Continue to quantify biosolids, industrial waste, and organic components of MSW used in agricultural practices
- Continue to quantify textiles by getting tare weight on vendor collection box

**Finance**

- Apply for grants for future projects
- Apply for grants funding HHW events and educational programs

**Feasibility Studies and Evaluations**

- Secure funding and request bids for project
- Address any comments and questions from public

**Facility Upgrades and Improvements**

- Facility safety improvements
- Purchase of equipment as needed
- Preventative maintenance and upgrades as necessary

**Organics Diversion**

- Roll out Phase II of composting program
- Continuous review of New York State Food Donation and Food Scrap Recycling Act
- Update existing media for composting program
- Evaluate biosolid disposal
- Evaluate success of composting program and sell compost
- Monitor local and regional developments of organics recovery programs and initiatives
- Promote backyard composting and assist with implementation practices to residents, schools and business as needed

**Education and Outreach**

- Evaluate and join New York State solid waste, recycling, and composting committees
- Update County website
- Provide outreach to residents
- Focused outreach to local health care facilities, correctional facilities, and institutions
- Provide tours and hands-on learning experiences at County facilities
- Measure effectiveness of education programs
- Implement and evaluate public communications through print media advertising, social media, newsletters, flyers, and radio public service announcements

- Actively engage the community to be involved with recycling and waste programs
- Maintain communication with commercial businesses regarding grant information, available programs, and resource material
- Annual review of website, flyers, brochures, etc. as needed
- Promote scrap metal recycling
- Promote CR0WD C&D resource to generators
- Participation in regional waste management conferences
- Keep a record of meetings and educational outreach

**Waste Export**

- Haul waste to contracted disposal facility

**Technology Assessment**

- Continue to evaluate different and emerging technologies for waste management
- Pursue regionalization, as applicable
- On-going regionalization update and review of nearby counties
- Participation in regional meetings to develop solutions to shared concerns

# 2030 Implementation Plan and Schedule

**Solid Waste Management Plan**

- Implementation
- Biennial update to NYSDEC

**Law and Legislation**

- Review and post new laws and regulations
- Provide updated laws and regulations to all staff
- Review New York State Food Donations and Food Scrap Recycling Act
- Provide education about source separation requirements and consequences of failure to comply
- Inspection of waste hauler collection practices and enforcement
- Provide education/ assistance regarding expectations and enforcement steps to haulers
- Actively enforce laws and regulations through education and fines as needed

**Recyclables**

- Review pricing for recyclables market
- Enforce recycling protocols with residents and haulers
- Monitor local and regional development of recycling programs and initiatives
- Continue to optimize recycling activities and alternatives

**Data**

- Collect tonnages of materials into and out of Sullivan County facilities
- Collect and report data on facilities that are not County run but are within the County
- Continue to collect data on all materials generated in Sullivan County that are transported outside of the County
- Submit yearly solid waste and recycling reports to DEC
- Determine budget estimates and tip fees
- Reach out to large generators annually to understand tonnages produced
- Reassess need to quantify biosolids, industrial waste, and organic components of MSW used in agricultural practices
- Continue to quantify textiles by getting tare weight on vendor collection box

**Finance**

- Apply for grants for future projects
- Apply for grants funding HHW events and educational programs

**Feasibility Studies and Evaluations**

- Construction of new technology or facility improvements

**Facility Upgrades and Improvements**

- Facility safety improvements
- Purchase of equipment as needed
- Preventative maintenance and upgrades as necessary

**Organics Diversion**

- Roll out Phase II of composting program
- Continuous review of New York State Food Donation and Food Scrap Recycling Act
- Update existing media for composting program
- Evaluate success of composting program and sell compost
- Monitor local and regional developments of organics recovery programs and initiatives
- Promote backyard composting and assist with implementation practices to residents, schools and business as needed

**Education and Outreach**

- Evaluate and join New York State solid waste, recycling, and composting committees
- Update County website
- Provide outreach to residents
- Provide tours and hands-on learning experiences at County facilities
- Measure effectiveness of education programs
- Implement and evaluate public communications through print media advertising, social media, newsletters, flyers, and radio public service announcements
- Actively engage the community to be involved with recycling and waste programs
- Maintain communication with commercial businesses regarding grant information, available programs, and resource material
- Annual review of website, flyers, brochures, etc. as needed

- Promote scrap metal recycling
- Promote CR0WD C&D resource to generators
- Participation in regional waste management conferences
- Keep a record of meetings and educational outreach

**Waste Export**

- Haul waste to contracted disposal facility
- Request for bids for Transportation and Disposal (if necessary)

**Technology Assessment**

- Continue to evaluate different and emerging technologies for waste management
- Pursue regionalization, as applicable
- On-going regionalization update and review of nearby counties
- Participation in regional meetings to develop solutions to shared concerns

# 2031 Implementation Plan and Schedule

**Solid Waste Management Plan**

- Implementation

**Law and Legislation**

- Review and post new laws and regulations
- Provide updated laws and regulations to all staff
- Review New York State Food Donations and Food Scrap Recycling Act
- Provide education about source separation requirements and consequences of failure to comply
- Inspection of waste hauler collection practices and enforcement
- Provide education/ assistance regarding expectations and enforcement steps to haulers
- Actively enforce laws and regulations through education and fines as needed

**Recyclables**

- Review pricing for recyclables market
- Enforce recycling protocols with residents and haulers
- Monitor local and regional development of recycling programs and initiatives
- Continue to optimize recycling activities and alternatives

**Data**

- Collect tonnages of materials into and out of Sullivan County facilities
- Collect and report data on facilities that are not County run but are within the County
- Continue to collect data on all materials generated in Sullivan County that are transported outside of the County
- Submit yearly solid waste and recycling reports to DEC
- Determine budget estimates and tip fees
- Reach out to large generators annually to understand tonnages produced
- Continue to quantify textiles by getting tare weight on vendor collection box

**Finance**

- Apply for grants for future projects
- Apply for grants funding HHW events and educational programs

**Feasibility Studies and Evaluations**

- Construction of new technology or facility improvements

**Facility Upgrades and Improvements**

- Facility safety improvements
- Purchase of equipment as needed
- Preventative maintenance and upgrades as necessary

**Organics Diversion**

- Roll out Phase II of composting program
- Continuous review of New York State Food Donation and Food Scrap Recycling Act
- Update existing media for composting program
- Evaluate success of composting program and sell compost
- Monitor local and regional developments of organics recovery programs and initiatives
- Promote backyard composting and assist with implementation practices to residents, schools and business as needed

**Education and Outreach**

- Evaluate and join New York State solid waste, recycling, and composting committees
- Update County website
- Provide outreach to residents
- Provide tours and hands-on learning experiences at County facilities
- Implement and evaluate public communications through print media advertising, social media, newsletters, flyers, and radio public service announcements
- Actively engage the community to be involved with recycling and waste programs
- Maintain communication with commercial businesses regarding grant information, available programs, and resource material
- Annual review of website, flyers, brochures, etc. as needed
- Promote scrap metal recycling
- Promote CR0WD C&D resource to generators
- Participation in regional waste management conferences
- Keep a record of meetings and educational outreach

**Waste Export**

- Haul waste to contracted disposal facility (if necessary)

**Technology Assessment**

- Continue to evaluate different and emerging technologies for waste management
- Pursue regionalization, as applicable
- On-going regionalization update and review of nearby counties
- Participation in regional meetings to develop solutions to shared concerns

# 2032 Implementation Plan and Schedule

**Solid Waste Management Plan**

- Implementation
- Biennial update to NYSDEC
- Begin to Draft a new LSWMP for the following 10-year planning period

**Law and Legislation**

- Review and post new laws and regulations
- Provide updated laws and regulations to all staff
- Review New York State Food Donations and Food Scrap Recycling Act
- Provide education about source separation requirements and consequences of failure to comply
- Inspection of waste hauler collection practices and enforcement
- Provide education/ assistance regarding expectations and enforcement steps to haulers
- Actively enforce laws and regulations through education and fines as needed

**Recyclables**

- Review pricing for recyclables market
- Enforce recycling protocols with residents and haulers
- Monitor local and regional development of recycling programs and initiatives
- Continue to optimize recycling activities and alternatives

**Data**

- Collect tonnages of materials into and out of Sullivan County facilities
- Collect and report data on facilities that are not County run but are within the County
- Continue to collect data on all materials generated in Sullivan County that are transported outside of the County
- Submit yearly solid waste and recycling reports to DEC
- Determine budget estimates and tip fees
- Reach out to large generators annually to understand tonnages produced
- Continue to quantify textiles by getting tare weight on vendor collection box

**Finance**

- Apply for grants for future projects
- Apply for grants funding HHW events and educational programs

**Feasibility Studies and Evaluations**

- Construction of new technology or facility improvements

**Facility Upgrades and Improvements**

- Facility safety improvements
- Purchase of equipment as needed
- Preventative maintenance and upgrades as necessary

**Organics Diversion**

- Roll out Phase II of composting program
- Continuous review of New York State Food Donation and Food Scrap Recycling Act
- Update existing media for composting program
- Evaluate success of composting program and sell compost
- Monitor local and regional developments of organics recovery programs and initiatives
- Promote backyard composting and assist with implementation practices to residents, schools and business as needed

**Education and Outreach**

- Evaluate and join New York State solid waste, recycling, and composting committees
- Update County website
- Provide outreach to residents
- Provide tours and hands-on learning experiences at County facilities
- Implement and evaluate public communications through print media advertising, social media, newsletters, flyers, and radio public service announcements
- Actively engage the community to be involved with recycling and waste programs
- Maintain communication with commercial businesses regarding grant information, available programs, and resource material
- Annual review of website, flyers, brochures, etc. as needed
- Promote scrap metal recycling
- Promote CR0WD C&D resource to generators

- Participation in regional waste management conferences
- Keep a record of meetings and educational outreach

**Waste Export**

- Haul waste to contracted disposal facility (if necessary)

**Technology Assessment**

- Continue to evaluate different and emerging technologies for waste management
- Pursue regionalization, as applicable
- On-going regionalization update and review of nearby counties
- Participation in regional meetings to develop solutions to shared concerns

# 2033 Implementation Plan and Schedule

**Solid Waste Management Plan**

- Implementation
- Finalize and adopt a new LSWMP for the following 10-year planning period

**Transfer Stations**

- Renew transfer station registrations
- Renew Monticello TS Permit

**Law and Legislation**

- Review and post new laws and regulations
- Provide updated laws and regulations to all staff
- Review New York State Food Donations and Food Scrap Recycling Act
- Provide education about source separation requirements and consequences of failure to comply
- Inspection of waste hauler collection practices and enforcement
- Provide education/ assistance regarding expectations and enforcement steps to haulers
- Actively enforce laws and regulations through education and fines as needed

**Recyclables**

- Review pricing for recyclables market
- Enforce recycling protocols with residents and haulers
- Monitor local and regional development of recycling programs and initiatives
- Continue to optimize recycling activities and alternatives

**Data**

- Collect tonnages of materials into and out of Sullivan County facilities
- Collect and report data on facilities that are not County run but are within the County
- Continue to collect data on all materials generated in Sullivan County that are transported outside of the County
- Submit yearly solid waste and recycling reports to DEC
- Determine budget estimates and tip fees
- Reach out to large generators annually to understand tonnages produced

- Continue to quantify textiles by getting tare weight on vendor collection box

**Finance**

- Apply for grants for future projects
- Apply for grants funding HHW events and educational programs

**Feasibility Studies and Evaluations**

- Construction of new technology or facility improvements

**Facility Upgrades and Improvements**

- Facility safety improvements
- Purchase of equipment as needed
- Preventative maintenance and upgrades as necessary

**Organics Diversion**

- Roll out Phase II of composting program
- Continuous review of New York State Food Donation and Food Scrap Recycling Act
- Update existing media for composting program
- Evaluate success of composting program and sell compost
- Monitor local and regional developments of organics recovery programs and initiatives
- Promote backyard composting and assist with implementation practices to residents, schools and business as needed

**Education and Outreach**

- Evaluate and join New York State solid waste, recycling, and composting committees
- Update County website
- Provide outreach to residents
- Provide tours and hands-on learning experiences at County facilities
- Implement and evaluate public communications through print media advertising, social media, newsletters, flyers, and radio public service announcements
- Actively engage the community to be involved with recycling and waste programs
- Maintain communication with commercial businesses regarding grant information, available programs, and resource material
- Annual review of website, flyers, brochures, etc. as needed
- Promote scrap metal recycling

- Promote CR0WD C&D resource to generators
- Participation in regional waste management conferences
- Keep a record of meetings and educational outreach

**Waste Export**

- Haul waste to contracted disposal facility (if necessary)

**Technology Assessment**

- Continue to evaluate different and emerging technologies for waste management
- Pursue regionalization, as applicable
- On-going regionalization update and review of nearby counties
- Participation in regional meetings to develop solutions to shared concerns

# 9.0 WASTE STREAM PROJECTIONS

As discussed in Section 3, a community's solid waste stream is comprised of four key components:

- Municipal Solid Waste (MSW),
- Construction and Demolition Debris (C&D),
- Biosolids, and
- Industrial waste.

This Plan tracks the municipal solid waste component of the solid waste stream and the total waste stream. Mirroring the State's approach, MSW includes materials generated by the residential, commercial, and institutional sectors and excludes C&D, biosolids, industrial waste, and medical waste. The total waste stream includes MSW, C&D, and biosolids (industrial waste is not included as it is not tracked separately in the County). NYSDEC requested that communities include an MSW generation rate to provide consistency among solid waste management plans throughout the state. The total waste stream was tracked, and a diversion rate calculated to illustrate the impact of the County's comprehensive education and outreach programs, as well as recycling and expanding organics composting programs on its solid waste management.

As required by NYSDEC, the scope of time for the planning of this Plan is 10 years. With this in mind, it is necessary to make a critical assessment of the population of Sullivan County anticipated throughout the next 10-year period in conjunction with the anticipated changes in waste management and recycling practices. Projections included herein are carried out through the year 2033.

Utilizing the NYSDEC MSW calculator, estimates for waste production and reduction were generated based on population growth for the 10-year planning period. Population estimates and growth (0.14% per year) are based on the 2020 Census. Based upon this calculator, the planning unit's population projections for the 10-year planning period show a slow and steady population growth with 2023 population estimated to be 78,952 and 2033 to be 80,055. Annual waste generation tonnages decrease slightly, and waste diversion rates increase by an estimated 0.5% annually. The MSW diversion rate is estimated to rise to approximately 15.2% by 2033.

Thermal treatment (gasification and pyrolysis) will not be directly assessed in the next planning period. However, a waste to energy facility that utilizes thermal technologies will be evaluated. A focus will be made to divert tonnages from landfills through increased education efforts, organics diversion, recycling, and reuse.

# Step 1. Planning Unit and Plan Period Selection

Please, select from the drop-down list the name of your **planning unit** and the **planning period** of your LSWMP. Be aware that a LSWMP must be developed for a **10-year period**, and that your selection will be replicated on each one of the following tabs.

| | |
|---|---|
| Planning Unit | Sullivan County |
| Planning Period | 2024-2033 |

# Step 2. Waste Generation Rate

In order to project how the amount of waste generated in the planning unit will change over time, data regarding the current amount of waste generated by the planning unit is needed. This can be the total tons of waste generated by the planning unit in the current year (Tons/yr), or this can be the estimated daily quantity of waste generated per person in the planning unit (lb/person/day). If both the total annual generation and the estimated generation rate per person are unknown, the state average for MSW generation rate can be used along with the planning unit's population to estimate the total amount of waste generated in the planning unit.

For this step, select one of the options that describes the known information about the planning unit. Enter the waste generated in Tons (MSW disposed & Recycled Materials) or the waste generation rate in lb/person/day) in the purple cell. If no data on the waste generated in the planning unit is available, choose the corresponding option from the list. The calculator will estimate the total amount of waste generated based on the state's average generation rate and the planning unit's population.

## Sullivan County

The amount of waste generated (by all residents, institutions, etc.) in the planning unit will be based on what is known. If the MSW generation amount and the generation rate are unknown, the state average for MSW generation rate will be used.

- (●) I know the amount of MSW generated (Tons/year):
- ( ) The planning unit Average MSW Generation Rate (lb/person/day) is:
- ( ) The amount of MSW Generated and the planning unit Average MSW Generation Rate are unknown.

Enter tons disposed here: 50,905

Enter tons diverted here: 7,235

# Step 3. Planning Unit Population - Projections & Municipal Solid Waste (MSW) - Projections

This tab will provide you with population projections and MSW generation projections for the planning period you had previously selected. It is recognized that Municipal Solid Waste (MSW) generation is reliant on population changes, hence, it is necessary to project both and identify their correlation.

In the first purple cell enter the total tons of MSW that was disposed in the year immediately before your plan period starts. For example: If the plan period is 2016-2026, the MSW disposed data should be from 2015.

Population Projection:

Calculations are determined by a linear regression based on the latest census population data and an annual growth rate percentage specific to the planning unit. If it is anticipated that the population is going to decrease overtime, the minus sign (-) will be used.

MSW Generation Projection:

The MSW generation rate (Lb/person/day) calculated on the previous tab from the Waste Generation Rate will serve as a start point for the planning period. On the calculator, three options are considered to anticipate the MSW generation over time, and one must be selected according to the goals of the planning unit:

First Option:

MSW generation rate does not change. Consequently, MSW generation fluctuates with the population of the planning unit. If the population increases, waste generation will rise as well, and vice versa.
By selecting this option, the planning unit is in "status quo", meaning that is not making any improvements, and consequently is getting far from reaching the State's goal by 2030.

Second Option:

MSW generation amount remains the same, regardless of whether or not the planning unit's population changes.

Third Option:

As a result of successfully implementing the Local Solid Waste Management Plan, MSW generation will be reduced by an annual factor of ...

An Annual Factor of Reduction (%) should be calculated, defined, and selected by the planning unit. This factor will be the numerical representation of one of the planning unit's goals for the planning period. Once calculated, the Annual Factor of Reduction can be chosen from the drop down list provided.

Note:

• The graphic will display the Population and MSW Generation projections over the selected planning period. It has been designed to visualize the contrast of the final outcomes, based on the selections of each planning unit

## Sullivan County 2024-2033

| Current Data | |
|---|---|
| 2020 Population Census | 78,624 |
| 2023 Population | 78,952 |
| 2023 MSW Generated (Tons/yr) | 58,140 |
| 2023 MSW generation rate (Lb/person/day) | 3.53 |
| 2023 MSW Disposed (Tons/yr) | 50,905 |
| 2023 MSW Diverted (Tons/yr) | 7,235 |




| Annual rate of population growth (%) | 0.14% |
|---|---|

| Population Projection | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
| 78,952 | 79,062 | 79,171 | 79,281 | 79,392 | 79,502 | 79,612 | 79,723 | 79,834 | 79,944 | 80,055 | 80,167 | 80,278 |

Forecasting future conditions... What do you expect to happen to the MSW generation rate over the next 10 year period plan?

- ○ MSW generation rate does not change. Consequently, MSW generation fluctuates with the population of the planning unit, if the population increases, waste generation will rise as well, and vice versa.
- ○ MSW generation amount remains the same, regardless of whether or not the planning unit's population fluctuates.
- ◉ As a result of successfully implementing the Local Solid Waste Management Plan, MSW generation will be reduced by an annual factor of ...

| Reduction Factor (per year) | 0.5% |
|---|---|

| MSW generation rate (Lb/person/day) | 4.03 |
|---|---|

| MSW Generation Projection | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | |
| 4.03 | 4.01 | 3.99 | 3.97 | 3.95 | 3.93 | 3.91 | 3.89 | 3.87 | 3.85 | 3.83 | 3.81 | 3.79 | (Lb/person/day) |
| 58,040 | 57,830 | 57,621 | 57,412 | 57,204 | 56,997 | 56,791 | 56,586 | 56,381 | 56,177 | 55,974 | 55,771 | 55,569 | Tons/yr |

# Step 4. Municipal Solid Waste (MSW) Detailed Composition Analysis

The next step is to *Identify the Materials Composition of the Waste Stream* based on population density, and demographic characteristics of the Planning Unit.
This tab will provide the PU with a more detailed estimate of the materials present in the waste stream, which could be crucial when prioritizing the initiatives and programs of the LSWMP.

The population density distribution has been calculated based on the 2010 Census data and will be auto populated when a planning unit is selected. The following parameters were used:

- Rural: <325 persons/mi$^2$
- Suburban: >325 and <5,000 persons/mi$^2$
- Urban: >5,000 persons/mi$^2$

Under Density Population Distribution, the user has the option to modify the percentage values for the Sector *(Residential and Commercial/Institutional)* based on land use and specific characteristics of each planning unit. For example: A rural population in Westchester County could be 64% Residential and 36% Commercial / Institutional, while in Wyoming County might be 50% Residential and 50% Commercial / Institutional.

The results are presented on the last right column under MSW Materials Composition. Be aware of color changes on the cells, whenever a category represents over 15% of the total waste generation, the cell will turn red to easily identify key categories of the waste stream. It will also facilitate the selection of initiatives, programs, and infrastructure for the solid waste management system.

Note: If no data exists, use the pre-populated information in the worksheet.

## Sullivan County 2024-2033

| Material | Density Population Distribution | | Rural | | | Suburban | | | Urban | | | MSW Materials Composition (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 72.78% | | | 27.22% | | | 0.00% | | | |
| | | | Residential | Comm/Inst. | Combined | Residential | Comm/Inst. | Combined | Residential | Comm/Inst. | Combined | |
| | | | 58.00% | 42.00% | 100.00% | 55.00% | 45.00% | 100.00% | 58.00% | 42.00% | 100.00% | 100.00% |
| | Newspaper | | 5.20% | 1.90% | 3.81% | 5.00% | 1.90% | 3.61% | 6.60% | 2.00% | 4.67% | 3.76% |
| | Corrugated Cardboard | | 6.60% | 13.90% | 9.67% | 6.60% | 13.90% | 9.89% | 6.90% | 13.70% | 9.76% | 9.73% |
| | Other Recyclable Paper | Paperboard | 3.20% | 1.10% | 2.32% | 3.30% | 1.00% | 2.27% | 3.60% | 0.90% | 2.47% | 2.30% |
| | | Office Paper | 0.80% | 3.80% | 2.06% | 0.90% | 4.20% | 2.39% | 1.10% | 5.80% | 3.07% | 2.15% |
| | | Junk Mail | 3.00% | 0.70% | 2.03% | 3.20% | 0.70% | 2.08% | 3.50% | 0.70% | 2.32% | 2.05% |
| | | Other Commercial Printing | 1.70% | 2.30% | 1.95% | 1.70% | 2.40% | 2.02% | 2.30% | 2.60% | 2.43% | 1.97% |
| | | Magazines | 1.10% | 0.90% | 1.02% | 1.00% | 0.80% | 0.91% | 1.10% | 1.00% | 1.06% | 0.99% |
| | | Books | 0.50% | 0.30% | 0.42% | 0.50% | 0.30% | 0.41% | 0.60% | 0.40% | 0.52% | 0.41% |
| | | Paper Bags | 0.50% | 0.20% | 0.37% | 0.50% | 0.20% | 0.37% | 0.60% | 0.20% | 0.43% | 0.37% |
| | | Phone Books | 0.30% | 0.30% | 0.30% | 0.30% | 0.30% | 0.30% | 0.30% | 0.20% | 0.26% | 0.30% |
| | | Poly-Coated | 0.20% | 0.30% | 0.24% | 0.20% | 0.20% | 0.20% | 0.30% | 0.20% | 0.26% | 0.23% |
| | Other Recyclable Paper (Total) | | 11.30% | 9.90% | 10.71% | 11.60% | 10.10% | 10.93% | 13.40% | 12.00% | 12.81% | 10.77% |
| | Other Compostable Paper | | 6.80% | 6.80% | 6.80% | 6.40% | 6.40% | 6.40% | 6.80% | 6.80% | 6.80% | 6.69% |
| | *Total Paper* | | *29.90%* | *32.50%* | *30.99%* | *29.60%* | *32.30%* | *30.82%* | *33.70%* | *34.50%* | *34.04%* | *30.94%* |
| | Ferrous/Aluminum Containers | Ferrous Containers | 1.90% | 1.00% | 1.52% | 1.20% | 0.70% | 0.98% | 1.40% | 0.70% | 1.11% | 1.37% |
| | | Aluminum Containers | 0.70% | 0.40% | 0.57% | 0.60% | 0.30% | 0.47% | 0.50% | 0.40% | 0.46% | 0.54% |
| | Ferrous/Aluminum Containers (Total) | | 2.60% | 1.40% | 2.10% | 1.80% | 1.00% | 1.44% | 1.90% | 1.10% | 1.56% | 1.92% |
| | Other Ferrous Metals | | 5.20% | 5.40% | 5.28% | 5.00% | 5.80% | 5.36% | 3.30% | 3.70% | 3.47% | 5.30% |
| | Other Non-Ferrous Metals | Other aluminum | 0.20% | 0.30% | 0.24% | 0.20% | 0.30% | 0.25% | 0.20% | 0.30% | 0.24% | 0.24% |
| | | Automotive batteries | 0.80% | 0.50% | 0.67% | 0.70% | 0.40% | 0.57% | 0.20% | 0.20% | 0.20% | 0.64% |
| | | Other non-aluminum | 0.50% | 0.30% | 0.42% | 0.30% | 0.40% | 0.35% | 0.40% | 0.20% | 0.32% | 0.40% |
| | Other Non-Ferrous Metals (Total) | | 1.50% | 1.10% | 1.33% | 1.20% | 1.10% | 1.16% | 0.80% | 0.70% | 0.76% | 1.28% |
| | *Total Metals* | | *9.30%* | *7.90%* | *8.71%* | *8.00%* | *7.90%* | *7.96%* | *6.00%* | *5.50%* | *5.79%* | *8.51%* |
| | PET Containers | | 1.10% | 0.80% | 0.97% | 0.90% | 0.80% | 0.86% | 1.20% | 1.00% | 1.12% | 0.94% |
| | HDPE Containers | | 1.10% | 0.60% | 0.89% | 0.90% | 0.70% | 0.81% | 1.00% | 0.70% | 0.87% | 0.87% |
| | Other Plastic (3-7) Containers | | 0.20% | 0.10% | 0.16% | 0.20% | 0.20% | 0.20% | 0.20% | 0.20% | 0.20% | 0.17% |
| | Film Plastic | | 5.70% | 5.90% | 5.78% | 5.50% | 5.80% | 5.64% | 5.80% | 5.80% | 5.80% | 5.74% |
| | Other Plastic | Durables | 3.10% | 3.20% | 3.14% | 3.00% | 3.20% | 3.09% | 3.20% | 3.30% | 3.24% | 3.13% |
| | | Non-Durables | 1.60% | 1.80% | 1.68% | 1.60% | 1.80% | 1.69% | 1.80% | 1.90% | 1.84% | 1.69% |
| | | Packaging | 1.40% | 1.10% | 1.27% | 1.40% | 1.10% | 1.27% | 1.50% | 1.10% | 1.33% | 1.27% |
| | Other Plastic (Total) | | 6.10% | 6.10% | 6.10% | 6.00% | 6.10% | 6.05% | 6.50% | 6.30% | 6.42% | 6.09% |
| | *Total Plastics* | | *14.20%* | *13.50%* | *13.91%* | *13.50%* | *13.60%* | *13.55%* | *14.70%* | *14.00%* | *14.41%* | *13.81%* |
| | Glass Bottles, Jars and Containers | | 4.10% | 3.80% | 3.97% | 3.90% | 3.80% | 3.86% | 4.30% | 3.80% | 4.09% | 3.94% |
| | Other Glass (Flat glass, dishware, light bulbs, etc.) | | 0.50% | 0.40% | 0.46% | 0.30% | 0.40% | 0.35% | 0.40% | 0.40% | 0.40% | 0.43% |
| | *Total Glass* | | *4.60%* | *4.20%* | *4.43%* | *4.20%* | *4.20%* | *4.20%* | *4.70%* | *4.20%* | *4.49%* | *4.37%* |
| | Food Scraps | | 12.70% | 13.30% | 12.95% | 12.90% | 15.50% | 14.07% | 17.20% | 25.20% | 20.56% | 13.26% |
| | Leaves and Grass / Pruning and Trimmings | | 3.10% | 1.10% | 2.26% | 11.30% | 9.10% | 10.31% | 4.20% | 1.50% | 3.07% | 4.45% |
| | *Total Organics* | | *15.80%* | *14.40%* | *15.21%* | *24.20%* | *24.60%* | *24.38%* | *21.40%* | *26.70%* | *23.63%* | *17.71%* |
| | Clothing Footwear, Towels, Sheets | | 4.60% | 3.00% | 3.93% | 4.40% | 3.20% | 3.86% | 4.80% | 2.50% | 3.83% | 3.91% |
| | Carpet | | 1.40% | 1.30% | 1.36% | 1.70% | 1.40% | 1.57% | 1.70% | 0.90% | 1.36% | 1.41% |
| | *Total Textiles* | | *6.00%* | *4.30%* | *5.29%* | *6.10%* | *4.60%* | *5.43%* | *6.50%* | *3.40%* | *5.20%* | *5.32%* |
| | *Total Wood* (Pallets, crates, adulterated and non-adulterated wood) | | *4.10%* | *9.00%* | *6.16%* | *2.90%* | *4.10%* | *3.44%* | *2.00%* | *3.50%* | *2.63%* | *5.42%* |
| | DIY - Construction & Renovation Materials | | 8.00% | 7.60% | 7.83% | 3.80% | 2.70% | 3.31% | 4.40% | 3.80% | 4.15% | 6.60% |
| | Diapers | | 1.90% | 1.10% | 1.56% | 2.10% | 1.20% | 1.70% | 2.30% | 1.10% | 1.80% | 1.60% |
| | Electronics | | 1.30% | 1.40% | 1.34% | 1.60% | 1.70% | 1.65% | 1.30% | 1.30% | 1.30% | 1.42% |
| | Tires | | 1.80% | 1.80% | 1.80% | 1.70% | 1.40% | 1.57% | 0.50% | 0.40% | 0.46% | 1.74% |
| | HHW | | 0.60% | 0.00% | 0.35% | 0.60% | 0.00% | 0.33% | 0.50% | 0.00% | 0.29% | 0.34% |
| | Soils and Fines | | 0.60% | 0.60% | 0.60% | 0.10% | 0.20% | 0.15% | 0.10% | 0.10% | 0.10% | 0.48% |
| | Other Composite Materials - Durable and/or Inert | | 1.90% | 1.70% | 1.82% | 1.60% | 1.50% | 1.56% | 1.90% | 1.50% | 1.73% | 1.74% |
| | *Total Miscellaneous* | | *16.10%* | *14.20%* | *15.30%* | *11.50%* | *8.70%* | *10.24%* | *11.00%* | *8.20%* | *9.82%* | *13.92%* |
| | *Total* | | *100.00%* | *100.00%* | *100.00%* | *100.00%* | *100.00%* | *100.00%* | *100.00%* | *100.00%* | *100.00%* | *100.00%* |

# Step 5. Municipal Solid Waste (MSW) Detailed Composition Analysis

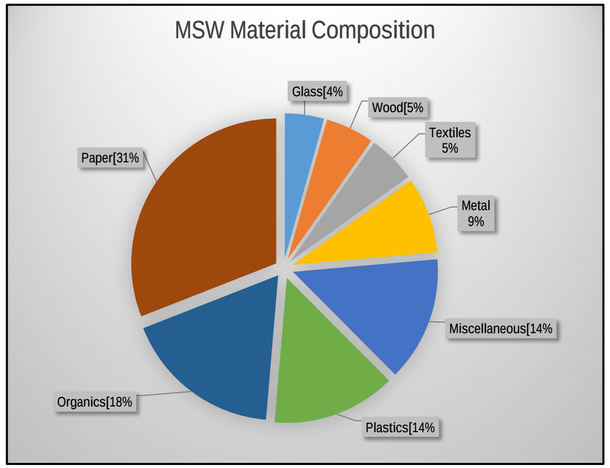
On this tab, the composition of the municipal waste stream will be estimated based on the amount of material generated in the planning unit and the state average of the different waste materials. A pie chart will be generated to clearly show the composition of the waste stream and to identify key categories of the waste stream for the planning unit.

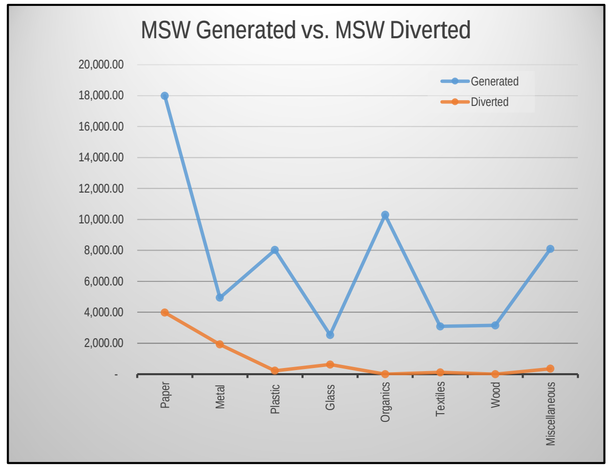
The total tons of MSW diverted per year will be auto populated based on previous data inputs, while the amount tons diverted for each material by category should be populated by the user. Purple cells should be used for amounts of diverted waste by type of material, and a totaled number by category (e.g. paper, metal) should be put in the green cells. After inputting the data, a graphic will be generated to show the MSW generation and diversion streams in Tons.

Make sure that the total amounts at the bottom of the page are consistent with the data you already put into the calculator. If the cell is highlighted in red, you should revise the amounts of diverted waste by category.

## Sullivan County 2024-2033

| | | #N/A | | |
|---|---|---|---|---|
| | | MSW Materials Composition (%) | MSW Generated (Tons) | MSW Diverted (Tons) |
| | Material | 100.0% | 58,140 | 7,235.18 |
| Paper | Newspaper | 3.8% | 2,184 | 1,005.30 |
| | Corrugated Cardboard | 9.7% | 5,654 | 1,629.79 |
| | Other Recyclable Paper (Total) | 10.8% | 6,262 | 1,350.38 |
| | Other Compostable Paper | 6.7% | 3,890 | |
| | *Total Paper* | 30.9% | 17,991 | 3,985.47 |
| Metal | Ferrous/Aluminum Containers (Total) | 1.9% | 1,115 | 32.68 |
| | Other Ferrous Metals | 5.3% | 3,084 | 1,848.67 |
| | Other Non-Ferrous Metals (Total) | 1.3% | 746 | 43.08 |
| | *Total Metals* | 8.5% | 4,945 | 1,924.43 |
| Plastic | PET Containers | 0.9% | 547 | 84.07 |
| | HDPE Containers | 0.9% | 505 | 60.01 |
| | Other Plastic (3-7) Containers | 0.2% | 99 | 61.49 |
| | Film Plastic | 5.7% | 3,339 | |
| | Other Plastic (Total) | 6.1% | 3,538 | 19.61 |
| | *Total Plastics* | 13.8% | 8,028 | 225.18 |
| Glass | Glass Bottles, Jars and Containers | 3.9% | 2,292 | 620.00 |
| | Other Glass (Flat glass, dishware, light bulbs, etc.) | 0.4% | 248 | |
| | *Total Glass* | 4.4% | 2,540 | 620.00 |
| Organics | Food Scraps | 13.3% | 7,707 | |
| | Leaves and Grass / Pruning and Trimmings | 4.5% | 2,588 | |
| | *Total Organics* | 17.7% | 10,295 | 0.00 |
| Textiles | Clothing Footwear, Towels, Sheets | 3.9% | 2,273 | 125.00 |
| | Carpet | 1.4% | 822 | |
| | *Total Textiles* | 5.3% | 3,095 | 125.00 |
| Wood | *Total Wood* (Pallets, crates, adulterated and non-adulterated wood) | 5.4% | 3,150 | |
| Miscellaneous | DIY Construction & Renovation Materials | 6.6% | 3,837 | |
| | Diapers | 1.6% | 930 | |
| | Electronics | 1.4% | 828 | 79.30 |
| | Tires | 1.7% | 1,009 | 264.41 |
| | HHW | 0.3% | 199 | 11.39 |
| | Soils and Fines | 0.5% | 277 | |
| | Other Composite Materials - Durable and/or inert | 1.7% | 1,015 | |
| | *Total Miscellaneous* | 13.9% | 8,096 | 355.10 |
| *Total* | | 100.0% | 58,140 | 7,235.18 |




Notes: Diverted material breakdowns are based on vendor single stream composition audit.
Textiles tonnages are estimates from County based on experience from previous data collection efforts. Further efforts to quantify textiles will be made.

# Step 6. Municipal Solid Waste (MSW) Diversion Projections

This tab will be used to create goals for the amount of material the planning unit will divert for each year of the planning period. These goals will be entered as percentages, based on how much of the material generated will be diverted for recycling or beneficial use.

The diversion goal percentages will be entered in the purple cells for each material and each year of the planning period.

## Sullivan County 2024-2033

| Year | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Projected MSW Generation (Tons/yr) | 58,040 | 57,830 | 57,621 | 57,412 | 57,204 | 56,997 | 56,791 | 56,586 | 56,381 | 56,177 | 55,771 | 55,569 |
| MSW Diverted (Tons/yr) | 7,327 | 7,515 | 7,811 | 8,121 | 8,366 | 8,697 | 8,938 | 9,195 | 9,489 | 9,757 | 10,087 | 10,531 |

| | | | #N/A | | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MSW Materials Composition (%) | MSW Generated (Tons) | MSW Diverted (Tons) | % MSW Diverted | % MSW Diverted | % MSW Diverted | % MSW Diverted | % MSW Diverted | % MSW Diverted | % MSW Diverted | % MSW Diverted | % MSW Diverted | % MSW Diverted | % MSW Diverted | % MSW Diverted |
| | Material | 100.0% | 58,140 | 7,235 | 12.4% | 12.6% | 13.0% | 13.6% | 14.1% | 14.6% | 15.3% | 15.7% | 16.2% | 16.8% | 17.4% | 18.0% | 18.9% |
| Paper | Newspaper | 3.8% | 2,184 | 1,005 | 46.0% | 47.0% | 47.0% | 48.0% | 49.0% | 49.0% | 50.0% | 50.0% | 51.0% | 52.0% | 52.0% | 53.0% | 54.0% |
| | Corrugated Cardboard | 9.7% | 5,654 | 1,630 | 28.8% | 28.8% | 29.0% | 29.0% | 29.5% | 30.0% | 30.5% | 31.0% | 31.5% | 32.0% | 32.5% | 33.0% | 34.0% |
| | Other Recyclable Paper (Total) | 10.8% | 6,262 | 1,350 | 21.6% | 21.6% | 22.0% | 22.5% | 23.0% | 23.5% | 24.0% | 24.5% | 25.0% | 25.6% | 26.0% | 27.0% | 28.0% |
| | Other Compostable Paper | 6.7% | 3,890 | 0 | 0.0% | 0.0% | 0.0% | 2.0% | 2.0% | 2.5% | 3.0% | 3.5% | 3.5% | 4.0% | 4.5% | 5.0% | 5.0% |
| | *Total Paper* | 30.9% | 17,991 | 3,985 | 22.2% | 22.3% | 22.5% | 23.2% | 23.7% | 24.1% | 24.7% | 25.1% | 25.6% | 26.1% | 26.6% | 27.3% | 28.0% |
| Metal | Ferrous/Aluminum Containers (Total) | 1.9% | 1,115 | 33 | 2.9% | 3.0% | 3.0% | 3.5% | 3.5% | 4.0% | 4.0% | 4.5% | 5.0% | 5.5% | 6.0% | 7.0% | 8.0% |
| | Other Ferrous Metals | 5.3% | 3,084 | 1,849 | 59.9% | 60.0% | 60.0% | 60.5% | 61.0% | 61.5% | 62.0% | 62.5% | 63.0% | 63.5% | 64.0% | 65.0% | 66.0% |
| | Other Non-Ferrous Metals (Total) | 1.3% | 746 | 43 | 5.8% | 6.0% | 6.0% | 6.5% | 6.5% | 7.0% | 7.0% | 7.5% | 8.0% | 8.5% | 9.0% | 9.5% | 10.0% |
| | *Total Metals* | 8.5% | 4,945 | 1,924 | 38.9% | 39.0% | 39.0% | 39.5% | 39.8% | 40.3% | 40.6% | 41.1% | 41.6% | 42.1% | 42.6% | 43.5% | 44.5% |
| Plastic | PET Containers | 0.9% | 547 | 84 | 15.4% | 15.5% | 15.5% | 16.0% | 16.5% | 17.0% | 17.5% | 18.0% | 18.5% | 19.0% | 19.0% | 20.0% | 20.0% |
| | HDPE Containers | 0.9% | 505 | 60 | 11.9% | 12.0% | 12.0% | 12.5% | 13.0% | 13.5% | 14.0% | 14.5% | 15.0% | 15.5% | 16.0% | 16.0% | 17.0% |
| | Other Plastic (3-7) Containers | 0.2% | 99 | 61 | 62.4% | 62.5% | 62.5% | 63.0% | 63.5% | 64.0% | 64.5% | 65.0% | 65.0% | 65.5% | 66.0% | 66.5% | 67.0% |
| | Film Plastic | 5.7% | 3,339 | 0 | 0.0% | 2.0% | 2.0% | 2.5% | 3.0% | 3.0% | 3.5% | 3.5% | 4.0% | 4.5% | 5.0% | 5.0% | 6.0% |
| | Other Plastic (Total) | 6.1% | 3,538 | 20 | 0.6% | 0.6% | 1.0% | 1.5% | 2.0% | 2.5% | 3.0% | 3.5% | 4.0% | 4.5% | 5.0% | 5.0% | 6.0% |
| | *Total Plastics* | 13.8% | 8,028 | 225 | 2.8% | 3.7% | 3.9% | 4.4% | 4.9% | 5.1% | 5.6% | 5.9% | 6.4% | 6.9% | 7.4% | 7.5% | 8.4% |
| Glass | Glass Bottles, Jars and Containers | 3.9% | 2,292 | 620 | 27.1% | 27.1% | 27.1% | 28.0% | 28.5% | 29.0% | 29.5% | 30.0% | 30.0% | 30.5% | 30.5% | 31.0% | 31.0% |
| | Other Glass (Flat glass, dishware, light bulbs, etc.) | 0.4% | 248 | 0 | 0.0% | 0.0% | 1.0% | 1.5% | 2.0% | 2.5% | 3.0% | 3.5% | 4.0% | 4.0% | 5.0% | 5.0% | 5.5% |
| | *Total Glass* | 4.4% | 2,540 | 620 | 24.4% | 24.4% | 24.5% | 25.4% | 25.9% | 26.4% | 26.9% | 27.4% | 27.5% | 27.9% | 28.0% | 28.5% | 28.5% |
| Organics | Food Scraps | 13.3% | 7,707 | 0 | 0.0% | 0.0% | 2.0% | 3.0% | 4.0% | 5.0% | 6.0% | 7.0% | 8.0% | 9.0% | 10.0% | 11.0% | 12.0% |
| | Leaves and Grass / Pruning and Trimmings | 4.5% | 2,588 | 0 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 2.0% | 2.5% | 3.0% | 3.5% | 4.0% | 4.5% | 5.0% |
| | *Total Organics* | 17.7% | 10,295 | 0 | 0.0% | 0.0% | 1.5% | 2.2% | 3.0% | 3.7% | 5.0% | 5.9% | 6.7% | 7.6% | 8.5% | 9.4% | 10.2% |
| Textiles | Clothing Footwear, Towels, Sheets | 3.9% | 2,273 | 125 | 5.5% | 5.5% | 5.5% | 6.5% | 7.5% | 8.5% | 9.5% | 10.0% | 11.0% | 12.0% | 13.0% | 14.0% | 15.0% |
| | Carpet | 1.4% | 822 | 0 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 1.0% | 1.5% | 2.0% | 2.5% | 3.0% | 4.0% | 5.0% |
| | *Total Textiles* | 5.3% | 3,095 | 125 | 4.0% | 4.0% | 4.0% | 4.8% | 5.5% | 6.2% | 7.2% | 7.7% | 8.6% | 9.5% | 10.3% | 11.3% | 12.3% |
| Wood | *Total Wood* (Pallets, crates, adulterated and non-adulterated wood) | 5.4% | 3,150 | 0 | 0.0% | | | | | | | | | | | | |
| Miscellaneous | DIY Construction & Renovation Materials | 6.6% | 3,837 | 0 | 0.0% | 0.0% | 0.0% | 0.0% | 1.5% | 2.0% | 2.5% | 3.0% | 3.5% | 4.0% | 5.0% | 6.0% | 7.0% |
| | Diapers | 1.6% | 930 | 0 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| | Electronics | 1.4% | 828 | 79 | 9.6% | 10.0% | 11.0% | 12.0% | 13.0% | 14.0% | 15.0% | 16.0% | 17.0% | 18.0% | 19.0% | 20.0% | 20.0% |
| | Tires | 1.7% | 1,009 | 264 | 26.2% | 26.5% | 26.5% | 26.5% | 29.0% | 30.0% | 31.0% | 31.5% | 32.0% | 33.0% | 34.0% | 35.0% | 36.0% |
| | HHW | 0.3% | 199 | 11 | 5.7% | 6.0% | 6.0% | 6.5% | 7.0% | 8.0% | 9.0% | 9.5% | 10.0% | 10.0% | 11.0% | 12.0% | 13.0% |
| | Soils and Fines | 0.5% | 277 | 0 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| | Other Composite Materials - Durable and/or inert | 1.7% | 1,015 | 0 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| | *Total Miscellaneous* | 13.9% | 8,096 | 355 | 4.4% | 4.5% | 4.6% | 4.7% | 5.8% | 6.3% | 6.8% | 7.2% | 7.6% | 8.1% | 8.8% | 9.6% | 10.2% |

| | | | 2023 | | | 2024 | | | 2025 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MSW Materials Composition (%) | MSW Generated (Tons) | MSW Diverted (Tons) | % MSW Diverted | MSW generated (Tons) | MSW Diverted | % MSW Diverted | MSW generated (Tons) | MSW Diverted | % MSW Diverted |
| | **Material** | 100.00% | 58,140 | 7,235 | 12.4% | 58,040 | 7,327 | 12.6% | 57,830 | 7,515 | 13% |
| Paper | Newspaper | 3.76% | 2,184 | 1,005 | 46.0% | 2,181 | 1,025 | 47.0% | 2,173 | 1,021 | 47% |
| | Corrugated Cardboard | 9.73% | 5,654 | 1,630 | 28.8% | 5,645 | 1,626 | 28.8% | 5,624 | 1,631 | 29% |
| | Other Recyclable Paper (Total) | 10.77% | 6,262 | 1,350 | 21.6% | 6,251 | 1,350 | 21.6% | 6,228 | 1,370 | 22% |
| | Other Compostable Paper | 6.69% | 3,890 | 0 | 0.0% | 3,884 | 0 | 0.0% | 3,869 | 0 | 0% |
| | *Total Paper* | 30.94% | 17,991 | 3,985 | 22.2% | 17,960 | 4,001 | 22.3% | 17,895 | 4,022 | 22% |
| Metal | Ferrous/Aluminum Containers (Total) | 1.92% | 1,115 | 33 | 2.9% | 1,113 | 33 | 3.0% | 1,109 | 33 | 3% |
| | Other Ferrous Metals | 5.30% | 3,084 | 1,849 | 59.9% | 3,079 | 1,847 | 60.0% | 3,068 | 1,841 | 60% |
| | Other Non-Ferrous Metals (Total) | 1.28% | 746 | 43 | 5.8% | 745 | 45 | 6.0% | 742 | 45 | 6% |
| | *Total Metals* | 8.51% | 4,945 | 1,924 | 38.9% | 4,937 | 1,925 | 39.0% | 4,919 | 1,918 | 39% |
| Plastic | PET Containers | 0.94% | 547 | 84 | 15.4% | 547 | 85 | 15.5% | 545 | 84 | 16% |
| | HDPE Containers | 0.87% | 505 | 60 | 11.9% | 504 | 60 | 12.0% | 502 | 60 | 12% |
| | Other Plastic (3-7) Containers | 0.17% | 99 | 61 | 62.4% | 98 | 61 | 62.5% | 98 | 61 | 63% |
| | Film Plastic | 5.74% | 3,339 | 0 | 0.0% | 3,333 | 67 | 2.0% | 3,321 | 66 | 2% |
| | Other Plastic (Total) | 6.09% | 3,538 | 20 | 0.6% | 3,532 | 21 | 0.6% | 3,519 | 35 | 1% |
| | *Total Plastics* | 13.81% | 8,028 | 225 | 2.8% | 8,014 | 295 | 3.7% | 7,985 | 308 | 4% |
| Glass | Glass Bottles, Jars and Containers | 3.94% | 2,292 | 620 | 27.1% | 2,288 | 620 | 27.1% | 2,279 | 618 | 27% |
| | Other Glass (Flat glass, dishware, light bulbs, etc.) | 0.43% | 248 | 0 | 0.0% | 248 | 0 | 0.0% | 247 | 2 | 1% |
| | *Total Glass* | 4.37% | 2,540 | 620 | 24.4% | 2,536 | 620 | 24.4% | 2,527 | 620 | 25% |
| Organics | Food Scraps | 13.26% | 7,707 | 0 | 0.0% | 7,694 | 0 | 0.0% | 7,666 | 153 | 2% |
| | Leaves and Grass / Pruning and Trimmings | 4.45% | 2,588 | 0 | 0.0% | 2,583 | 0 | 0.0% | 2,574 | 0 | 0% |
| | *Total Organics* | 17.71% | 10,295 | 0 | 0.0% | 10,277 | 0 | 0.0% | 10,240 | 153 | 1% |
| Textiles | Clothing Footwear, Towels, Sheets | 3.91% | 2,273 | 125 | 5.5% | 2,269 | 125 | 5.5% | 2,261 | 124 | 6% |
| | Carpet | 1.41% | 822 | 0 | 0.0% | 821 | 0 | 0.0% | 818 | 0 | 0% |
| | *Total Textiles* | 5.32% | 3,095 | 125 | 4.0% | 3,090 | 125 | 4.0% | 3,079 | 124 | 4% |
| Wood | *Total Wood* (Pallets, crates, adulterated and non-adulterated) | 5.42% | 3,150 | 0 | 0.0% | 3,145 | 0 | 0.0% | 3,133 | 0 | 0% |
| Miscellaneous | DIY Construction & Renovation Materials | 6.60% | 3,837 | 0 | 0.0% | 3,830 | 0 | 0.0% | 3,817 | 0 | 0% |
| | Diapers | 1.60% | 930 | 0 | 0.0% | 928 | 0 | 0.0% | 925 | 0 | 0% |
| | Electronics | 1.42% | 828 | 79 | 9.6% | 827 | 83 | 10.0% | 824 | 91 | 11% |
| | Tires | 1.74% | 1,009 | 264 | 26.2% | 1,008 | 267 | 26.5% | 1,004 | 266 | 27% |
| | HHW | 0.34% | 199 | 11 | 5.7% | 199 | 12 | 6.0% | 198 | 12 | 6% |
| | Soils and Fines | 0.48% | 277 | 0 | 0.0% | 276 | 0 | 0.0% | 275 | 0 | 0% |
| | Other Composite Materials - Durable and/or inert | 1.74% | 1,015 | 0 | 0.0% | 1,013 | 0 | 0.0% | 1,009 | 0 | 0% |
| | *Total Miscellaneous* | 13.92% | 8,096 | 355 | 4.4% | 8,082 | 362 | 4.5% | 8,052 | 369 | 5% |

| | | | 2026 | | | 2027 | | | 2028 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MSW Materials Composition (%) | MSW generated (Tons) | MSW Diverted | % MSW Diverted | MSW generated (Tons) | MSW Diverted | % MSW Diverted | MSW generated (Tons) | MSW Diverted | % MSW Diverted |
| | **Material** | 100.00% | 57,621 | 7,811 | 13.6% | 57,412 | 8,121 | 14.1% | 57,204 | 10,168 | 17.8% |
| Paper | Newspaper | 3.76% | 2,165 | 1,039 | 48.0% | 2,157 | 1,057 | 49.0% | 2,149 | 1,053 | 49.0% |
| | Corrugated Cardboard | 9.73% | 5,604 | 1,625 | 29.0% | 5,584 | 1,647 | 29.5% | 5,563 | 1,669 | 30.0% |
| | Other Recyclable Paper (Total) | 10.77% | 6,206 | 1,396 | 22.5% | 6,183 | 1,422 | 23.0% | 6,161 | 1,448 | 23.5% |
| | Other Compostable Paper | 6.69% | 3,855 | 77 | 2.0% | 3,842 | 77 | 2.0% | 3,828 | 96 | 2.5% |
| | *Total Paper* | 30.94% | 17,830 | 4,138 | 23.2% | 17,766 | 4,203 | 23.7% | 17,701 | 4,266 | 24.1% |
| Metal | Ferrous/Aluminum Containers (Total) | 1.92% | 1,105 | 39 | 3.5% | 1,101 | 39 | 3.5% | 1,097 | 44 | 4.0% |
| | Other Ferrous Metals | 5.30% | 3,057 | 1,849 | 60.5% | 3,046 | 1,858 | 61.0% | 3,035 | 1,866 | 61.5% |
| | Other Non-Ferrous Metals (Total) | 1.28% | 740 | 48 | 6.5% | 737 | 48 | 6.5% | 734 | 51 | 7.0% |
| | *Total Metals* | 8.51% | 4,901 | 1,936 | 39.5% | 4,883 | 1,944 | 39.8% | 4,866 | 1,962 | 40.3% |
| Plastic | PET Containers | 0.94% | 543 | 87 | 16.0% | 541 | 89 | 16.5% | 539 | 92 | 17.0% |
| | HDPE Containers | 0.87% | 500 | 63 | 12.5% | 498 | 65 | 13.0% | 497 | 6 | 1.1% |
| | Other Plastic (3-7) Containers | 0.17% | 98 | 62 | 63.0% | 97 | 62 | 63.5% | 97 | 4 | 4.0% |
| | Film Plastic | 5.74% | 3,309 | 83 | 2.5% | 3,297 | 99 | 3.0% | 3,286 | 2,021 | 61.5% |
| | Other Plastic (Total) | 6.09% | 3,506 | 53 | 1.5% | 3,494 | 70 | 2.0% | 3,481 | 87 | 2.5% |
| | *Total Plastics* | 13.81% | 7,956 | 346 | 4.4% | 7,927 | 385 | 4.9% | 7,899 | 2,209 | 28.0% |
| Glass | Glass Bottles, Jars and Containers | 3.94% | 2,271 | 636 | 28.0% | 2,263 | 645 | 28.5% | 2,255 | 654 | 29.0% |
| | Other Glass (Flat glass, dishware, light bulbs, etc.) | 0.43% | 246 | 4 | 1.5% | 245 | 5 | 2.0% | 244 | 6 | 2.5% |
| | *Total Glass* | 4.37% | 2,517 | 640 | 25.4% | 2,508 | 650 | 25.9% | 2,499 | 660 | 26.4% |
| Organics | Food Scraps | 13.26% | 7,638 | 229 | 3.0% | 7,611 | 304 | 4.0% | 7,583 | 379 | 5.0% |
| | Leaves and Grass / Pruning and Trimmings | 4.45% | 2,565 | 0 | 0.0% | 2,556 | 0 | 0.0% | 2,546 | 0 | 0.0% |
| | *Total Organics* | 17.71% | 10,203 | 229 | 2.2% | 10,166 | 304 | 3.0% | 10,129 | 379 | 3.7% |
| Textiles | Clothing Footwear, Towels, Sheets | 3.91% | 2,253 | 146 | 6.5% | 2,245 | 168 | 7.5% | 2,236 | 190 | 8.5% |
| | Carpet | 1.41% | 815 | 0 | 0.0% | 812 | 0 | 0.0% | 809 | 0 | 0.0% |
| | *Total Textiles* | 5.32% | 3,068 | 146 | 4.8% | 3,057 | 168 | 5.5% | 3,045 | 190 | 6.2% |
| Wood | *Total Wood* (Pallets, crates, adulterated and non-adulterated) | 5.42% | 3,122 | 0 | 0.0% | 3,111 | 0 | 0.0% | 3,099 | 0 | 0.0% |
| Miscellaneous | DIY Construction & Renovation Materials | 6.60% | 3,803 | 0 | 0.0% | 3,789 | 57 | 1.5% | 3,775 | 76 | 2.0% |
| | Diapers | 1.60% | 922 | 0 | 0.0% | 918 | 0 | 0.0% | 915 | 0 | 0.0% |
| | Electronics | 1.42% | 821 | 98 | 12.0% | 818 | 106 | 13.0% | 815 | 114 | 14.0% |
| | Tires | 1.74% | 1,000 | 265 | 26.5% | 997 | 289 | 29.0% | 993 | 298 | 30.0% |
| | HHW | 0.34% | 198 | 13 | 6.5% | 197 | 14 | 7.0% | 196 | 16 | 8.0% |
| | Soils and Fines | 0.48% | 274 | 0 | 0.0% | 273 | 0 | 0.0% | 272 | 0 | 0.0% |
| | Other Composite Materials - Durable and/or inert | 1.74% | 1,005 | 0 | 0.0% | 1,002 | 0 | 0.0% | 998 | 0 | 0.0% |
| | *Total Miscellaneous* | 13.92% | 8,023 | 376 | 4.7% | 7,994 | 466 | 5.8% | 7,965 | 503 | 6.3% |

| | | | 2029 | | | 2030 | | | 2031 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Material | MSW Materials Composition (%) | MSW generated (Tons) | MSW Diverted | % MSW Diverted | MSW generated (Tons) | MSW Diverted | % MSW Diverted | MSW generated (Tons) | MSW Diverted | % MSW Diverted |
| | | 100.00% | 56,997 | 8,697 | 15.3% | 56,791 | 8,938 | 15.7% | 56,586 | 9,195 | 16.2% |
| Paper | Newspaper | 3.76% | 2,141 | 1,071 | 50.0% | 2,134 | 1,067 | 50.0% | 2,126 | 1,084 | 51.0% |
| | Corrugated Cardboard | 9.73% | 5,543 | 1,691 | 30.5% | 5,523 | 1,712 | 31.0% | 5,503 | 1,734 | 31.5% |
| | Other Recyclable Paper (Total) | 10.77% | 6,139 | 1,473 | 24.0% | 6,116 | 1,499 | 24.5% | 6,094 | 1,524 | 25.0% |
| | Other Compostable Paper | 6.69% | 3,814 | 114 | 3.0% | 3,800 | 133 | 3.5% | 3,786 | 133 | 3.5% |
| | *Total Paper* | 30.94% | 17,637 | 4,349 | 24.7% | 17,573 | 4,411 | 25.1% | 17,510 | 4,474 | 25.6% |
| Metal | Ferrous/Aluminum Containers (Total) | 1.92% | 1,093 | 44 | 4.0% | 1,089 | 49 | 4.5% | 1,085 | 54 | 5.0% |
| | Other Ferrous Metals | 5.30% | 3,024 | 1,875 | 62.0% | 3,013 | 1,883 | 62.5% | 3,002 | 1,891 | 63.0% |
| | Other Non-Ferrous Metals (Total) | 1.28% | 732 | 51 | 7.0% | 729 | 55 | 7.5% | 726 | 58 | 8.0% |
| | *Total Metals* | 8.51% | 4,848 | 1,970 | 40.6% | 4,831 | 1,987 | 41.1% | 4,813 | 2,003 | 41.6% |
| Plastic | PET Containers | 0.94% | 537 | 94 | 17.5% | 535 | 96 | 18.0% | 533 | 99 | 18.5% |
| | HDPE Containers | 0.87% | 495 | 69 | 14.0% | 493 | 71 | 14.5% | 491 | 74 | 15.0% |
| | Other Plastic (3-7) Containers | 0.17% | 97 | 62 | 64.5% | 96 | 63 | 65.0% | 96 | 62 | 65.0% |
| | Film Plastic | 5.74% | 3,274 | 115 | 3.5% | 3,262 | 114 | 3.5% | 3,250 | 130 | 4.0% |
| | Other Plastic (Total) | 6.09% | 3,468 | 104 | 3.0% | 3,456 | 121 | 3.5% | 3,443 | 138 | 4.0% |
| | *Total Plastics* | 13.81% | 7,870 | 444 | 5.6% | 7,842 | 465 | 5.9% | 7,813 | 502 | 6.4% |
| Glass | Glass Bottles, Jars and Containers | 3.94% | 2,247 | 663 | 29.5% | 2,238 | 672 | 30.0% | 2,230 | 669 | 30.0% |
| | Other Glass (Flat glass, dishware, light bulbs, etc.) | 0.43% | 244 | 7 | 3.0% | 243 | 8 | 3.5% | 242 | 10 | 4.0% |
| | *Total Glass* | 4.37% | 2,490 | 670 | 26.9% | 2,481 | 680 | 27.4% | 2,472 | 679 | 27.5% |
| Organics | Food Scraps | 13.26% | 7,556 | 453 | 6.0% | 7,528 | 527 | 7.0% | 7,501 | 600 | 8.0% |
| | Leaves and Grass / Pruning and Trimmings | 4.45% | 2,537 | 51 | 2.0% | 2,528 | 63 | 2.5% | 2,519 | 76 | 3.0% |
| | *Total Organics* | 17.71% | 10,093 | 504 | 5.0% | 10,056 | 590 | 5.9% | 10,020 | 676 | 6.7% |
| Textiles | Clothing Footwear, Towels, Sheets | 3.91% | 2,228 | 212 | 9.5% | 2,220 | 222 | 10.0% | 2,212 | 243 | 11.0% |
| | Carpet | 1.41% | 806 | 8 | 1.0% | 803 | 12 | 1.5% | 800 | 16 | 2.0% |
| | *Total Textiles* | 5.32% | 3,034 | 220 | 7.2% | 3,023 | 234 | 7.7% | 3,013 | 259 | 8.6% |
| Wood | *Total Wood* (Pallets, crates, adulterated and non-adulterated) | 5.42% | 3,088 | 0 | 0.0% | 3,077 | 0 | 0.0% | 3,066 | 0 | 0.0% |
| Miscellaneous | DIY Construction & Renovation Materials | 6.60% | 3,762 | 94 | 2.5% | 3,748 | 112 | 3.0% | 3,735 | 131 | 3.5% |
| | Diapers | 1.60% | 912 | 0 | 0.0% | 908 | 0 | 0.0% | 905 | 0 | 0.0% |
| | Electronics | 1.42% | 812 | 122 | 15.0% | 809 | 129 | 16.0% | 806 | 137 | 17.0% |
| | Tires | 1.74% | 989 | 307 | 31.0% | 986 | 311 | 31.5% | 982 | 314 | 32.0% |
| | HHW | 0.34% | 196 | 18 | 9.0% | 195 | 19 | 9.5% | 194 | 19 | 10.0% |
| | Soils and Fines | 0.48% | 271 | 0 | 0.0% | 270 | 0 | 0.0% | 269 | 0 | 0.0% |
| | Other Composite Materials - Durable and/or inert | 1.74% | 995 | 0 | 0.0% | 991 | 0 | 0.0% | 987 | 0 | 0.0% |
| | *Total Miscellaneous* | 13.92% | 7,936 | 540 | 6.8% | 7,908 | 571 | 7.2% | 7,879 | 602 | 7.6% |

| | | | 2032 | | | 2033 | | |
|---|---|---|---|---|---|---|---|---|
| | Material | MSW Materials Composition (%) | MSW generated (Tons) | MSW Diverted | % MSW Diverted | MSW generated (Tons) | MSW Diverted | % MSW Diverted |
| | | 100.00% | 56,381 | 9,489 | 16.8% | 56,177 | 9,757 | 17.4% |
| Paper | Newspaper | 3.76% | 2,118 | 1,102 | 52.0% | 2,111 | 1,098 | 52.0% |
| | Corrugated Cardboard | 9.73% | 5,483 | 1,755 | 32.0% | 5,464 | 1,776 | 32.5% |
| | Other Recyclable Paper (Total) | 10.77% | 6,072 | 1,554 | 25.6% | 6,050 | 1,573 | 26.0% |
| | Other Compostable Paper | 6.69% | 3,773 | 151 | 4.0% | 3,759 | 169 | 4.5% |
| | *Total Paper* | 30.94% | 17,446 | 4,562 | 26.1% | 17,383 | 4,615 | 26.6% |
| Metal | Ferrous/Aluminum Containers (Total) | 1.92% | 1,081 | 59 | 5.5% | 1,077 | 65 | 6.0% |
| | Other Ferrous Metals | 5.30% | 2,991 | 1,899 | 63.5% | 2,980 | 1,907 | 64.0% |
| | Other Non-Ferrous Metals (Total) | 1.28% | 724 | 62 | 8.5% | 721 | 65 | 9.0% |
| | *Total Metals* | 8.51% | 4,796 | 2,020 | 42.1% | 4,778 | 2,037 | 42.6% |
| Plastic | PET Containers | 0.94% | 531 | 101 | 19.0% | 529 | 101 | 19.0% |
| | HDPE Containers | 0.87% | 490 | 76 | 15.5% | 488 | 78 | 16.0% |
| | Other Plastic (3-7) Containers | 0.17% | 96 | 63 | 65.5% | 95 | 63 | 66.0% |
| | Film Plastic | 5.74% | 3,238 | 146 | 4.5% | 3,226 | 161 | 5.0% |
| | Other Plastic (Total) | 6.09% | 3,431 | 154 | 4.5% | 3,418 | 171 | 5.0% |
| | *Total Plastics* | 13.81% | 7,785 | 539 | 6.9% | 7,757 | 574 | 7.4% |
| Glass | Glass Bottles, Jars and Containers | 3.94% | 2,222 | 678 | 30.5% | 2,214 | 675 | 30.5% |
| | Other Glass (Flat glass, dishware, light bulbs, etc.) | 0.43% | 241 | 10 | 4.0% | 240 | 12 | 5.0% |
| | *Total Glass* | 4.37% | 2,463 | 687 | 27.9% | 2,454 | 687 | 28.0% |
| Organics | Food Scraps | 13.26% | 7,474 | 673 | 9.0% | 7,447 | 745 | 10.0% |
| | Leaves and Grass / Pruning and Trimmings | 4.45% | 2,510 | 88 | 3.5% | 2,501 | 100 | 4.0% |
| | *Total Organics* | 17.71% | 9,984 | 761 | 7.6% | 9,948 | 845 | 8.5% |
| Textiles | Clothing Footwear, Towels, Sheets | 3.91% | 2,204 | 265 | 12.0% | 2,196 | 286 | 13.0% |
| | Carpet | 1.41% | 797 | 20 | 2.5% | 795 | 24 | 3.0% |
| | *Total Textiles* | 5.32% | 3,002 | 284 | 9.5% | 2,991 | 309 | 10.3% |
| Wood | *Total Wood* (Pallets, crates, adulterated and non-adulterated) | 5.42% | 3,055 | 0 | 0.0% | 3,044 | 0 | 0.0% |
| Miscellaneous | DIY Construction & Renovation Materials | 6.60% | 3,721 | 149 | 4.0% | 3,708 | 185 | 5.0% |
| | Diapers | 1.60% | 902 | 0 | 0.0% | 899 | 0 | 0.0% |
| | Electronics | 1.42% | 803 | 145 | 18.0% | 800 | 152 | 19.0% |
| | Tires | 1.74% | 979 | 323 | 33.0% | 975 | 332 | 34.0% |
| | HHW | 0.34% | 193 | 19 | 10.0% | 193 | 21 | 11.0% |
| | Soils and Fines | 0.48% | 268 | 0 | 0.0% | 267 | 0 | 0.0% |
| | Other Composite Materials - Durable and/or inert | 1.74% | 984 | 0 | 0.0% | 980 | 0 | 0.0% |
| | *Total Miscellaneous* | 13.92% | 7,851 | 636 | 8.1% | 7,822 | 690 | 8.8% |

| | | | 2034 | | | 2035 | | |
|---|---|---|---|---|---|---|---|---|
| | | MSW Materials Composition (%) | MSW generated (Tons) | MSW Diverted | % MSW Diverted | MSW generated (Tons) | MSW Diverted | % MSW Diverted |
| | **Material** | 100.00% | 55,974 | 10,148 | 18.1% | 55,771 | 10,504 | 18.8% |
| Paper | Newspaper | 3.76% | 2,103 | 1,115 | 53.0% | 2,095 | 1,132 | 54.0% |
| | Corrugated Cardboard | 9.73% | 5,483 | 1,810 | 33.0% | 5,424 | 1,844 | 34.0% |
| | Other Recyclable Paper (Total) | 10.77% | 6,072 | 1,640 | 27.0% | 6,007 | 1,682 | 28.0% |
| | Other Compostable Paper | 6.69% | 3,773 | 189 | 5.0% | 3,732 | 187 | 5.0% |
| | *Total Paper* | 30.94% | 17,431 | 4,752 | 27.3% | 17,258 | 4,844 | 28.1% |
| Metal | Ferrous/Aluminum Containers (Total) | 1.92% | 1,081 | 76 | 7.0% | 1,077 | 86 | 8.0% |
| | Other Ferrous Metals | 5.30% | 2,991 | 1,944 | 65.0% | 2,980 | 1,967 | 66.0% |
| | Other Non-Ferrous Metals (Total) | 1.28% | 724 | 69 | 9.5% | 721 | 72 | 10.0% |
| | *Total Metals* | 8.51% | 4,796 | 2,088 | 43.5% | 4,778 | 2,125 | 44.5% |
| Plastic | PET Containers | 0.94% | 531 | 106 | 20.0% | 529 | 106 | 20.0% |
| | HDPE Containers | 0.87% | 490 | 78 | 16.0% | 488 | 83 | 17.0% |
| | Other Plastic (3-7) Containers | 0.17% | 96 | 64 | 66.5% | 95 | 64 | 67.0% |
| | Film Plastic | 5.74% | 3,238 | 162 | 5.0% | 3,226 | 194 | 6.0% |
| | Other Plastic (Total) | 6.09% | 3,431 | 172 | 5.0% | 3,418 | 205 | 6.0% |
| | *Total Plastics* | 13.81% | 7,785 | 581 | 7.5% | 7,757 | 651 | 8.4% |
| Glass | Glass Bottles, Jars and Containers | 3.94% | 2,222 | 689 | 31.0% | 2,214 | 686 | 31.0% |
| | Other Glass (Flat glass, dishware, light bulbs, etc.) | 0.43% | 241 | 12 | 5.0% | 240 | 13 | 5.5% |
| | *Total Glass* | 4.37% | 2,463 | 701 | 28.5% | 2,454 | 700 | 28.5% |
| Organics | Food Scraps | 13.26% | 7,474 | 822 | 11.0% | 7,447 | 894 | 12.0% |
| | Leaves and Grass / Pruning and Trimmings | 4.45% | 2,510 | 113 | 4.5% | 2,501 | 125 | 5.0% |
| | *Total Organics* | 17.71% | 9,984 | 935 | 9.4% | 9,948 | 1,019 | 10.2% |
| Textiles | Clothing Footwear, Towels, Sheets | 3.91% | 2,204 | 309 | 14.0% | 2,196 | 329 | 15.0% |
| | Carpet | 1.41% | 797 | 32 | 4.0% | 795 | 40 | 5.0% |
| | *Total Textiles* | 5.32% | 3,002 | 340 | 11.3% | 2,991 | 369 | 12.3% |
| Wood | *Total Wood* (Pallets, crates, adulterated and non-adulterated) | 5.42% | 3,055 | 0 | 0.0% | 3,044 | 0 | 0.0% |
| Miscellaneous | DIY Construction & Renovation Materials | 6.60% | 3,721 | 223 | 6.0% | 3,708 | 260 | 7.0% |
| | Diapers | 1.60% | 902 | 0 | 0.0% | 899 | 0 | 0.0% |
| | Electronics | 1.42% | 803 | 161 | 20.0% | 800 | 160 | 20.0% |
| | Tires | 1.74% | 979 | 343 | 35.0% | 975 | 351 | 36.0% |
| | HHW | 0.34% | 193 | 23 | 12.0% | 193 | 25 | 13.0% |
| | Soils and Fines | 0.48% | 268 | 0 | 0.0% | 267 | 0 | 0.0% |
| | Other Composite Materials - Durable and/or inert | 1.74% | 984 | 0 | 0.0% | 980 | 0 | 0.0% |
| | *Total Miscellaneous* | 13.92% | 7,851 | 750 | 9.5% | 7,822 | 796 | 10.2% |

# 10.0 LIMITATIONS

The work product included in the attached was undertaken in full conformity with generally accepted professional consulting principles and practices and to the fullest extent as allowed by law we expressly disclaim all warranties, express or implied, including warranties of merchantability or fitness for a particular purpose. The work product was completed in full conformity with the contract with our client and this document is solely for the use and reliance of our client (unless previously agreed upon that a third party could rely on the work product) and any reliance on this work product by an unapproved outside party is at such party's risk.

The work product herein (including opinions, conclusions, suggestions, etc.) was prepared based on the situations and circumstances as found at the time, location, scope and goal of our performance and thus should be relied upon and used by our client recognizing these considerations and limitations. Cornerstone Environmental Group, PLLC shall not be liable for the consequences of any change in environmental standards, practices, or regulations following the completion of our work and there is no warrant to the veracity of information provided by third parties, or the partial utilization of this work product.

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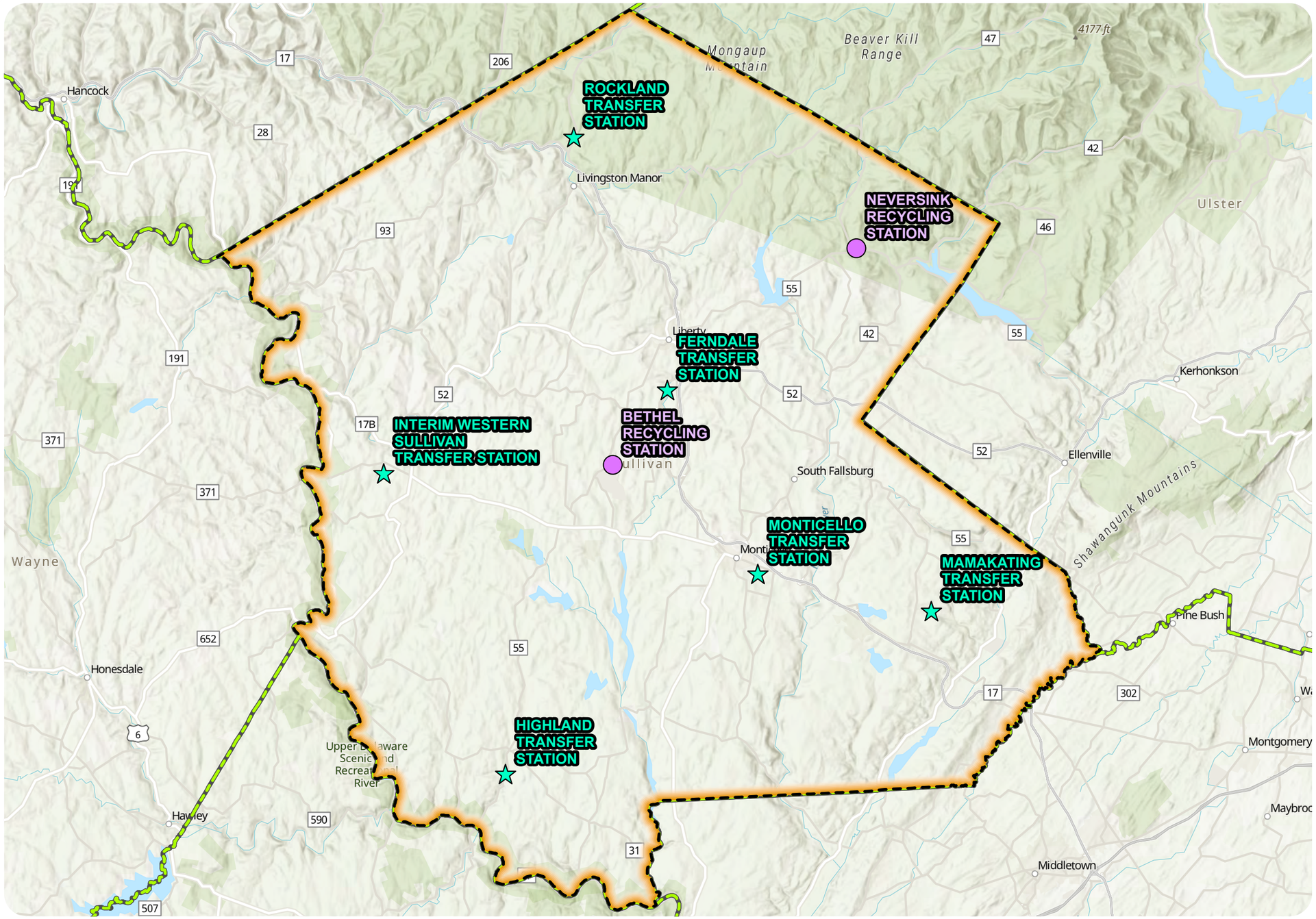
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# FIGURE

Figure 1: Location Map




## Legend

- County Transfer Station
- Town Transfer Station




OVERVIEW MAP

Coordinate System: NAD 1983 StatePlane New York East FIPS 3101 Feet
Datum: North American 1983

N

0 3 5 10
Miles

| REV | DATE | DESCRIPTION | DES BY | DWN BY | CHK BY | APP BY |
|---|---|---|---|---|---|---|
| | | | | | | |

DATE OF ISSUE 12/2/2022
DESIGNED BY SSW
DRAWN BY SSW
CHECKED BY
APPROVED BY

cornerstone PLLC

PREPARED BY:
CORNERSTONE ENGINEERING, GEOLOGY AND LAND SURVEYING, PLLC

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

SULLIVAN COUNTY DEPARTMENT OF PUBLIC WORKS
SULLIVAN COUNTY, NEW YORK

# SULLIVAN COUNTY TRANSFER STATION LOCATION MAP

FIGURE NO.
1
PROJECT NO.
4223547

X:\PROJECTS\SULLIVAN COUNTY\4223547- Developing A Local Solid Waste Management Plan_GIS\Sullivan_GIS.aprx

# APPENDIX A: SULLIVAN COUNTY SOLID WASTE MANAGEMENT RULES

# SULLIVAN COUNTY

# SOLID WASTE MANAGEMENT RULES

**ROBERT DOHERTY**
***Chairman of the Sullivan County Legislature***

**JOSHUA A. POTOSEK**
***County Manager***

**EDWARD McANDREW, P.E.**
***Commissioner of Public Works***

**MICHAEL McGUIRE**
***County Attorney***

Amendments to Rules effective September 1st, 2021

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## HISTORY

Adopted by Resolution 299 of 1983 effective September 12, 1983; and amended by:

Resolution 423/83; adopted 12/28/83; Sections 610-632

Resolution 289/84; adopted 11/13/84; Sections 605, 620, 624, 632

Resolution 211/85; adopted 6/10/85; Sections 632

Resolution 46/88; adopted 2/8/88; Section 632

Resolution 47/88; 2/8/88; Section 320

Resolution 285/88; adopted 7/11/88; Section 620

Resolution 224/89; adopted 6/12/89; Sections 504, 611

Resolution 225/89; adopted 6/12/89; Sections 620, 650

Resolution 304/89; adopted 7/10/89; Section 602, 642

Resolution 479/89; adopted 12/13/89; Section 620

Resolution 416/90; adopted 11/13/90; Section 624

Resolution 362/90; adopted 9/19/90; Section 620

Resolution 448/91; adopted 10/10/91; Section 602, 632

Resolution 156/92; adopted 4/9/92; Section 620

Resolution 292/92; adopted 6/11/92; all sections were revised to be in conformance with Local Law No. 1 of 1992 entitled *AA Local Law Entitled Sullivan County Solid Waste Management Law of 1992"* adopted by Resolution 217/92 by the Sullivan County Board of Supervisors.

Resolution 312/92; adopted 7/9/92; Section 620.2; repeal Title VI, Section 620.2b and change 620.2 effective Jan. 1, 1993.

Resolution 599/92; repeal credits and postpone recycling processing fees until 4/1/93.

Resolution 23/93; adopted 1/10/93; amend Section 650

Resolution 266/93; adopted 5/13/93; repeal Title VI, Section 620.2 immediately

Resolution 267/93; adopted 5/13/93; amend Section 632(c)

Resolution 360/93; adopted 7/8/93; amend Section 620.1(f)(4)

Resolution 490/93; adopted 10/10/93; waiver of the prohibition of Section 401 (expiration date 12/31/97)

Resolution 489/93; adopted 10/14/93; amend Section 620.1(a)(b)

Resolution 260/94; adopted 6/13/94; amend Section 201(s), add Section 201(jj), add Section 417, 504 and Section 620.1(f)(5)

Resolution 396/94; adopted 10/13/94; amended Resolution 490/93 (Section 401)

Resolution 395/94; adopted 10/13/94; amended Section 620.1 (a)(b)(c)(d)(e)(f)(g)

Resolution 454/94; adopted 11/4/94; amended Section 620.1(a)(b)

Resolution 159/95; adopted 5/11/95; amended Section 620.1(e)

Resolution 160/96; adopted 6/17/96; added Section 620.1(h)

Resolution 407/97; adopted 9/18/97; deleted Sections 401, 402

Resolution 456/02; adopted 9/19/02; amended Section 620.1 (a)(b)

Resolution 280/04; adopted 8/19/04; amended Section 620.1 (a)-(i)

Resolution 115/06; adopted 3/16/06; amended Section 620.1 (c)-(f)(j)(k)

Resolution 418-06; adopted 11/16/06; amended Section 620.1 (e)(3-5)(j)

Resolution 143-07; adopted 4/26/07; amended Section 204 (r)(mm) and Section 620.1 (l)(m)

Resolution 334-09; adopted 8/20/09; amended Section 620.1 (d) (1 and 3)

Resolution 114-10; adopted 2/18/10; amended Section 605

Resolution 167-11; adopted 4/21/11; amended Section 171-24

Resolution 324-11; adopted 7/21/11; amended Section 201, 302, 303, 501, 502, 620.1 (a)(b)(d)(g)(n)

Resolution 416-13; adopted 11/21/13; amended Section 632 (a)(b)(c)(d) and Section 302 (a)

Resolution 440-13; adopted 12/19/13; amended Section 620.1 (a)(b)(d)(l)(m)

Resolution 351-16: adopted 8/18/16 amended sections 602, 620.1 and section 632

Resolution 251-17; adopted 6/15/17; amend Section 620.1 quantities for C&D

Resolution 345-17; adopted 8/17/17; amended Section 620.1 (c) coupon books, price reduction

Resolution 52-18; adopted 2/8/18; amended Section 620.1 (o) CRT/monitor fee

Resolution 270-18 adopted 6/14/18, amended Section 620.1 (p) SSR $20 ton

Resolution 356-18 adopted 8/16/18, amend Section 620.1 (p) SSR variable rate

Resolution 536-18 adopted 12/13/18, amend Section 620.1 rate schedule and SSR rate

Resolution 464-20 adopted 12/17/20 amend section 620.1 rate schedule.

Resolution 330-21 adopted 08/19/21 amend section 620.1 (p) SSR $10 ton

Resolution 473-22 adopted 11/17/22 amend section 620.1 rate schedule and SSR rate

## TITLE I

## GENERAL PROVISIONS

**101.** ***Title:*** These Rules shall be known as the Sullivan County Solid Waste Management Rules

**102.** ***Authority:*** These Rules are adopted pursuant to the provisions of Sections 215 and 226-b of the County Law, notwithstanding any other provision of the law and pursuant to the Sullivan County Solid Waste Management Law, Local law No. 1 of 1992.

**103.** ***Applicability*****:** These Rules supersede any and all other Rules heretofore adopted pursuant to law.

## TITLE II

## DEFINITIONS

**201.** As used in these Rules, the following terms shall mean:

| | |
|---|---|
| Account Customer: | Any commercial enterprise, industry, institution, municipality and permitted solid waste collector or hauler, utilizing County solid waste management facilities, paying fees on a scheduled basis as established in these Rules. |
| Adopt-A-Road Program: | Municipally-designated program which permits individuals to deposit roadside litter for no-cost disposal at Sullivan County Solid Waste Management Facilities. |
| Alternate Daily Cover: | Substitute material(s) used in place of six inches of natural soils. Use must be approved by the Department. |
| Bulky Scrap Metal: | Any large major appliance (such as a refrigerator, washer, dryer, stove, etc., also known as "white goods"). |
| Commercial User: | All other persons not defined in section 201 as a Solid Waste Collector Hauler or a Residential User in these Rules who transport solid waste to a County solid waste management facility for disposal. |
| Commissioner: | Commissioner of the Division or his designee. |
| Components: | Paper, glass, metals, plastics, garden and yard wastes and may include other elements of solid waste as may be defined by law or the Rules. |
| Construction and Demolition Debris: | Uncontaminated solid waste resulting from the construction, remodeling, repair and demolition of structures and roads; and uncontaminated solid waste consisting of vegetation resulting from land clearing and grubbing, utility line maintenance and seasonal and storm related cleanup. Such waste includes, but is not limited to, brick, concrete, construction and other masonry materials, soil, rock, wood, wall covering, plaster, |

drywall, plumbing fixtures, non-asbestos roofing shingles, asphaltic pavement, glass, plastics that are not sealed in a manner that conceals other wastes, electrical wiring and components containing no hazardous liquids, and metals that are incidental to any of the above. Solid waste that is not construction and demolition debris (even if resulting from the construction, remodeling, repair and demolition of structures, roads and land clearing) includes, but is not limited to, asbestos waste, garbage, corrugated container board, electrical fixtures containing hazardous liquids (such as fluorescent light ballasts or transformers), carpeting, furniture, appliances, tires, drums and containers, and fuel tanks.

County: County of Sullivan

County Landfill: The Sullivan County Sanitary Landfill located in the Village of Monticello, New York, stopped accepting waste 12/31/09.

County Solid Waste Management Facility: A solid waste management facility operated by or under the supervision of the County.

Disposal: The deposit at a solid waste management facility of any permitted or authorized solid waste.

Division: Sullivan County Division of Public Works.

Electronic waste: "e-waste" electronic equipment or components that have been discarded or are no longer wanted by the owner or for any other reason enters the waste collection, recovery, treatment, processing, or recycling system.

Export Facility: Facility that accepts Municipal Solid Waste and Single Stream Recyclables for exportation to disposal or recovery markets.

Food Waste: Food that is discarded, lost or uneaten.

Hazardous Waste: All materials, substances and chemicals as defined by Federal and State law and the regulations of the United States Environmental Protection Administrations and the New York Department of Environmental Conservation, which are either

dangerous, poisonous, acidic, explosive, flammable, pathological, infectious or radioactive.

Household Hazardous Waste (HHW): Post-consumer waste which may qualify as hazardous waste when discarded improperly. It includes household chemicals and other substances for which the owner no longer has a use, such as consumer products sold for home care, personal care, automotive care, pest management and other purposes. Examples include oil-based paint, solvents, drain cleaners, antifreeze, spent fuels, poisons, weed killers, pesticides and cleaning products.

Infectious Waste: All medical and laboratory wastes including, but not limited to, surgical, obstetrical, pathological, and biological wastes as defined in 6 NYCRR Part 360.

Junk Motor Vehicles: Any inoperable motorized vehicle previously used for transportation of passengers or cargo.

Land Clearing Debris: Vegetative matter, soil and rock resulting from activities such as land clearing and grubbing, utility line maintenance or seasonal or storm related clean up such as trees, stumps, brush and leaves and including wood chips generated from these materials. Land clearing debris does not include yard waste which has been collected at the curbside.

Large Dead Animals: Any dead wild or domestic animal over 25 pounds.

Litter Pluck Program: A community-wide volunteer roadside cleanup program designed to remove unsightly trash from roadsides throughout Sullivan County. Registered groups may dispose of Litter Pluck refuse at no charge at Sullivan County Solid Waste Management Facilities.

Materials Recovery Facility: The Sullivan County Materials Recovery Facility at which source separated or permitted single stream recyclable

components of the solid waste stream are deposited and processed for the purposes of recovering raw materials.

Materials Management: An approach to planning, organizing, and controlling activities associated with the flow of solid waste, recyclables, compostable and reusable materials in a sustainable manner.

Municipal Cleanup Program: A Spring and Fall trash cleanup program sponsored by the Sullivan County Legislature and implemented by Towns and Villages.

Organics: The portion of the materials management program that contains material such as food, garden and lawn clippings. It can also include animal and plant based material and degradable carbon such as paper, cardboard and timber.

Person: Individual, partnership, group, association, corporation, estate, trust and municipal corporation.

Pharmaceutical Waste: Unwanted prescription and non-prescription medications intended for proper disposal.

Recyclables: Solid waste that may be recycled or reused and can be recovered from the overall waste stream or as may be designated for source separation by the Rules.

Regulated Waste: Oil contaminated debris and soils and asbestos authorized for landfill disposal by the NYSDEC.

Residential User: Any individual who transports, without fee, solid waste, generated at a private residential location, to a County solid waste management facility for disposal and such transport does not exceed any one time two (2) cubic yards or 2,000 pounds.

Roadside Cleanup Program: Acceptance of properly identified municipally-collected roadside cleanup materials at no charge at County Solid Waste Management Facilities.

| | |
|---|---|
| Rubble/Aggregates: | Uncontaminated brick, non-reinforced concrete, cement cinder block, ceramic tile, stone and soils. |
| Rules: | Sullivan County Solid Waste Management Rules |
| Salvaging: | Authorized picking, sorting and removal of reusable or reclaimable solid waste from a solid waste management facility. |
| Scavenging: | The unauthorized picking, sorting and removal of reusable or reclaimable solid waste from a solid waste facility. |
| Select Building Demolition Debris: | Uncontaminated construction debris free Bulky Debris and other wastes defined herein, from the demolition of buildings within Sullivan County pre-approved by the local municipal building inspector. |
| Sharps: | Medical needles and lancets that have been in contact with blood or bodily fluids from humans or animals and intended for proper collection and disposal by NYS-designated Article 28 Healthcare Facilities. |
| Single Stream | Comingled recyclable materials removed from the solid waste stream at the point of generation for separate collection, sale or other authorized disposition as provided in the Rules. |
| Solid Waste: | All materials or substances discarded or rejected as being spent, useless, worthless, or in excess to the owners at the time of such discard or rejection, including, but not limited to, garbage, refuse, industrial and commercial waste, sludges from air and water pollution control facilities or water supply treatment facilities, rubbish, contained gaseous material, demolition and construction debris and offal, but not including sewage and other highly diluted water carried materials or substances, those in gaseous form. |
| Single Stream Recycling (SSR): | Clean, comingled metal cans, plastic containers (5 gallons in size or smaller) coded #1 - #7, glass bottles, newsprint, cardboard and mixed paper accepted for recycling together as one classification of material. |

Solid Waste Collector Hauler: Any person who is engaged in the business of collecting, sorting, storing, hauling or otherwise disposing of solid waste

Solid Waste Management Facility: Any facility employed beyond the initial solid waste collection process, including, but not limited to, recycling centers, transfer stations, processing systems, including materials recovery facilities or other facilities for reducing solid waste volume, sanitary landfills, and other landfills, plants, facilities for compacting, composting or pyrolozation of solid wastes, and other solid waste disposal, reduction or conversion facilities.

Solid Waste Management Plan: The Solid Waste Management Plan adopted, or to be adopted, as it may be amended from time to time, by Sullivan County pursuant to Title I of Article 27 of the Environmental Conservation Law.

Solid Waste Transfer Station: Any facility at which permitted or authorized solid waste is deposited for pick up, haul and deposit in the County Landfill or any other legal landfill.

Solid Waste / Recycling Fee : An annual fee determined in accordance with the provisions of Local Law No. 1 of 1992 Article VIII and which fee is to be billed to and paid by the owners of the real property within the County on which Solid Waste and/or Recyclables may be generated.

Source Separation: Segregation of recyclable materials from the solid waste stream at the point of generation for separate collection, sale or other authorized disposition as provided in the Rules.

Special Bulky Waste: Solid waste including large household furnishings such as bed springs, mattresses, furniture, rugs and other similar objects.

| | |
|---|---|
| Unauthorized Waste: | Those wastes prohibited from landfill disposal; i.e., tires, yard wastes, appliances containing refrigerants, hazardous waste, and infectious waste. |
| Waste Flow Control: | A means of directing the flow of solid waste and recyclables to one or more facilities consistent with the Solid Waste Management Plan. |
| Waste Generator: | Any person whose act or process produces a solid waste. |
| Waste Tires: | Tires and their casings from cars, buses, trucks and other vehicles. |
| Yard Waste: | Leaves, grass clippings, garden debris, tree branches, limbs and other similar wood materials. |

## TITLE III

## ADMINISTRATION

**301.** ADMINISTRATION:

The Commissioner shall administer and enforce these Rules.

**302.** POWERS AND DUTIES:

The Commissioner or such persons as may be designated by him shall:

a) administer the solid waste disposal facilities operated by the County, including days and hours of operation, and supervise personnel;

   1) Hours of Operation: County solid waste management facilities shall be open for the deposit of solid waste on days of the year as established by the Commissioner with consideration given to the recommendation of the host community.

b) administer the issuance, renewal, suspension and revocation of licenses, permits and passes to all solid waste collectors and haulers for use at any County solid waste management facility or any other solid waste management facility;

c) adopt, modify and amend rules and regulations in accordance with the law, for the operation and maintenance of County Solid Waste Management Facilities; for licensing and regulating solid waste collectors or haulers, and commercial users for implementation of the County recycling program pursuant to law; and the implementation of the local law, including methods of payment and deferral of payment of fees due the County;

d) propose for approval by the Sullivan County Legislature, rates and fees for use of solid waste management facilities of the County;

e) investigate violations of local law and applicable rules and institute appropriate administrative or judicial proceedings with full subpoena power in connection therewith;

f) conduct studies and report the results thereof to the Sullivan County Legislature;

g) take such other actions as the Sullivan County Legislature may deem necessary and shall direct.

**303.** All solid waste management facilities shall:

a) be operated pursuant to Article 27, Title 6 of Environmental Conservation Law to the extent applicable;

b) control access to the operation of motor vehicles thereon;

c) unload solid waste so as to minimize odor and litter outside the disposal area;

d) control unauthorized salvage and scavenger activities;

e) maintain accurate daily records of deposits of solid waste and of fees collected;

f) as a condition for acceptance of solid waste, require the separation of recyclables and unauthorized waste from all other solid waste set at curbside or otherwise for collection by municipal or private carriers, or directly at solid waste facilities. Designated items requiring separation are as follows:

1) Newspaper
2) Old corrugated cardboard
3) Multi-grade office paper
4) Magazines and junk mail
5) Glass food and beverage containers
6) Steel containers
7) Plastic containers
8) Aluminum containers
9) Bulky scrap metals (incl. Refrigeration units)
10) Used motor oil
11) Tires
12) Yard waste
13) Electronic waste (e-waste)
14) Fluorescent bulbs

This list may be amended by the Commissioner from time to time.

**304.** Title to any solid waste deposited at the County owned or authorized solid waste management facility shall vest in the County which may sell and dispose of same on such terms as may be appropriate.

**305.** Title to any designated recyclables, source separated apart from the solid waste stream by residential users, shall vest in the County which may sell and dispose of same on such terms as may be appropriate.

**306.** a) Vehicles used to deposit solid waste at a solid waste management facility shall be metal or other impervious material, constructed and maintained so as to be capable of being completely emptied. Vehicles shall be free from leaks and fully enclosed to prevent odor or litter. Any solid wastes may be hauled in open body vehicles provided same are equipped with covers and tie downs to prevent litter. All vehicles used to haul solid waste shall be subject to inspection by the Commissioner who may bar use of such vehicles until it shall be in compliance with these Rules.

b) All commercial user vehicles and roll-off (detachable) containers shall prominently display the permit holder's name and identification number. Such information shall be clearly visible to the scalehouse attendant upon entry weigh-in at a solid waste management facility.

c) All vehicles transporting solid waste in bulk (either compacted or loose) for a fee shall have a valid license.

**307.** a) Charging of fees to an account other than that of the permit or license holder making delivery of solid waste shall be prohibited unless approved by the Commissioner. Any permitted delivery shall be accompanied by a County waste manifest form.

b) A fee of $20.00 shall be charged for the return of checks due to insufficient funds.

c) There shall be no exemption from special waste fees for recycling/reuse or separate disposal.

## TITLE IV

## PROHIBITED ACTIVITIES

**401.** No person shall deposit solid waste in any solid waste management facility other than at a location and in the manner directed by the employee in charge of such facility.

**402.** No person shall deposit solid waste at any solid waste management facility other than on the days and between the hours established for the operation of such facility or as may be authorized by the Commissioner.

**403.** No person shall deposit regulated special or special bulky waste at any solid waste management facility in violation of Title V of these Rules.

**404.** No commercial user shall deposit solid waste at County solid waste management facilities without a valid permit, license or contract.

**405.** No person shall deposit solid waste at any County solid waste management facility without paying the solid waste deposit fees established therefor.

**406.** No person shall dispose of any solid waste generated in Sullivan County in any place in Sullivan County except a Solid Waste Management Facility which is entitled to operate as such by permit or Order on Consent by the New York State Department of Environmental Conservation pursuant to the provisions of Article 27 of Title 7 of the Environmental Conservation Law and permitted by the County of Sullivan under Local Law.

**407.** No person shall leave for collection any solid waste unless it has separated from it at the point intended for collection all designated recyclable components and unauthorized waste.

**408.** No person shall collect, haul, store or transport solid waste to a County solid waste management facility unless it has separated from it at the point intended for collection, all designated recyclable components and unauthorized waste.

**409.** No person shall dispose of any solid waste generated in Sullivan County at any solid waste management facility in Sullivan County unless such solid waste has removed from it all designated recyclable components and unauthorized waste.

**410.** No person, including a Solid Waste Collector or Hauler, residential or commercial user, shall fail or refuse to separate solid waste at the source as herein defined or fail, refuse or neglect to separate solid waste into its components as may be provided in these Rules.

**411.** No person shall operate a vehicle at a County Solid Waste Facility or collect or haul solid waste with a vehicle which does not comply with these Rules.

**412.** No person shall dispose of radioactive wastes, hazardous wastes, or infectious wastes, as defined in NYCRR Part 360 Regulations, in the County.

**413.** No person shall deposit any solid waste in unregulated, uncontrolled or unpermitted disposal sites in Sullivan County.

**414.** No person shall dispose of Yard Waste at any County Solid Waste Management Facility.

## TITLE V

## REGULATED WASTES AND OTHER WASTES DESIGNATED FOR SEPARATE COLLECTION OR DISPOSAL

**501.** No person shall deposit regulated waste at any Sullivan County Solid Waste Management Facility unless said person shall have obtained a NYSDEC Part 364 Waste Transporter Permit authorizing disposal at such facility.

**502.** No person shall deposit regulated wastes at a solid waste transfer station not authorized to accept such.

**503.** Wastes designated for separate collection may be deposited at a solid waste management facility under the following conditions:

a) The following wastes, which require a means of recycling/reuse or separate disposal, shall be collected from the solid waste stream: Bulky scrap metal, waste tires, used motor oil.

b) The fees for those wastes designated for separate collection or disposal shall be as specified in Title VI.

c) Upon approval of the Sullivan County Legislature, the Commissioner may suspend the charging of fees for certain separated wastes.

d) There shall be no exemption from fees for wastes designated for separate collection or disposal unless authorized by order of the Commissioner.

**504.** Fees for those wastes which are deposited at Sullivan County Solid Waste Management Facilities, but have not been source separated in accordance with Title IV shall be as specified in Title VI, Section 620.1.

## TITLE VI

## PERMITS, LICENSES

**601.** All solid waste haulers (private and municipal) operating or doing business in Sullivan County at a solid waste management facility shall, effective September 1, 1992, be licensed to operate as such by the Commissioner of Public Works.

**602.** Permit, Application, Requirements.

1. All applications shall be made on the appropriate form issued by the Sullivan County Division of Public Works, together with a certificate of public liability and property damage insurance and appropriate fees.

2. Any person wishing to be an account customer must acquire a Solid Waste Management Facility User Permit.

3. In order to obtain a license or permit, solid waste haulers shall provide all residential, institutional and commercial clients or customers with source separation collection services and shall set forth in such application the plan for implementing such service.

4. To obtain or renew a permit the Hauler shall not have any overdue balance at any solid waste management facility within Sullivan County, and shall be in compliance with these Rules.

5. Hauler shall provide mandatory recycling documentation in order to obtain permit to use County SWM Facilities. Permit renewal requires mandatory submission of prior year's recycling tonnage activity by category.

**603.** Permit, Insurance Requirements. The Hauler's certificate of insurance shall name the County, its officers and employees as a named insured, shall be issued by an insurance company licensed to do business in the State of New York, shall be valid for the term of the permit, shall provide for ten (10) days notice of cancellation to the Commissioner, and shall have automobile insurance limits of at least the following amounts:

| | |
|---|---|
| Liability per Person..... | $100,000 |
| Bodily Injury Liability per Accident..... | $300,000 |
| Property Damage per Accident..... | $ 50,000 |

The Commissioner may require, at his discretion, comprehensive general liability insurance with a combined single limit liability of at least $1,000,000.

**604.** Regulated Waste Insurance Requirements. An additional certificate may be required in the discretion of the Commissioner prior to the issuance of any authorization to dispose of regulated waste. The insurance shall comply with the requirements of Section 603, and shall specifically insure against damage to person or property by the specific regulated waste to be deposited at an authorized County Solid Waste Management Facility. The amount of such insurance shall be determined in the discretion of the Commissioner, giving consideration to the extent and type of handling and disposal measures involved and the cost of cleanup of such waste in the event of spillage.

**605.** Types of Permits and Passes

1. Solid Waste Collector or Hauler License. Every solid waste collector and hauler shall obtain a license to operate in the County unless such solid waste collector and/or hauler shall operate solely and exclusively within the territory of a municipality in which solid waste is collected and disposed of and which municipality has adopted regulations which are not less comprehensive than that required by local law and the Rules adopted hereunder.

2. Solid Waste Management Facility User Permit. Every commercial user shall obtain a permit to dispose of solid waste at a County Solid Waste Management Facility.

3. Passes. Passes are a special permit issued to residential user and persons other than commercial users and solid waste collectors and haulers for limited duration and purposes. Such passes may be issued for any purpose authorized by the Rules.

**606.** All licenses and facility user permits shall be valid from the date of issue to December 31 of the year of issuance. A license or permit shall be exhibited by the license holder to any authorized employee of the Division upon demand.

**607.** Exceptions; Credits (deleted)

**608.** Monitoring Load Inspections

a. Private and Municipal Solid Waste Haulers

1. At least two (2) times per year, haulers shall inform all customers and accounts in writing of the type of material designated as a recyclable, including the preparation of the material by customer and the schedule of collection for recyclables with a copy of the letter sent to the County.

2. All private and municipal solid waste haulers shall be responsible for monitoring and notifying customers in violation of the local law and these

rules. Haulers shall forward a copy of the names and addresses of those customers having committed a violation as defined in Title VII of these Rules to the County.

b. Sullivan County and other municipal/private Solid Waste Management Facility operators

1. All solid waste shall be subject to inspection by County Solid Waste Management Facility operators to determine facility user compliance with local law, New York State Regulations and these rules. All violations shall be reported to the County Division of Solid Waste office.

2. The Commissioner shall be responsible for notifying those persons in violation of the Local law and these Rules and to execute enforcement proceedings where warranted.

**(609 through 619 purposely reserved)**

**620.** Fee and Recycling Credit Schedule 1

**620.1** Disposal Fees

All persons depositing solid waste at a Solid Waste Management Facility operated by the County shall in addition to the Solid Waste / Recycling Fee pay the following fees as may be amended from time to time by the Sullivan County Legislature:

a) Compacted Solid Waste in Bulk:

$120.00 per ton at Transfer Stations equipped with weight scales with a minimum fee of $20.00 for all loads of 330 pounds or less at Transfer Stations equipped with weight scales.

If there are no scales or the scales are not functioning then a charge of $60.00 per cubic yard with a $30.00 minimum fee for quantities of 1/2 cubic yard or less will be charged. (loads shall be measured by facility attendant and the calculated quantity rounded to the next highest 1/2 cubic yard).

b) Construction & Demolition Debris (C&D) and Bulk Waste:

$120.00 per ton at Transfer Stations equipped with weight scales. There will be a minimum fee of $20.00 for all loads of 330 pounds or less,

If there are no scales or the scales are not functioning, then a charge of $60.00 per cubic yard with a minimum $30.00 fee for quantities of 1/2 cubic yard of less will be

charged. (loads shall be measured by facility attendant and rounded to the nearest 1/2 cubic yard)

A maximum amount of two (2) cubic yards of C&D will accepted at the Transfer Stations which are not equipped with a scale. Any amount in excess of two (2) yards shall be brought to the Monticello Transfer Station during normal operating hours

A maximum amount of four (4) cubic yards of C&D will be accepted at the transfer stations equipped with a scale. Any amount in excess of four (4) yards shall be brought to the Monticello Transfer Station during normal operating hours

c) Individual Drop:

1) One coupon (valued at $3.00) per 1-30 gallon can or bag.

2) Residential per bag disposal is available by coupon book purchase only. Cash is not permitted. Coupon books may be purchased at any county-operated transfer station.

d) Regulated wastes with special NYSDEC permit only, and subject to approval by the Commissioner:

Oil soaked debris and soils, $120.00 per ton, with a minimum fee of $20.00 for all loads of 375 pounds or less,

e) Special Waste Fees:

1) Waste Tires (up to a 19-inch rim size): $3.00 per tire, $300.00 per ton in bulk.
2) Waste Tires (20 inch rim or larger): $30.00 per tire.
3) Refrigeration/Air Conditioning Appliances, $15.00 per unit;
4) Handling Fee for Unseparated Waste: loads of solid waste containing quantities of recyclable items identified in Title III Section 303(f), which are required to be separated from solid waste shall charged a disposal fee two (2) times the applicable rate for solid waste and the charges shall apply to the entire load deposited.
5) Untarped Load Surcharge: A $10.00 surcharge will be applied for any untarped loads being transported into the facility on commercial vehicles.

f) Service fee for issuance of certified weight receipt for vehicles not seeking access to County Solid Waste Disposal and Recycling Facilities shall be $10.00.

h) Handling fee for labor and machinery shall equal the actual cost for removal and remediation of unauthorized waste at the transfer station tipping floor, as determined by the commissioner.

i) Commercial Hauler License Fee: All commercial solid waste haulers (public and private) shall be charged a license fee of $150.00 plus $25.00 per truck.

j) Bulk Scrap Metal and Non-CFC appliances Handling Fee: at the discretion of the Commissioner with the concurrence of the County Manager, based on market conditions and handling costs incurred by the County.

k) Propane tanks, 20 lbs. tanks only: $2.00 each. Tanks greater than 20 lbs. not accepted.

l) Rubble/Aggregate, $120.00 per ton.

m) Select Building Demolition Debris (minimum transaction quantity of 40 cubic yards, $120.00 per ton.

n) Fluorescent Bulbs, $1.00 per bulb

o) CRT TV & monitors, $15 each

p) Single Stream Recycling shall be charged at a rate of $50 per ton for Sullivan County Property owners, municipalities, and business. Residential customers and users tipping less than 300 pounds are exempt from this charge. This rate shall be reviewed and set quarterly by the Commissioner of Public Works

**621.** Compacted Bulk Solid Waste - Calculation of Fees

Unless weighed, the charge to permit holders and contract haulers for depositing compacted solid waste at a County Solid Waste Management Facility shall be based upon a measurement by the facility attendant and the calculated quantity rounded to the next highest 1/4 of the rated truck body capacity.

**622.** Loose Bulk Solid Waste - Calculation of Fees

If unweighed, the quantity of all loose bulk solid waste to be deposited at a County Solid Waste Management Facility shall be determined by the facility attendant's estimated measure of the volume of the load of the vehicle rounded to the nearest 2 cubic yard.

**623.** Required Weighing

If there shall be a scale at a solid waste management facility, the vehicle, conveyance or detachable solid waste container shall be weighted prior to and after deposit of solid waste.

**624.** Minimum Solid Waste Deposit Fee

Any person, not an account customer (permit restriction not withstanding), shall be required to deposit the following minimum fee before proceeding to unload:

| | | |
|---|---|---|
| a) | Trailer or pickup | $ 125.00 |
| b) | Single axle trucks, GVW less than 18,000 lbs. | $1,250.00 |
| c) | Single axle trucks, GVW over 18,000 lbs. | $2,000.00 |
| d) | Tandem axle trucks or tractor trailers | $2,500.00 |

Upon determination of the net weight, any portion of the deposit not required to pay the fee as described in Section 620, will be refunded.

**632.** Payment of Fees, Interest, Suspension and Restrictions of Permit

a) Payment of Fees – Surety Bonds and Statements of Account

Any non-governmental or non-educational entity permit holder wishing to be allowed to accrue charges shall provide the County with a surety bond issued by a licensed company authorized to do business in New York State. The Maximum of the surety bond shall be $50,000.00.

Monthly charges shall only be allowed to accrue to the maximum amount of the surety bond provided to the County. At such time that said limit has been reached, the full amount due shall be paid in 24 hours or the permit restrictions set forth in section 632 (b) (1) shall apply.

All permit holders accruing charges in a 30-day period shall receive a monthly statement of account balance. The statement of account balance will be generated by the close of business on the last day of each month. Said statement shall be accompanied by an official notification stating that payment in full is due within 15 days of the statement date.

b) Permit Restrictions

1. Failure of a permit holder to make payment within fifteen (15) days of the statement date or if the amount added by the surety bond has been reached shall result in the restriction of tipping privileges to a twenty four (24) hours credit basis. Payment of outstanding charges made before the next monthly

billing shall, at the discretion of the Commissioner, constitute grounds for release of restrictions on tipping privileges.

c) Interest. In the event that the statement amount is not paid within the time permitted in subdivision (a) of this section, the balance due shall accrue interest at the rate of 1% for each calendar month or portion thereof that the balance shall remain unpaid.

d) Suspension of Permit for Nonpayment. A permit shall be automatically suspended on the 30th day after the date a statement amount is due and any amount including any accrued interest is unpaid. Such suspension shall continue and tipping privileges shall cease until the date of payment of all amounts due including interest. A period of suspension shall not suspend the accrual of interest to the date of payment. At the option of the Commissioner, the County may declare all amounts due immediately, without regard to the period permitted for payment, after written notice to the permit holder and upon such declaration the permit of such permit holder shall be suspended as herein provided.

**642.** Other Charges

Nothing herein set forth shall be deemed to control fees charged or recycling credits issued by a municipality other than the County at a solid waste management facility, other than the County Landfill, transfer stations and authorized recycling centers.

## TITLE VII

## VIOLATIONS

**701.** Any person who commits a violation of these Rules as herein set forth or any provision of local law, shall be subject to penalties and proceedings as established by said local law.

a) The failure or refusal by any waste generator having received three (3) separate notices within a six month period to separate recyclable materials from its solid waste shall constitute a violation and each subsequent notice thereafter shall constitute a separate violation.

b) The failure or refusal by any private or municipal solid waste collector or hauler to provide a means of curbside separation and collection of recyclables for residential and commercial customers.

c) The failure or refusal by any privately or municipally operated solid waste management facility, located in the County, to require the separation of recyclables from waste to be deposited or processed.

d) The act, by any person, of disposal of solid waste at an unregulated, uncontrolled or unpermitted site in Sullivan County.

e) The act of littering along public highways in Sullivan County by any person.

f) The failure or refusal by any residential or commercial user to comply with any section of these Rules.

g) The act of disposing of any waste defined herein in non-designated areas.

## TITLE VIII

## CRIMINAL, CIVIL AND ADMINISTRATIVE PENALTIES AND ENFORCEMENT

**801.** CRIMINAL PENALTIES. Any person who shall fail to comply with local law or with the rules and regulations adopted pursuant to local law shall be subject to the following criminal penalties:

a) Hazardous or Infectious Waste. Any person convicted of depositing hazardous or infectious wastes at a solid waste management facility shall be guilty of a misdemeanor and upon conviction, each offense shall be punishable by a fine not to exceed $5,000.00 or by imprisonment for not longer than six (6) months, or by both such fine and imprisonment.

b) Each deposit of hazardous or infectious waste shall constitute a separate criminal offense.

**802.** CIVIL PENALTIES

a) Any person who shall violate the local law or applicable rules, now or hereafter adopted, shall be liable to the County of Sullivan for a civil penalty not to exceed $1,000.00 for each separate violation thereof. Each day during which such violation shall continue shall be deemed to be a separate violation.

b) Illegal Dumping. Any person who shall have deposited solid waste in unlawful, uncontrolled and unpermitted disposal sites in violation of these rules and local law, shall be liable to the County of Sullivan for a civil penalty not to exceed $5,000.00 for each separate violation thereof. Each day during which such violation shall continue shall be deemed to be a separate violation.

**803.** These Rules may be enforced by injunction.

**804.** ADMINISTRATIVE PROCEDURES.

a) If the Commissioner shall believe that any person holding a permit has violated these Rules, the Commissioner shall provide the permit holder with a written violation Notice setting forth the factual basis for his belief, and setting forth the modification to the hauler's permit, if any, the period of effectiveness of the permit and shall also set forth a fine to be paid as a result of the violation. The Hauler may seek an administrative review of the charges by providing the Commissioner with a written request within five days of receipt of the Notice. An administrative hearing shall be

held within five business days to determine whether a violation has occurred. If the Commissioner finds from the evidence that a violation has occurred, he may suspend the permit of the Hauler for a period of not more than one hundred eighty (180) days, revoke such permit or license, or impose a fine not to exceed $1,000.00 for each violation, or impose such conditions on suspension or revocation and fine as may be appropriate. In the event a fine is imposed, the permit shall be deemed suspended until payment of such fine. Upon re-application for a permit, the Commissioner may impose such conditions as may be appropriate under the circumstances including, but not limited to, issuance of a provisional or conditional permit revocable upon a determination of subsequent violations of local law or the rules.

b) In the event the Hauler does not ask for an administrative hearing within five days, the Commissioner's determination shall be final. Payment of any fine shall be due within five business days of receipt of the violation.

c) At any hearing conducted by the Commissioner, the respondent may be represented by counsel, may cross examine witnesses, present evidence and subpoena witnesses.

d) CONSENT ORDERS. The Commissioner is hereby empowered to enter into Consent Orders, assurances of voluntary compliance, or other similar documents establishing an agreement with any person responsible for the noncompliance with local law or the Rules. Such orders shall include specific action to be taken by the Hauler to correct the noncompliance within a time period also specified by the Order. Consent Orders shall have the same force and effect as an administrative Violation Notice order.

e) ADMINISTRATIVE OR COMPLIANCE ORDER. Notwithstanding any other provision set forth in these Rules, when the Commissioner finds that a person has violated or continues to violate local law, these rules or a permit, license or order issued thereunder, he may issue an order to the person responsible for the violation directing that, following a specified time period, such permit and/or license held by such person shall be suspended unless the violation is corrected and that there is no reoccurrence of the violation. Orders may also contain such other requirements as might be reasonably necessary and appropriate to address the noncompliance, including the self-monitoring and management practices. The person responsible may, within five days of receipt of such order, petition the Commissioner to modify or suspend the order. Such petition shall be in written form and shall be transmitted to the Commissioner by certified mail, return receipt requested. The Commissioner may:

1) Reject any frivolous petitions,
2) Modify or suspend the order,
3) Request additional information; or

4) Order the petitioner to show cause.

f) CEASE AND DESIST ORDERS. Notwithstanding any other provision of these Rules, when the Commissioner finds that a person has violated or continues to violate local law, these Rules or any permit, license or order issued hereunder, the Commissioner may issue and order to cease and desist all such violations and direct those persons in noncompliance to:

1) Comply forthwith; or
2) Take such appropriate remedial or preventive action as may be needed to properly address a continuing or threatened violation, including halting operations or termination of the violation.

The person responsible may, within five days of receipt of such order, petition the Commissioner to modify or suspend the order. Such petition shall be in written form and shall be transmitted to the Commissioner by certified mail return receipt requested. The Commissioner may:

1) Reject any frivolous petitions,
2) Modify or suspend the order,
3) Request additional information from the user, or
4) Order the petitioner to show cause.

**805.** ADDITIONAL EXPENSES RECOVERABLE. In the event of a judgment in favor of the County in any civil, administrative or criminal action or proceeding, the County may recover its expenses, including reasonable counsel fees, and expert and special service and witness fees incurred in connection with the proof of such violation. The fact that the County shall not have retained counsel shall not be a bar to the collection of such counsel fees, and expert and special service and witness fees and expenses incurred; provided however, that the County shall use a reasonable basis upon which to calculate the cost of services provided by officers and employees of the County.

**806.** COUNTY ATTORNEY. The Sullivan County Attorney is hereby authorized on the request of the Commissioner to appear in any proceeding on behalf of the County to enforce any civil or administrative penalty, order or to undertake the prosecution of any violation or criminal proceeding authorized by local law and these rules.

**807.** COUNTY SHERIFF'S DEPARTMENT. The Sullivan County Sheriff's Department is hereby authorized on the request of the Commissioner to undertake investigative measures and law enforcement procedures for violations of local law and these rules.

## TITLE IX

## SEPARABILITY AND EFFECTIVE DATE

**901.** Separability. If any clause, sentence, paragraph, section or part of these rules shall be adjudged by a court of competent jurisdiction to be invalid, such judgment, decree or order shall not effect, impair or invalidate the remainder thereof, but shall be confined in its operation to the clause, sentence, paragraph, subdivision, section or part thereof directly involved in the controversy in which such judgment, decree or order shall have been rendered and the remainder of these rules shall not be affected thereby and shall remain in full force and effect.

**902.** Effective Date. These rules shall take effect immediately.

SOLID WASTE LOCAL LAW

FILE COPY

2/9-92.

Resolution No. 217

RESOLUTION INTRODUCED BY THE SOLID WASTE MANAGEMENT COMMITTEE

RESOLUTION TO ENACT LOCAL LAW NO. 1 OF 1992

WHEREAS, proposed Local Law No. 1 of the year 1992 entitled, "A local law entitled SULLIVAN COUNTY SOLID WASTE MANAGEMENT LAW OF 1992" was presented to the Board of Supervisors at a meeting held February 13, 1992, at the Supervisors Chambers, County Government Center, County of Sullivan, Monticello, New York, to consider said proposed local law and notice of public hearing having been duly published and posted as required by law, and said public hearing having been held and all persons appearing at said public hearing deeming to be heard having been heard, and

NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors of the County of Sullivan, New York, does hereby enact and adopt Local Law No. 1 for the year 1992, County of Sullivan, State of New York, which local law is annexed hereto and made a part hereof.

Moved by Mr. Boyar

Seconded by Mr. Gaebel

and adopted on motion this 14th of May, 1992.

STATE OF NEW YORK )
)ss.:
COUNTY OF SULLIVAN)

I, JAMES GORMAN, Clerk of the Board of Supervisors of the County of Sullivan County, do hereby certify that I have compared the foregoing copy of a resolution with the original thereof now on file in my office, and that the same is a correct transcript therefrom and of the whole of said original.

WITNESS my hand and seal of said Board this 15th day of May, 1992.

Clerk

(Please Use this Form for Filing your Local Law with the Secretary of State)

Text of law should be given as amended. Do not include matter being eliminated and do not use italics or underlining to indicate new matter.

County
~~City~~
~~Town~~ of .....Sullivan.....
~~Village~~

Local Law No. 1 of the year 19 92

A local law entitled 'SULLIVAN COUNTY SOLID WASTE MANAGEMENT LAW OF 1992.
(Insert title)

Be it enacted by the .....Board of Supervisors..... of the
(Name of Legislative Body)

County
~~City~~
~~Town~~ of .....Sullivan..... as follows:
~~Village~~

## Title I - LEGISLATIVE FINDINGS

### 101. LEGISLATIVE INTENT.

a. Section 27-106 of the Environmental Conservation Law defines the state's solid waste management policy and section 27-107 of such law sets forth the purpose and scope of local solid waste management plans;

b. Section 226-b of the County Law provides in part that a county may appropriate and expend such sums to "provide for the separation, collection and management of solid waste in such county and for that purpose may acquire, construct, operate and maintain solid waste management facilities...."

c. Section 120-aa of the General Municipal Law provides in part that in accordance with the state policy on solid waste management, a municipality adopt, on or before September 1, 1992, a local law to require source separation and segregation of recyclable or reusable materials from solid waste.

d. Section 5010 (c) (8) of the Sullivan County Code provides that the Commissioner of Public Works shall have the power to formulate and implement a program for the collection and sanitary disposal of solid waste.

e. The Sullivan County Board of Supervisors assumed the lead role in examining all alternatives for the disposal of solid waste within Sullivan County, and the Board of Supervisors did also accept the responsibility of developing the most cost effective and environmentally safe solution for the disposal of solid waste in Sullivan County.

f. The Committee on Solid Waste has recommended a county-wide recycling program which shall require the source separation of various recyclable components of the solid waste stream. It is intended that an expanded recycling program of additional materials shall be initiated as the County of Sullivan gains experience and formalizes its recycling procedures.

g. The County of Sullivan's goal is to reuse and to recycle materials such as paper, glass, yard wastes, metals, plastics and other recyclable materials which can be separated from non-recyclable wastes at the source, i.e. at the residence or at the non-residence

where the waste is created. Such reduction and recycling of solid waste is in keeping with the expressed policy of the State of New York to save landfill space, reduce waste disposal problems, and to conserve our precious natural resources.

h. Mandatory recycling will be a new challenge to the residents of Sullivan County; one to be learned and to be improved upon. Education, participation and cooperation are the elements of a successful recycling program, and when the County has a successful recycling program operating, it will be a keystone in the management of the Sullivan County Solid Waste Management Plan. The Sullivan County Solid Waste Advisory Board is an integral part of the educational and monitoring process of the program.

i. In connection with the effort by the County of Sullivan to recycle a substantial component of its solid waste stream, the County of Sullivan may also wish to accept recyclables that are generated from outside of the County for the purposes of marketing same and obtaining the income generated thereby. Sullivan County recognizes that, as an inevitable adjunct to accepting recyclables that are generated outside of the County of Sullivan, a certain small percentage of that which is brought into the County of Sullivan may actually be non-recyclable. The benefit to Sullivan County of the income generated by accepting recyclables from outside of Sullivan County warrants the toleration of the small percentage of non-recyclables that inevitably accompany recyclables (e.g. a bottle coated in a substance rendering a bottle non-recyclable, a non-recyclable bottle or jar cap, etc.).

j. Sullivan County Local Law No. 3 of 1989 is hereby repealed.

102. SHORT TITLE. This local law may be cited as the Sullivan County Solid Waste Management Law of 1992.

## Title II - DEFINITIONS

201. DEFINITIONS.

a. County - shall mean County of Sullivan.

b. Department - shall mean Sullivan County Department of Public Works.

c. Commissioner - shall mean Commissioner of the Department or his designee.

d. Person. - shall mean individual, partnership, group, association, corporation, estate, trust, and municipal corporation.

e. Rules - shall mean Sullivan County Solid Waste Management Rules.

f. Disposal - shall mean the deposit at a solid waste management facility of any permitted or authorized solid waste.

g. Solid waste collector or hauler - shall mean any person who is engaged in the business of collecting, sorting, storing, hauling or otherwise disposing of solid waste.

h. Solid Waste - shall mean all materials or substances discarded or rejected as being spent, useless, worthless or in excess to the owners at the time of such discard or rejection including but not limited to garbage, refuse, industrial and commercial waste, sludges from air and water pollution control facilities or water supply treatment facilities, rubbish, contained gaseous material, demolition and construction debris and offal but not including other sewage and other highly diluted water carried materials or substances and those in gaseous form.

i. Solid waste management facility - shall mean any facility employed beyond the initial solid waste collection process including but not limited to recycling centers, transfer stations, baling facilities, rail haul or barge haul facilities, processing systems, including materials recovery facilities or other facilities for reducing solid waste volume, sanitary landfills, any other landfills, plants and facilities for compacting, composting or pyrolazation of solid wastes and other solid waste disposal, reduction or conversion facilities.

j. County solid waste management facility - shall mean a solid waste management facility operated by or under the supervision of the County.

k. Recyclables - shall mean solid waste that may be recycled or reused and can be recovered from the overall waste stream or as may be designated for source separation by the rules.

l. Source Separation - shall mean segregation of recyclable materials from the solid waste stream at the point of generation for separate collection, sale or other authorized disposition as provided in the rules.

m. Residential User - shall mean any individual who transports, without fee, solid waste, generated at a private residential location, to a county solid waste management facility for disposal and such transport does not exceed at any one time two (2) cubic yards or 2,000 pounds.

n. Commercial User - shall mean all other persons not defined in section 201 (m) of this local law who transport solid waste to a county solid waste management facility for disposal.

o. Components - shall mean paper, glass, metals, plastics, garden and yard wastes and may include other elements of solid waste as may be defined by law or the rules.

## Title III - ADMINISTRATION

301. ADMINISTRATION. The Commissioner shall administer and enforce this local law.

302. POWERS AND DUTIES. The Commissioner or such persons as may be designated by him shall.

a. administer the county solid waste management facilities including days and hours of operation, and supervise personnel;

b. administer the issuance, renewal, suspension and revocation of licenses, permits and passes to all solid waste collectors and haulers for use at any county solid waste management facility or any other solid waste management facility;

c. adopt, modify and amend rules and regulations in accordance with the law, for the operation and maintenance of County Solid Waste Management Facilities; for licensing and regulating solid waste collectors or haulers, and commercial users for implementation of the County recycling program pursuant to law; and for the implementation of this local law, including methods of payment and deferral of payment of fees due the County;

d. propose for approval by the Board of Supervisors, rates and fees for use of solid waste management facilities of the County;

e. investigate violations of this local law and applicable rules and institute appropriate administrative or judicial proceedings with full subpoena power in connection therewith;

f. conduct studies and report the results thereof to the Board of Supervisors;

g. take such other actions as the Board of Supervisors may deem necessary and shall direct.

## Title IV - PROHIBITED ACTIVITIES

401. Unless authorized by the rules or by an order of the Commissioner, no person shall knowingly pick up, haul or deposit solid waste generated outside of Sullivan County at the County Landfill, solid waste transfer station operated by or under the supervision of the County and any other municipally owned or operated landfill or transfer station.

402. Unless authorized by the rules or by an order of the Commissioner, no person shall pick up or haul solid waste and/or recyclables generated inside the County to a solid waste management facility located outside of the County.

403. No person shall deposit solid waste at any solid waste management facility other than at a location and in the manner directed by the employee in charge of such facility.

404. No person shall operate a vehicle at a county solid waste management facility or collect or haul solid waste with a vehicle which does not comply with the rules.

405. No person shall deposit solid waste at any solid waste management facility other than on the days and between the hours established for the operation of such facility or as may be authorized by the Commissioner or the rules.

406. No commercial user shall deposit solid waste at a County solid waste management facility without having a user valid permit or pass.

407. No person shall deposit solid waste at any County solid waste management facility without paying the solid waste deposit fees established therefor.

408. No person, including a solid waste collector or hauler, residential or commercial user, shall fail or refuse to separate solid waste at the source as herein defined or fail, refuse or neglect to separate solid waste into its components as may be provided in the rules.

409. No person shall dispose of any solid waste generated in Sullivan County in any place in Sullivan County except at a solid waste management facility which is entitled to operate as such by permit or order on consent of the New York State Department of Environmental Conservation pursuant to the provisions of Article 27 of Title 7 of the Environmental Conservation Law and permitted by the County of Sullivan under this local law.

410. In accordance with the rules, no person shall leave for collection any solid waste unless it has separated from it at the point intended for collection, all designated recyclable components.

411. In accordance with the rules, no person shall collect, haul, store or transport solid waste generated in Sullivan County unless it has separated from it all designated recyclable components.

412. In accordance with the rules, no person shall dispose of any solid waste generated in Sullivan County at any solid waste management facility in Sullivan County unless such solid waste has had removed from it all designated recyclable components.

413. In accordance with the rules, no solid waste collector or hauler shall, haul, store, collect or transport any solid waste generated in Sullivan County unless such person shall have obtained a license to operate from the County.

414. No person shall dispose of hazardous or infectious wastes, as defined in NYCRR Part 360 Regulations, in the County by depositing such wastes in or at a solid waste management facility.

415. No person shall deposit any solid waste in unregulated, uncontrolled or unlicensed disposal sites in Sullivan County.

## Title V - RECYCLING REQUIREMENTS

501. SOURCE SEPARATION REQUIRED. In accordance with the rules, every person shall be required to separate solid waste that has been left for collection or which is delivered by the generator of such solid waste to a solid waste management facility into recyclable, reusable or other components for which economic markets for alternate uses exist. Economic markets shall have the meaning as may be provided in the General Municipal Law.

502. TITLE TO WASTE. Title to any solid waste deposited at a county solid waste management facility shall vest in the County which may sell and dispose of same on such terms as may be appropriate.

503. FOREIGN WASTE. Notwithstanding anything to the contrary contained in any other local law, resolution or regulation, solid waste, ashes, incinerator residue, special bulky waste, hazardous waste, wood and rubble waste, construction and demolition debris, waste tires and/or regulated waste generated outside of Sullivan County may not be transported into Sullivan County and/or deposited at a Solid Waste Management facility unless authorized by the Rules or by an order of the Commissioner. This shall not, however, be construed to prevent the transportation into Sullivan County and deposit into a Solid Waste Management facility of recyclables by the County or a private entity that has received a permit from the County allowing it to so transport and/or deposit such recyclables.

504. FLOW CONTROL. In accordance with the rules, the Commissioner may execute authority over the flow of solid waste and recyclables gererated within Sullivan County. Such authority includes the right to designate the disposal of solid waste and recyclables at County authorized facilities.

## Title VI - PERMIT AND LICENSING REQUIREMENTS

601. PERMITS REQUIRED. In order to permit the supervision and regulation of the disposal of solid waste, the Board of Supervisors finds and determines that regulation is in the interest of the public health safety and welfare and the that licenses and permits shall be required. The Commissioner is directed to adopt regulations that provide for periodic reporting of such information as may be appropriate in order to determine the amount of solid waste generated in the County, the locations where such waste is disposed of, the method and disposition of recyclables and such other information as may be necessary and appropriate.

602. SOLID WASTE COLLECTOR OR HAULER LICENSE. Every solid waste collector and hauler shall obtain a license to operate in the County unless such solid waste collectors and haulers shall operate solely and exclusively within the territory of a municipality in which solid waste is collected and disposed of and which municipality has adopted regulations which are not less comprehensive than that required by this local law and the rules adopted hereunder.

603. SOLID WASTE MANAGEMENT FACILITY USER PERMIT. Every commercial user shall obtain a permit to haul solid waste to a county solid waste management facility.

604. APPLICATIONS FOR A PERMIT. Any person applying for a permit shall apply for such permit on an application form provided by the County. The Commissioner may require such information as may be appropriate for the permit to be issued. The Commissioner may require such financial information as may be appropriate to permit a determination of financial responsibility of the applicant. An applicant for a permit shall indemnify and hold the County, its officers and agents free and harmless from any and all claims and liability arising from the deposit of any solid waste at a county solid waste management facility. The Commissioner shall require insurance issued by insurance companies licensed by the State of New York and authorized to do business in the State of New York. Excess coverage shall be issued only through brokers licensed by the State of New York. The company issuing the policy shall be of sufficient size and amount of capital to cover the loss insured against. Ratings shall be determined upon review of same as set forth in A.M. Best ratings for the current year. The policies shall have such provisions as the Commissioner shall deem appropriate. A permit shall have a term fixed by the Commissioner. If the term of such permit is in excess of one year, the applicant shall pay the entire permit fee in advance. There shall be a pro-rata refund of the fee paid if an permit holder shall voluntarily surrender

a permit with an unexpired term of more than six(6) months. There shall be no refund paid to a permit holder in the event that a permit shall be suspended or revoked prior to the termination of the term.

605. PASSES. Passes are special permit issued to residential users and persons other than commercial users and solid waste collectors and haulers for limited duration and purposes. Such passes may be issued for any purpose authorized by the rules.

606. FEES. The fees for passes shall be established by the Board by resolution.

## Title VII - CRIMINAL, CIVIL AND ADMINISTRATIVE PENALTIES

701. CRIMINAL PENALTIES. Any person who shall fail to comply with this local law or with the rules and regulations adopted pursuant to this local law shall be subject to the following criminal penalties:

a. Residential Users. Any residential user convicted of violating any provision of this local law or of the rules adopted pursuant to this local law shall be guilty of a violation and upon conviction thereof, shall be punishable by a fine not to exceed $100 for the first offense, $200 for the second offense and $300 for each subsequent offense, or by imprisonment for a term not to exceed 15 days, or by both such fine and imprisonment.

b. Commercial Users; Solid Waste Collector or Hauler. Except as hereinafter set forth, any commercial user or solid waste collector or hauler convicted of violating any provision of this local law shall be guilty of a misdemeanor and, upon conviction thereof, shall be punishable by a fine not to exceed $500 for the first offense, $1,000 for the second offense, and $1,500 for each subsequent offense, or by imprisonment for a term not to exceed 6 months, or by both such fine and imprisonment.

c. Persons Other Than Those Set Forth in sections 701.a. and 701.b. convicted of violating any provision of this local law or of the rules adopted pursuant to this local law shall be guilty of a violation and upon conviction thereof, shall be punishable by a fine not to exceed $200 for the first offense, $300 for the second offense and $500 for each subsequent offense, or by imprisonment for a term not to exceed 30 days, or by both such fine and imprisonment.

d. Criminal Penalty - Hazardous Waste. Any person who shall be convicted of depositing hazardous wastes as defined by the Solid Waste Management Rules at a county solid waste management facility shall be guilty of a misdemeanor and upon conviction, shall be punished by a fine not to exceed $5,000.00 for each offense or by imprisonment for not longer than six (6) months, or by both such fine and imprisonment.

e. Any person convicted of littering transportation routes shall be guilty of a violation and upon conviction thereof, shall be punishable by a fine not to exceed $200 for the

first offense, $300 for the second offense and $500 for each subsequent offense, or by imprisonment for a term not to exceed 30 days, or by both such fine and imprisonment.

f. Each day a violation shall continue in existence shall constitute a separate violation of this local law or of the rules adopted pursuant to this local law.

702. This local law may be enforced by injunction.

703. Civil Penalty. Any person who shall violate this local law or applicable rules, now or hereafter adopted, shall be liable to the County of Sullivan for a civil penalty not to exceed $1,000.00 for each separate violation thereof. Each day during which such violation shall continue shall be deemed to be a separate violation.

704. Civil Penalty - Illegal Dumping. Any person who shall have deposited solid waste in unlawful, uncontrolled and unpermitted disposal sites in violation this law shall be liable to the County of Sullivan for a civil penalty not to exceed $5,000.00 for each separate violation thereof. Each day during which such violation shall continue shall be deemed to be a separate violation.

705. ADMINISTRATIVE PROCEDURES.

a. If the Commissioner shall believe that any person holding a permit has violated these rules or a hearing shall be requested pursuant to section 705.d., 705.e., the Commissioner, or his designee, on eight (8) days written notice, may hold a hearing to determine if a violation occurred. If the Commissioner shall find from the evidence that a violation shall have occurred, he may suspend the permit of the holder for a period of not more than one hundred eighty (180) days, revoke such permit, or impose a fine not to exceed $1,000.00 for each violation, or impose such conditions on suspension or revocation and fine as may be appropriate. In the event a fine is imposed, the permit shall be deemed suspended until payment of such fine. Upon reapplication for a permit, the Commissioner may impose such conditions as may be appropriate under the circumstances including but not limited to issuance of a provisional or conditional permit revocable upon a determination of subsequent violations of this local law or the rules.

b. At any hearing conducted by the Commissioner, the respondent may be represented by counsel, cross examine witnesses, present evidence and subpoena witnesses.

c. CONSENT ORDERS. The Commissioner is hereby empowered to enter into Consent Orders, assurances of voluntary compliance, or other similar documents establishing an agreement with any person responsible for the noncompliance with this local law or the rules. Such orders shall include specific action to be taken by the User to correct the noncompliance within a time period also specified by the order. Consent Orders shall have the same force and effect as an administrative order.

d. ADMINISTRATIVE OR COMPLIANCE ORDER. When the Commissioner finds that a person has violated or continues to violate this local law or a permit, license or order issued thereunder, he may issue an order to the person responsible for the violation directing that, following a specified time period, such permit and/ or license held by such person shall be suspended unless the violation is corrected and that there is no reoccurrence of the violation. Orders may also contain such other requirements as might be reasonably necessary and appropriate to address the noncompliance, including the self-monitoring and management practices. The person responsible may, within 15 days of receipt of such order, petition the Commissioner to modify or suspend the order. Such petition shall be in written form and shall be transmitted to the Superintendent by certified mail, return receipt requested. The Commissioner may:

i. Reject any frivolous petitions,
ii. Modify or suspend the order,
iii. Request additional information from the user, or
iv. Order the petitioner to show cause in accordance with Section 705.a..

e. CEASE AND DESIST ORDERS. When the Commissioner finds that a person has violated or continues to violate this local law or any permit, license or order issued hereunder, the Commissioner may issue an order to cease and desist all such violations and direct those persons in noncompliance to:

(1) Comply forthwith
(2) Take such appropriate remedial or preventive action as may be needed to properly address a continuing or threatened violation, including

halting operations or terminating the violation.

The person responsible may, within 15 days of receipt of such order, petition the Commissioner to modify or suspend the order. Such petition shall be in written form and shall be transmitted to the Commissioner by certified mail return receipt requested. The Commissioner may:

i. Reject any frivolous petitions,
ii. Modify or suspend the order,
iii. Request additional information from the user, or
iv. Order the petitioner to show cause in accordance with Section 705.a..

706. ADDITIONAL EXPENSES RECOVERABLE. In the event of a judgment in favor of the County in any such civil, administrative or criminal action or proceeding, the County may recover its expenses including reasonable counsel fees, and expert and special service and witness fees incurred in connection with the proof of such violation. The fact that the County shall not have retained counsel shall not be a bar to the collection of such counsel fees, and expert and special service and witness fees and expenses incurred, provided however, that the County shall use a reasonable basis upon which to calculate the cost of services provided by officers and employees of the County.

707. COUNTY ATTORNEY. The Sullivan County Attorney is hereby authorized on the request of the Commissioner to appear in any proceeding on behalf of the County to enforce any civil or administrative penalty, order or to undertaken he prosecution of any violation proceeding of whatsoever kind authorized by this local law.

708. ALTERNATIVE REMEDIES. The County shall have the right to pursue civil penalties or administrative remedies regardless of whether a criminal proceeding has been or is to be commenced.

801. Paragraph (8) of subdivision (c) of section 5010 of the Sullivan County Code be and the same is hereby amended to read as follows.

"5010 ***

"(c) ... The Commissioner of Public Works:

***

"(8) Shall be responsible for the formulation and implementation of a program for the collection and sanitary disposal of solid waste in the County of Sullivan, including the possible integration of existing operations within the County, both public and private, with new and comprehensive county-wide facilities for accepting, hauling, processing, separating, selling and disposing of solid waste, as may be authorized by the Board of Supervisors, supervise the operation of all such facilities, equipment and personnel, analyze the operation and make periodic reports of the same together with recommendations to the Sullivan County Board of Supervisors, adopt, amend and modify rules and regulations for the use, operation and maintenance of such facilities and other than establishment of fines, penalties, costs and fees, which said rules shall be effective 30 days after the date same shall be filed with the Clerk of the Board of Supervisors."

802. The Sullivan County Solid Waste Management Rules adopted by the Board of Supervisors pursuant to Resolution 299 of 1983, as amended, shall be promulgated as Rules and Regulations of the Commissioner of Public Works and may thereafter be amended, modified by the Commissioner of Public Works. If such regulations are adopted without change and filed within 30 days after the effective date of this local law, such regulations shall become effective on the date same are filed with the Clerk of the Board of Supervisors but any amendment, addition or modification thereof shall become effective 30 days after same shall have been filed with the Clerk of the Board of Supervisors. Any regulation adopted by the Commissioner prior to the date upon a provision of this local law shall become effective shall, notwithstanding such provision, be effective with respect to the implementation of this local law and shall be effective with respect to such provision of this local law thereafter taking effect.

## Title IX - MISCELLANEOUS

901. Separability. If any clause, sentence, paragraph, section or part of this local law shall be adjudged by any court of competent jurisdiction to be invalid, such judgment, decree or order shall not affect, impair or invalidate the remainder thereof but shall be confined in its operation to the clause, sentence, paragraph, subdivision, section or part thereof directly involved in the controversy in which such judgment, decree or order shall have been rendered and the remainder of this local law shall not be affected thereby and shall remain in full force and effect.

902. Effective Date. This local law shall take effect upon its filing with the Secretary of State except that Title V shall become effective on September 1, 1992.

(Complete the certification in the paragraph which applies to the filing of this local law and strike out the matter therein which is not applicable.)

1. (Final adoption by local legislative body only.)

I hereby certify that the local law annexed hereto, designated as local law No. 1 of 19 92 of the County ~~City~~ ~~Town~~ ~~Village~~ of Sullivan was duly passed by the Board of Supervisors (Name of Legislative Body) on May 14 19 92 in accordance with the applicable provisions of law.

2. (Passage by local legislative body with approval or no disapproval by Elective Chief Executive Officer,* or repassage after disapproval.)

I hereby certify that the local law annexed hereto, designated as local law No. ..... of 19..... of the County / City / Town / Village of ..... was duly passed by the ..... (Name of Legislative Body) on ..... 19 ..... not disapproved / and was approved / repassed after disapproval by the ..... Elective Chief Executive Officer*

and was deemed duly adopted on ..... 19 ....., in accordance with the applicable provisions of law.

3. (Final adoption by referendum.)

I hereby certify that the local law annexed hereto, designated as local law No. ..... of 19 ..... of the County / City / Town / Village of ..... was duly passed by the ..... (Name of Legislative Body) on ..... 19 ..... not disapproved / and was approved / repassed after disapproval by the ..... Elective Chief Executive Officer*

on ..... 19 ..... Such local law was submitted to the people by reason of a mandatory / permissive referendum, and received the affirmative vote of a majority of the qualified electors voting thereon at the general / special / annual election held on .....19 ....., in accordance with the applicable provisions of law.

4. (Subject to permissive referendum, and final adoption because no valid petition filed requesting referendum.)

I hereby certify that the local law annexed hereto, designated as local law No. ..... of 19 ..... of the County / City / Town / Village of ..... was duly passed by the ..... (Name of Legislative Body) on ..... 19 ..... not disapproved / and was approved / repassed after disapproval by the ..... Elective Chief Executive Officer*

on ..... 19 ..... Such local law was subject to a permissive referendum and no valid petition requesting such referendum was filed as of ..... 19 ..... in accordance with the applicable provisions of law.

---

*Elective Chief Executive Officer means or includes the chief executive officer of a county elected on a county-wide basis or, if there be none, the chairman of the county legislative body, the mayor of a city or village or the supervisor of a town where such officer is vested with power to approve or veto local laws or ordinances.

5. (City local law concerning Charter revision proposed by petition.)

I hereby certify that the local law annexed hereto, designated as local law No. ..... of 19..... of the City of ..... having been submitted to referendum pursuant to the provisions of §36 / §37 of the Municipal Home Rule Law, and having received the affirmative vote of a majority of the qualified electors of such city voting thereon at the special / general election held on ..... ..... 19..... became operative.

6. (County local law concerning adoption of Charter.)

I hereby certify that the local law annexed hereto, designated as local law No. ..... of 19..... of the County of ....., State of New York, having been submitted to the Electors at the General Election of November ....., 19....., pursuant to subdivisions 5 and 7 of section 33 of the Municipal Home Rule Law, and having received the affirmative vote of a majority of the qualified electors of the cities of said county as a unit and of a majority of the qualified electors of the towns of said county considered as a unit voting at said general election, became operative.
(If any other authorized form of final adoption has been followed, please provide an appropriate certification.)

I further certify that I have compared the preceding local law with the original on file in this office and that the same is a correct transcript therefrom and of the whole of such original local law, and was finally adopted in the manner indicated in paragraph .....1..... above.

Joan Johnson

Clerk of the County legislative body ~~City, Town or Village Clerk or officer designated by local legislative body~~

Date: May 14, 1992

(Seal)

(Certification to be executed by County Attorney, Corporation Counsel, Town Attorney, Village Attorney or other authorized Attorney of locality.)

STATE OF NEW YORK
COUNTY OF ..SULLIVAN.....

I, the undersigned, hereby certify that the foregoing local law contains the correct text and that all proper proceedings have been had or taken for the enactment of the local law annexed hereto.

Maureen Mealy
Signature

County Attorney
Title

Date: May 14, 1992

County / ~~City~~ / ~~Town~~ / ~~Village~~ of .Sullivan.....

# APPENDIX B: SCS ORGANICS MANAGEMENT PLAN

# Organics Management Plan

Sullivan County Department of Solid Waste and Recycling
91 Landfill Drive
Monticello, New York 12701

SCS ENGINEERS

13203021.09 | April 30, 2021

4 Executive Boulevard
Suite 303
Suffern, NY 1090
845-357-1510

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# EXECUTIVE SUMMARY

Sullivan County (County) engaged SCS Engineers of New York, PC (SCS) to develop an organics management plan in order to manage organic material locally, rather than exporting it for disposal. The County had identified diversion of the organic component (e.g., food waste, yard waste) of the County's solid waste stream as a means to reduce the County's greenhouse gas (GHG) emissions. The New York State Climate Smart Communities program funded this project. SCS teamed with the Institute for Local Self-Reliance (ILSR) and Naturcycle (collectively, the SCS Team) to undertake the work.

## Feasibility Study

In April 2019, we prepared an organics management feasibility study, which considered diversion of organics from residential, commercial and institutional generators, and included a technology review for capture/collection and processing of organics. As part of the feasibility study, we examined best practices nationwide. The complete feasibility study is included in Appendix B.

### Waste Analysis

Waste composition information helps municipalities plan waste reduction programs and policies, develop waste diversion and recycling programs, and conserve money and resources. Due to the limited budget, a comprehensive seasonal waste composition study, with field sampling, was not feasible for this project. Instead, we relied on available waste composition data to identify the range of organic materials (e.g., food scraps, yard trim, and compostable paper) present in the waste stream.

We used the New York State Department of Environmental Conservation (NYSDEC) planning tool and 2017 County waste disposal and diversion tonnages to estimate the County's waste composition. According to this tool, organic material represents 17.7 percent of the County's waste (i.e., 13.3 percent food and 4.5 percent yard waste). Additionally, compostable paper is estimated to be 6.7 percent of the waste stream. Thus, 24.4 percent of the County's municipal solid waste (MSW) is estimated to be compostable.

The County manages about 44,000 tons per year of MSW for disposal (does not include recycling quantities). The County's MSW disposal rate is calculated as 3.1 pounds per capita per day (lb/cap/day). Based on the NYSDEC planning tool and recent waste composition studies, compostable materials in the MSW disposal stream are estimated to be approximately 25 percent, or 11,000 tons per year. The capture rate of the compostable materials will vary, largely depending on the programs that the County employs to divert compostable material from the MSW disposal stream.

Based on information from Ulster County and others, and using a capture rate ranging from 5 percent to 35 percent, we recommend that the County plan for recovery of 500 tons of organic materials per year initially, with a possible future increase to 4,000 tons of organic materials per year.

### Collection/Consolidation of Organic Materials

For organics materials that are not managed at home, at a business, or within a community, the County needs to provide a means to collect or consolidate the materials. Once collected and

consolidated, the organic material can be directed to a centralized compost facility. For residential organics, the County would need to rely on food scrap drop-off locations, since curbside collection is limited within the County.

Nationally, a survey conducted by ILSR from June to November 2017, on behalf of BioCycle, identified 67 food scrap drop-off programs servicing 318 communities. The survey found that 6.7 million households have access to drop-off sites for source-separated food scraps. Drop-off sites range from seasonal farmers' markets (typically open one day per week) to staffed multi-material recycling depots (typically open 7 days per week). There are numerous food scrap drop-off programs that are operating successfully in New York.

We recommended that the County implement a drop-off program (i.e., Phase 1) to capture the residential food scrap stream, at a minimum. The County should consider acceptance of yard waste as part of this drop-off program as well. Possible locations to consider include any or all solid waste transfer stations/residents' convenience centers and seasonal farmer's markets, among others. We recommended that the first drop-off location for food scraps be located at the residents' convenience center in Monticello.

Table 1. Phase 1 Cost Estimate: Pilot Program for Residential Drop-off

| Item | Total |
|---|---|
| Home Compost Startup Kits | $14,000. |
| Transfer Stations Transport Toters | $3,000. |
| Compostable bag inventory for resale | $4,500. |
| Advertising, Promotion & Education | $5,000. |
| Contingency | $3,500. |
| Total | **$30,000**. |

## Compost Technology

We evaluated composting technologies for implementation by the County at a centralized location. The "2017 State of Organics Recycling in the U.S."[1] snapshot survey found a total of 4,713 composting facilities. Yard trimmings composting represents the largest number of operations in the U.S.: 2,698 in total or 57 percent of all facilities in the U.S. There were 249 composting sites that process yard trimmings and food scraps, and 620 facilities that process multiple organics, which include feedstocks such as yard trimmings, food scraps, livestock manure and industrial organics. Thus, 869 compost facilities included in the survey accept food scraps.

The composting process is somewhat forgiving in practice, so it is not always necessary to meet ideal conditions for making good quality compost. However, the better the system is designed and operated, the better and more consistent the product will be. A good quality compost product makes a valuable soil amendment due to its high organic matter content and other characteristics.

[1] BioCycle Magazine, *The State of Organics Recycling*, October 2017.

Potential environmental issues associated with composting, which require management, include the following:

- **Odors:** Odor is the primary concern when handling organic materials, such as food scraps. Odors can be an issue during receiving/pre-processing and during active composting.

- **Water**: Stormwater and contact water must be managed. Water management systems, such as stormwater basins or direct connections to landfill leachate collection piping, may be needed to meet regulatory requirements.

We recommended that the County implement a hybrid compost system (i.e., Phase 2). The recommended system includes a covered aerated static pile (ASP) compost system for the first four weeks, followed by windrow composting for four months. Benefits of a hybrid system are as follows:

- Odors and volatile emissions are minimized with covered ASP systems. The covered ASP system is recommended for the first phase of processing, when the potential for odors is the highest.
  - Covered ASP systems have a relatively small footprint and fast process time.
  - Excessive moisture due to rainfall or snow do not affect covered ASP systems.
  - Contact water is minimized with covered ASP systems.

- After the first four weeks, the materials can be cost-efficiently processed in open windrows.
  - Windrow turning serves to: mix and break up material; aerate the windrow; and, release excess moisture.
  - Turned windrows are a versatile system that can be easily adjusted to accommodate changing conditions.
  - Windrow turning has only modest operation and maintenance requirements.

As indicated above, we expect that the County will recover about 500 tons of organics per year initially, with a possible future increase to 4,000 tons of organics per year (i.e., all in addition to organics currently diverted). Thus, we recommended that the initial compost facility be sized and built to handle 2,000 tons of organics per year.

## Proposed Site

We evaluated siting the compost facility at one of the County's existing waste management facilities. We focused on the County property at the Monticello complex, especially land cleared of trees. We initially prepared a conceptual layout for the parcel next to the transfer station, but then decided to focus on the closed Village of Monticello Landfill (VOM Landfill). Our complete siting letter is included in Appendix C.

We assessed the potential for operating a food scrap compost facility on the closed VOM Landfill. This site is adjacent to the existing County Solid Waste & Recycling offices and scale house. We reviewed and summarized regulations governing use of the VOM Landfill for composting, and measures that would be required to protect the existing Landfill final cover system.

The final cover system over the VOM Landfill was installed in 2000 as a soil cap system, utilizing low permeability soils. The final cover system includes the following layers, listed from top to bottom:

- 6 inches of topsoil with vegetation (i.e., grass);
- 24 inches of barrier protection soil; and
- 18 inches of low permeability soil.

The final cover system also includes a leachate collection toe-drain and a landfill gas (LFG) collection system. Two stormwater detention ponds were constructed for sediment and erosion control during the construction of the final cover system and continue to serve as stormwater detention ponds for the final cover system. The ponds were lined with 40 mil HDPE geomembrane. Construction of the final cover system was certified in a report submitted to NYSDEC and dated May 2001. The VOM Landfill is relatively flat, which is conducive to post-closure utilization as a compost facility.

## Regulatory Review

- We reviewed regulations under 6 NYCRR Part 361-3, which regulates food scrap composting facilities, to confirm whether these regulations would permit this type of composting operation at the VOM Landfill. The VOM Landfill is a good site for the compost facility, as it meets the following regulatory requirements:
  - **Facility siting:** The VOM Landfill is more than 200 feet from the nearest residence, place of business, public contact area and surface water body. The facility would be designed to maintain at least 25 feet buffer to drainage swales surrounding the Landfill. Pending confirmation during design, the facility would be located more than 200 feet from the nearest potable water well.

  - **Stormwater control:** The VOM Landfill includes a system of stormwater swales and stormwater detention basins. The composting facility would be designed so that stormwater drains into the existing VOM Landfill stormwater system, with appropriate pre-treatment measures as necessary.

  - **Leachate control:** Leachate from the covered ASP system would be collected separately from stormwater, and drained into the existing VOM Landfill leachate collection system.

  - **Facility surfaces:** The VOM Landfill already has 18 inches of low permeability soil as part of its existing final cover system. Within the footprint of the composting facility, existing vegetation and topsoil would be removed. If required by NYSDEC, an additional 6 inches of low permeability soil could be placed to comply with the NYSDEC 2-foot low permeability soil surface requirement. The final closure certification report for the VOM Landfill indicated that the permeability of the existing low permeability soil cover ranged from $1 \times 10^{-7}$ to $9.29 \times 10^{-8}$ cm/s, which meets the regulatory permeability requirements.

  - **Enclosures:** Incoming food scraps, prior to mixing and placement in the covered ASP system, must be kept enclosed. A fabric structure could be used for receipt and mixing of food scraps with wood chips. Material delivery would be less than 100 tons per day, which would avoid the requirement to enclose the entire composting system.

Prior to proceeding with the proposed compost facility, the County should discuss all proposed final cover system modifications with NYSDEC to confirm acceptability.

# Conceptual Commercial Compost Facility

A conceptual composting system layout is included in Appendix D, which is based upon the following criteria:

- Incoming feedstock receipt is adjacent to the access roadway to minimize disturbance within the Landfill/composting facility, and to expedite vehicular turnaround.

- The flow of materials would be as follows, with corresponding areas located adjacent to each other so as to minimize materials handling:
  - Incoming feedstock (e.g., food scraps, wood chips, leaves) receipt
  - Mixing of feedstock materials
  - Phase I composting in covered ASP system (located adjacent to scalehouse for proximity to electrical service)
  - Phase II composting in open windrows
  - Compost screening
  - Compost curing
  - Finished compost stockpiling

The layout in Appendix D is sized to manage 2,000 tons of diverted organics per year plus 3,000 tons of leaves/wood chips. There is additional space available on the VOM landfill site for future expansion of this compost facility.

## Construction Details

Site preparation would include removal of existing vegetation and topsoil (i.e., top six inches) within the compost facility footprint. The existing barrier protection soil would be compacted and remain in place to protect the low permeability soil surface. Facility surfaces, by area, would include the following:

- Covered ASP: 11,100 square feet of concrete (6 inches thick; 12 inches of stone);

- Feedstock receipt: 4,000 square feet of asphalt (4.5 inches thick; 8 inches of stone);

- Windrows: 37,800 square feet of crushed stone/asphalt millings (12 inches thick); and,

- Stockpiles and roads: 50,000 square feet of crushed stone/asphalt millings (12 inches thick).

In the covered ASP area, the aeration trench would also serve as a contact water collection trench. Leachate would drain to a water trap and then into the existing VOM Landfill leachate collection system.

The existing VOM Landfill LFG collection system (including five (5) LFG wells and isolation valves, with stem extension risers and gear operators) would be modified. The LFG well casings would be cut off below grade and connected directly to the lateral, which extends to the perimeter LFG header pipe.

At locations where vehicles enter and leave the Landfill, culverts would be installed to maintain stormwater flow along the perimeter swales.

The covered ASP system would require 480-volt, 3-phase electric power. Electric power could be extended to the ASP system from the existing scalehouse.

## Equipment and Structures

The following equipment would be required:

- Covered ASP system: The SG Bunker™ System would include four GORE® Covers, which are 50 feet length x 22 feet width x 10 feet height. Other features would include:
  - Control system;
  - Aeration system with in-ground trenching;
  - Bunker cover fastening system; and
  - Portable, tow-behind cover winder.

- Mixer: A truck-mounted mixer, with a volume of 10-15 cubic yards. A used truck is included in our construction cost estimate. The new mixer would be equipped with a rear discharge conveyor system, capable of discharging material at a height of about 8 feet.

- Turner: Komptech provided pricing for their model X4500 turner, which would allow for 14.75 feet wide by 8 feet high windrows.

- Trommel screen.

A fabric-covered structure would be required for the feedstock receipt and mixing area. The structure footprint would be 56 feet by 65 feet. An end wall would be provided on one end and a fabric door on the other end (22 feet by 14 feet). A personnel door would also be included.

## Cost Estimate

Our construction cost estimate for Phase 2 is summarized as follows:

Table 2. Phase 2 Cost Estimate: Commercial and Residential Compost Facility

| Item | Total |
|---|---|
| Mobilization and Close-out | $27,000. |
| Subgrade Preparation | $38,000. |
| Final Grading and Surfaces | $355,000. |
| Equipment and Structures | $1,038,000. |
| Utilities and Site Restoration | $35,000. |
| Contingency | $100,000. |
| | **$1,593,000.** |

## Marketing Plan

In May 2020, the SCS Team prepared a marketing plan for the finished compost. There are many different potential markets for the finished compost. The County is best served by producing finished compost suitable for use as a soil amendment, New York State Department of Transportation (NYSDOT) projects and top-dressing applications. The complete marketing plan is included in Appendix E.

Finished compost testing can add value to a compost program. The County should enroll in the US Composting Council Seal of Testing Assurance program, once a compost facility is built and is operating.

Some states and municipalities have instituted regulations requiring the use of compost for certain building projects. We recommend that the County coordinate with its various departments to consider a similar requirement.

We recommend that the County initially use a broker to facilitate compost sales.

We recommend that the County contact various parties to discuss and verify potential market conditions and opportunities, including the following:

- County Department of Planning, Community Development and Real Property.
- County Department of Public Works, including review of the department's typical material specifications.
- County Department of Parks, Recreation and Beautification.
- County Department of Sustainable Energy
- Resorts World and Bethel Woods.
- Golf courses within the County.

## Public Outreach and Education

At the food scraps drop-off locations, the County should encourage residents to place food scraps in 64-gallon carts, which will be placed by the County at the locations. We recommend that the County provide a source of "carbon" or "browns" at the locations that participants can use to cover the food scraps they place in the carts. Use of "browns" for cover minimizes nuisance odors, vectors, and helps to absorb liquid. Until the County develops its own compost facility, the County would haul the collected materials on a weekly basis from each location to Ulster County.

County staff developed a public outreach and education plan (see Appendix A). This plan includes a Phase 1 pilot project, whereby residents could drop-off materials at any transfer station. The plan also includes a Phase 2 commercial compost facility and additional detail on necessary outreach and education.

In June 2020, the SCS Team prepared a letter (see Appendix A) providing suggestions for public outreach and educational components related to implementation of food scrap drop-off programs at

the County's transfer stations/residents' convenience centers. We also contacted two local, currently-operating composting facilities – Community Composting Company and Ulster County's Grow Ulster Green site. We confirmed that these two facilities could process food scraps collected by the County, and received information regarding their requirements for acceptable materials receipt.

In our June 2020 letter, we also provided samples of signage used at food scrap drop-off sites in other communities for your consideration. Signage at the drop-off locations is important to educate participants on acceptable and unacceptable materials, and the steps involved with the drop-off process. The County has also obtained outreach tools from Scarsdale's program.

We also provided sample outreach documents from various communities with food scrap drop-off programs. We recommend the following efforts:

- Update the County website recycling page to include food scrap recycling and the following:
  - Link to How-To Guide
  - Link to How-To Video
- Make start-up guides available at all transfer stations/residents' convenience centers;
- Send press release to community and local media, and place articles in local newspapers, such as the Sullivan County Democrat, Times Herald Record and The River Reporter;
- Promote and participate in local radio interviews, including Thunder 102/Bold Gold Media, WJFF, WPDH;
- Conduct program launch ceremony with local elected officials and others who represent County (e.g., Legislator, State Assembly people, State Senators);
- Include article in County Manager E-Newsletter; and
- Make periodic announcements at County Board Meetings.

## Staff Training

The County has outlined a training plan for transfer station/residents' convenience center staff, which would include in-person/virtual instructions about the drop-off program (see Appendix A). Topics should include the following:

- Acceptable and unacceptable materials;
- Cart placement and management;
- Reasons for collection of residential organics, including prior to construction of County compost facility; and
- How this initial effort will lead to a larger effort in the future.

## Next Steps

Based on the discussion above, we recommend the following:

1. Apply to Ulster County Resource Recovery Agency to allow delivery of food scraps to its Organics Recovery Facility (see form in Appendix A);
2. Meet with NYSDEC to discuss the proposed Phase 2 compost facility;
3. Purchase Phase 1 supplies and begin operation of food scrap drop-off locations at select locations;
4. Obtain grant money to fund construction of the Phase 2 compost facility;
5. Prepare construction-level design documents for the Phase 2 compost facility; and,
6. Construct and operate the Phase 2 compost facility.

# Appendix A

# Public Outreach and Education

# Sullivan County Municipal Organics Program Implementation & Education Plan 120220a

## 2021-2023 Sullivan Co. Compost Program Budget Amount: $24,000.

## PHASE I

Pilot Project, residentially-generated food scraps accepted voluntarily at all Transfer Stations.

## Setup and Operations – Pilot Residential Program for +/- 400 Households:

Monticello Transfer Station (provisions for 6 SC plus Towns of Bethel & Neversink stations TBD)
Drop-off Site Implementation

- Setup
- Operations
- Municipal Program Information / Education – Customer Training & Enrollment
- Outreach / Publicity

Drop-off Site Setup

- Order **20** TS bins (64-gallon green organics Toters with latches) for drop-off site - $125 ea / $2,500
- Order compostable liner bags (65-gallon) for Toters - $500
- Order and Mount signage for drop-off site - $400
- Prepare drop-off site as needed (e.g. barriers / concrete blocks for walls, etc.) - $TBD
- Set up SC self-haul of material to Ulster County RRA weekly / or contract for private weekly carting
- Education walk through operations with Dept. of Solid Waste & Recycling Staff:
    - Line all Toters with compostable liner bags
    - Keep 2 Toters upfront for Customers to use
    - As bins fill up, or after 1-2 days, wheel bins to side until weekly pickup. Bungee cord Toters shut
    - Bring empty Toters to Customer Collection Area as needed

Materials Setups

- Order Materials for Starter Kit (Countertop Pails, Larger Bins, Compostable Bags, Guides, Stickers for Bins – 400 @ $50 ea., $20,000)
- Order cases of extra bags for sale (3-gallon [200 rolls @ $2 ea/$400]and 13-gallon [200 rolls @ $2 ea./$400] sizes ) $800
- Assemble Customer Enrollment Kits (Instructions, Stickers and Customer Bin packs)
- Create / print starter kit signup sheets
- Determine Customer Point-of-Sale Kit Pricing of starter kits and bags in municipal fee schedule (if required…)

Con't.

- DETERMINE CUSTOMER REENROLLMENT & KIT DISTRIBUTION METHODS – 400 HOUSEHOLDS (At Transfer Stations - Pre-Order & Pick Up…)
- ESTIMATED BUDGETARY STARTUP MATERIAL COSTS = $23,480

Municipal Program Information / Education

- Update municipal website recycling page to include food scrap recycling (include link & "Thank You" to acknowledge Village of Scarsdale Program)
  - Include link to How-To Guide on website (make available in several languages – additional cost?)
  - Include links to how-to video on website
- Make start-up guides available at all Transfer Stations
- Set program start date – TENTATIVELY OCTOBER 1, 2020…!
- Press Release – draft and send to community and local media

## Outreach and Publicity

Publications – Announcements, Articles, etc. – See developed graphics items

- Articles in local newspapers and online sites – SC Democrat, TH Record, The River Reporter
- Supporters could write op-eds
- Dan Hust – Publicity, taped news releases, etc.
- Local radio interviews – Thunder 102/Bold Gold Media, WJFF, WPDH
- Launch Ceremony with local elected officials and others who represent Sullivan Co. (County Legislator, State Assembly, State Senate, etc.)
- School Admin. announcement, E-newsletters to parents
- County Manager E-Newsletter
- Periodic announcements by our Legislative Chair at County Board Meetings
- Update emails to residents that have signed up
- Social Media: Post updates on local sites

Banners, Flyers, etc.

- Banner at high visibility Town & SC location(s)
- Demonstration starter kits at SC GC, Town Halls, Recycling Center and Libraries with informational flyer
- Signage & educational flyers for Transfer Stations
- Flyer on municipal web sites / community pages and Libraries
- Flyer included in tax bills mailed to all residents
- Updated Recycling Flyer for all residents to include food scrap recycling information

Con't.

Local Organizations – Example Presentations:

- Rotary Clubs
- SLAC Seniors Group
- Boys & Girls Club of Sullivan County, local Girls Scouts and Boy Scouts
- Local Houses of Worship
- Local Real Estate Offices (several purchased a stock of starter kits to give out to new homeowners as a gift)
- School PTA Meetings
- Local pre-schools

Outreach Examples – Tabling Events

- Libraries (various days)
- Municipal Offices
- Town Events (fireworks, parades, etc.)
- School Events (back to school picnics, spring carnivals, talent shows and plays, etc.)
- Sporting events (kids sports where parents are watching on the sidelines)

**Compost Giveback Day**

- Annually (optimally around Earth Day) Sullivan County acquires 40 cubic yards of finished compost from UCRRA / compost facility and residents can come that week to pick up compost (2 – 5-gallon buckets per participant) until supplies run out
- Open to any resident (don't need to participate in food scrap recycling)
- Volunteers staff the event to answer questions and sign up new participants

## PHASE II

Commercial-scale aerated windrow municipal food and yard waste compost facility at 91 Landfill Drive.

## Develop Commercial Compost Facility:

Monticello Transfer Station Commercial Receiving & Processing Site Implementation

- Setup
- Staff Visits to Ulster Co. RRA, Community Compost and Delaware Co. Co-Compost Facilities.
- Methodology, waste dynamics training for staff – Recycling Coordinator
- Operations
- Municipal Program Information / Education – Customer Training & Enrollment
- Outreach / Publicity

Con't.

# Sullivan County Organics Management Plan
# Staff Education Component Module

Phase 1. Residential Food Waste Drop Off at Transfer Stations

Initially as the Sullivan Co. Organics Management Program ramps up to full implementation a pilot phase, voluntary residential organics collection effort will be established at SC Recycling & Transfer Stations. Acceptable material (household food waste; no plastics/bioplastics, coated paper or serviceware) will be accepted in 64-gallon toters placed at TSs. Dept. of Solid Waste & Recycling will contract for the acceptance of said organics with existing, neighboring compost programs, pick up and haul said materials from each drop off station on a weekly basis. Empty toters will be rinsed and re-deployed for additional pick ups.

Staff Training: Provide staff with in-person instructions (acceptable vs. non-acceptable materials, placement, and collection/destination/processing info.) about Program; why residential organics will be collected initially and how this Phase 1 effort will develop into a larger effort going forward. Provide a cut sheet for staff and participant reference. Goal: recruit sufficient participants for Phase 1 evaluation & development. Insert ILSR Items Here.

School Education Packet: Provide brief one – two page packet on Wastestream Organics, how they affect us and what can be done at home to minimize disposal of household organics (better food management/use preservation, backyard composting and residential drop off of unwanted organics at designated collection facilities [Transfer Stations]). Footnote – Add information regarding future development of commercial organics facility; schools & institutions should be prepared to segregate organics and send to commercial facility. Insert ILSR Items Here.

Public Outreach – Social media, online & print advertisements, radio segments, workshops/tours/school groups & classroom presentations. Residents will sign up via opt-in membership and receive training materials and a voucher for a fixed quantity of compost sourced from destination processing partner (most likely 1-2 Cubic Feet of mature compost) as a thank you for contributing feedstock organics to the program. Insert ILSR Items Here.

**Pricing:** Zero tip fee for Phase 1 properly sorted residential organics.

Phase 2. Commercial Organics facility and operations

Residential food waste makes up only a portion of potentially recoverable organics in the MSW stream. Large quantities of designated organics, such as commercial food waste, yard waste and low-grade/soiled unadulterated paper products require site management on a commercial scale. The Sullivan County Organics Management Facility to be established will accept commercial, institutional, residential and yard debris for aerated windrow compost management.
Staff Training: As Facility is developed and constructed, involve staff in design fundamentals and planned operation. Select staff will receive US Composting Council Operations Training & Certification. TBD
Con't.

Schools/Commercial Generators – Add sample Schools Materials Management Bid / Collection Contract here. Insert ILSR Items Here.

Commercial Outreach – SC Chamber of Commerce, Sullivan Renaissance, SC CCE, SCCC, Casino/Racetrack, Monticello Motor Club, Garnet Health, SC & NYS Prisons, Restaurants, Farmers Markets, etc. Letters of Solicitation (pricing advantages vs. MSW/export tip fees), social media, online promos to attract material. Insert ILSR Items Here.

**Pricing Structure:** Inbound Organics: $30/ton. Brush/Wood & Yard Waste/Spent Ag Products (not presently accepted by Sullivan County Materials Management Program) requiring processing: $50/ton. Municipal/Utility-generated Wood Chips: $0/ton. Finished, screened Compost: $40/ton – sale price.

# ULSTER COUNTY RESOURCE RECOVERY AGENCY

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Angelina Peone, Recycling Coordinator
Melinda France, Recycling Educator
Amy Lopiano, Chief Accounting Clerk

Phone: (845) 336-0600
Fax: (845) 336-4129

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# 2021 New Partner in Composting Survey

| | |
|---|---|
| **Business Name** | |
| **Business Address** | |
| **Website/Social Media** | |
| **Contact Name** | |
| **Phone** | |
| **Fax** | |
| **Email** | |
| **Total Number of Vehicles** | |
| **Vehicle License Plates** | |

1. **What is the source of your food scraps? Please check all that apply.**

- o Residential curbside collection
- o Residential drop-off program
- o Commercial business/commercial kitchen
- o Community Event(s) Include Date(s)/Time(s) _____
- o Other _____

2. **Estimate the weight or total volume (cubic yards or gallons) of food scraps that will be brought to UCRRA per delivery.**

3. **What type of vehicle will you be using to transport the food scraps and how will the food scraps be delivered/received (in tote bins, gaylords, in bulk, etc.)?**

4. **How frequently will you be delivering food scraps to UCRRA?**

- o Daily
- o Once per week
- o Twice per week
- o Once per month
- o Other _____

5. **Please provide a description of the food scraps to be collected and delivered to UCRRA (pre-consumer, post-consumer, cooked/uncooked, bulk produce, bakery overages, etc.) and identify any items that could become potential contaminants.**

6. **Approximately how many employees or volunteers are involved in the management of your composting program? Please comment on how the employees or volunteers will be trained to monitor the collection bins to identify and prevent any unacceptable items (contamination).**

7. **Approximately how many participants will be involved in your composting program? Please comment on how participants will be trained on acceptable/unacceptable items. Please provide as much detail as possible (educational material provided, bins provided, posters at collection areas, etc.) and attach a copy of any instructions, brochures, etc.**

8. **FESTIVALS/EVENTS: Will all participating food vendors be offering compostable serviceware?**

9. **Are you requesting approval to use COMPOSTABLE PACKAGING (bags, cold cups, plates, forks, etc.)? If yes, complete this section.**




- **Acceptable items must be certified by the Biodegradable Products Institute (BPI) with ASTM D6400 and D6868 specifications.**
- **Search www.products.bpiworld.org for a complete list of acceptable items. Contact apeo@ucrra.org for support.**
- **To the greatest extent possible, approved compostable packaging should be easily identifiable as certified compostable such as having imprinting on the item or distinguishable color marks, etc.**

## BPI CERTIFIED COMPOSTABLE PACKAGING VERIFICATION

***You may copy this section as needed or attach a print-out from the BPI website.***

***Request a copy of our *Compostable Products Guidance Document* to view our FAQ, compostable products policy, and instructions for how to use the BPI website.**

| | | |
|---|---|---|
| **COMPANY/BRAND NAME:** | | |
| **PRODUCT DESCRIPTION:** | | |
| **COLOR/PRINTED/UNPRINTED:** | | |
| **SKU from** www.products.bpiworld.org | | |

10. **Please provide contact information for your purchasing department that will be ordering certified compostable products.**

| | |
|---|---|
| **Contact Name, Job Title** | |
| **Email** | |
| **Phone** | |

11. **Use this section to include any other relevant details about your organization, your composting program, or your sustainability vision! This statement may appear on our social media or webpages.**

12. **Would you like to receive more information about UCRRA events/workshops, or more resources about compost education?**

**Return this form via mail, fax, or email to:**

Angelina Peone, Recycling Coordinator
PO BOX 6219 Kingston NY 12402
APEO@UCRRA.ORG
Fax: (845) 336-4129

ILSR INSTITUTE FOR Local Self-Reliance

June 16, 2020

Mr. William Cutler
Sullivan County Department of Solid Waste and Recycling 91 Landfill Drive
Monticello, New York 12701

Subject: Food Scrap Drop-off Program for Sullivan County, New York

Dear Mr. Cutler,

The Institute for Local Self-Reliance (ILSR) is working with SCS Engineers of New York, PC (SCS) to develop the public outreach and engagement components of Sullivan County's organics management, specifically the program to start collecting food scraps at some of the County's recycling convenience centers.

As part of our initial work, ILSR has contacted two compost sites – Community Composting Company and Ulster County's Grow Ulster Green site – that are available to process food scraps collected by the County to ascertain what materials are acceptable and which are not. This letter shares this information as well as some sample signage in use at drop-off sites in other communities.

Ulster County accepts all food scraps and food residuals including cooked food waste, meat, dairy, bones, tea bags, coffee filters, and BPI-certified compostable bags and foodservice ware items. In addition to being BPI-certified, packaging must be easily identifiable as certified compostable such as green colored bags, green stripes, clearly labeled BPI, clearly printed COMPOSTABLE, etc. While they endorse the use compostable plastic bags as bin liners, they discourage allowing residents to include packaging: "it gets very complicated to coordinate within our guidelines when the residents are not being supervised with what they put in the bin. There's a LOT of packaging available to consumers that is simply not compostable." Ulster County does not accept paper, coated paper products, pizza boxes, utensils (certified or not), brewery waste, or any animal manures/litter. Paper such as paper towels and napkins are a problem blowing around their site.

The Community Compost Company (CCC) also accepts all food scraps and food residuals including cooked food waste, meat, bones, tea bags, and coffee filters. Unlike Ulster Co., CCC will accept food-soiled uncoated paper (napkins, plates, paper towels) but does not accept BPI-certified bags or foodservice items or packaging. Their products are certified for organic use and thus, cannot accept synthetic products, whether certified as compostable or not. CCC will not accept the compostable plastic bag liners either. They have found that they leak and tend to degrade, falling apart. If Sullivan County wants to utilize bag liners, they will need to pull them out before delivery.

Washington D.C. Office
1710 Connecticut Avenue, NW, 4th Floor
Washington, DC 20009
Tel: 202-898-1610

Minneapolis, MN Office
2720 East 22nd Street
Minneapolis, MN 55406
Tel: 612-276-3456

Portland, ME Office
142 High Street, Suite 616
Portland, ME 04101
Tel: 207-989-8500

www.ilsr.org

Attached to this letter is a poster from Ulster County of the materials they do and do not accept. (This is also available online in their Partners in Composting Program information booklet.) For the Community Compost Company, their website at https://www.communitycompostco.com/what-to-compost lists acceptable and unacceptable materials. For a sample of outreach from some of CCC's client cities, see the City of Hoboken's website at https://www.hobokennj.gov/resources/compost, Jersey City's website at https://jcmakeitgreen.org/composting/, and the Kingston Farmers' market site at http://kingstonfarmersmarket.org/compost-at-the-market/.

The following table compares the materials accepted by each site.

| Material | Community Compost Company | | Grow Ulster Green | |
|---|---|---|---|---|
| | YES | NO | YES | NO |
| All Food | ✔ | | ✔ | |
| Food-soiled Uncoated Paper: Napkins, Plates, Paper Towels | ✔ | | | ✘ [3] |
| Coffee Filters & Tea Bags | ✔ | | ✔ | |
| Dairy, Meat, Poultry, Seafood | ✔ | | ✔ | |
| Pizza Boxes | ✔ | | | ✘ |
| Frozen food boxes | | ✘ | | ✘ |
| Coated paper products (paper cups, paper plates) | | ✘ | | ✘ |
| Compostable Plastics (E.g., Bags, Cups, Utensils) | | ✘ | ✔ [1,2] | |
| Compostable Bags (as bin liners) | | ✘ | ✔ [1] | |
| Compostable Serviceware (E.g., Bamboo, Molded Fiber Containers) | | ✘ | ✔ [1] | |
| Pet Waste (Including Cat Litter) | | ✘ | | ✘ |
| Produce Stickers, Staples in Tea Bags | | ✘ | | ✘ |
| Waxed or Corrugated Cardboard | | ✘ | | ✘ |
| Bouquet of flowers | ✔ | | ✔ | |

[1] Must be BPI certified and easily identifiable as compostable such as green colored bags, green stripes, clearly labeled BPI, clearly printed COMPOSTABLE. BPI = Biodegradable Products Institute.
[2] No plastic utensils.
[3] Napkins and paper towels tend to blow away during mixing and processing and create litter at the site.

We recommend that Sullivan County provide a source of “carbon” or “browns” at its food scrap drop-off locations that participants can use to cover the food scraps they drop off. This will avoid nuisance odors, flies, maggots, and help to absorb liquid.

CCC will accept wood chips or sawdust mixed in with the food scraps. Ulster County acknowledges that a biofilter like wood chips is common at drop off sites and can greatly reduce odors and pests. Before approving they would want to know the source of the woodchips or sawdust, and if the material is ground at a County facility. They typically don't accept any wood that is already chipped, but it may be something they could consider for Sullivan County. They would need to confirm with their Director of Operations. They also noted that yard wastes should not be mixed in with the source-separated food scraps. A bouquet of flowers here and there is fine, but they do not want bulk yard waste, grass clippings, and sticks/twigs.

**Sample Drop-Off with Wood Chips: Chittenden Solid Waste District, Vermont**





Signage at the drop-off / convenience sites is important to educate participants on acceptable and unacceptable materials and the steps involved with the drop-off process. Below is some sample signage that we like. We have not included the outreach tools from Scarsdale as you already have these. (We note that their signage and flyers do not clarify what materials are not acceptable.)

**Prospects Heights Garden Food Scrap Drop-off, Brooklyn, New York**




**Garbage to Garden, Maine**



**Davis, California**

**Clearly labels its bins with what materials are and are not accepted**




**Wake County, North Carolina - Convenience Recycling Centers**



**Washington, DC Food Scrap Drop-off Outreach Poster (drop-off is at farmers markets)**
(also see attachment from DC on its outreach flyer)




**Wellesley, MA Drop-off Signage**



I am also attaching sample outreach documents from various communities with food scrap drop-off programs.

Sincerely,



Brenda Platt
Director, Composting for Community Initiative
Institute for Local Self-Reliance
1710 Connecticut Ave., 4th Floor
Washington, DC 20009
bplatt@ilsr.org • 202-827-0842

Attachments:

1. Booklet.NewPartnersinComposting.UCRRA_.2020.pdf
2. DC DPW Food Waste Drop Off Fact Sheet May 2020.pdf
3. Athens-Clarke Co GA flyer.jpeg
4. Fayetteville AR flyer.jpg
5. Domino-Park-Food-Scrap-Drop-Off-Announcement-English.jpg

# ULSTER COUNTY RESOURCE RECOVERY AGENCY




## Partners in Composting Program

999 Flatbush Road, Kingston, NY 12401
845-336-0600 • WWW.UCRRA.ORG • @UCRRA





# ULSTER COUNTY RESOURCE RECOVERY AGENCY

999 Flatbush Road, Kingston, NY 12401 • 845-336-0600 • WWW.UCRRA.ORG • @UCRRA

## Partners in Composting Program

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# ULSTER COUNTY RESOURCE RECOVERY AGENCY

*Our mission is to protect public health and the environment and to promote sustainable materials management practices in Ulster County by efficiently managing solid waste materials with a focus on resource conservation.*

For over 30 years, Ulster County Resource Recovery Agency (UCRRA) has been developing and implementing sustainable waste management programs for Ulster County. UCRRA is a solid waste authority, public benefit corporation, and permitted solid waste facility with commercial Transfer Stations in Kingston and New Paltz, NY. UCRRA manages all municipal solid waste generated in Ulster County per the Ulster County Flow Control Law (2012) and enforces mandatory recycling per the Ulster County Mandatory Source Separation and Recycling Law (2010). UCRRA offers many programs and services in pursuit of our mission and the UCRRA Recycling Outreach Team is available to help improve or implement waste reduction programs for local businesses, schools, and institutions. Our team is dedicated to community engagement and outreach education to inform the public about the benefits of waste reduction, recycling, and composting.

## Organics Recovery Facility

Our Organics Recovery Facility began as a small pilot project in 2012. Using Extended Aerated Static Pile methods of composting, or EASP, the Ulster County Resource Recovery Agency has shown industry leadership in demonstrating the feasibility, environmental, and economic benefits of large scale composting. Composting reduces the waste stream and is a more sustainable way to manage organic wastes such as food scraps. Composting reduces methane pollution at landfills and carbon emissions from waste transport. Composting lessens waste disposal costs and increases reuse, all while creating an end product that improves local soil quality. Our Composting Pilot Project became a fully established Organics Recovery Facility in 2016. A permitted operation, the composting program receives regulatory oversight and guidance on best management practices from the New York State Department of Environmental Conservation.

*Food scraps are blended with ground yard waste in a mixing bay to achieve 3:1 carbon to nitrogen ratio*



*The mixture is placed on an aeration zone for 35 days. A system of blowers and pipes force air into the pile aiding in decomposition and odor management. Composting temperatures reach 131-165° F.*



*Active composting is finished after 35 days, when the compost is removed from the aerartion system and cured in windrow piles for an additional 60 days. The compost cools as it continues to age and mature on site.*





*A nutrient-rich, locally produced compost is the end result of the processes.*

*Compost is screened and sold in bulk and in 1cf bags at UCRRA.*

# Why Compost?

**Wasting food wastes everything – water, labor, fuel, land use…and money.**

**Americans generate more than 250 million TONS of municipal solid waste each year**



**FOOD WASTE makes up the largest component (22%) of material buried in landfills**

**At the landfill, FOOD WASTE degrades anaerobically and creates METHANE, a greenhouse gas more potent than carbon monoxide**




*Environmental Protection Agency (2015) via www.bioenergyconsult.com*

**FOOD makes up 15% of the TOTAL waste stream, nationwide**

## 40% of the food produced in the USA is never eaten

**The value of this wasted food is estimated to be $161 billion per year or $1,500 per year for a family of four.**



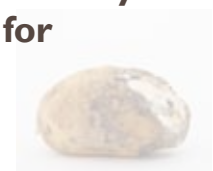


**Food Scraps are a valuable natural material that can be recycled into compost (an organic matter resource)**

**In Ulster County, each truck sent to the landfill travels 480+ miles roundtrip. By Composting, UCRRA has removed 356 tractor trailer trucks off the road, conserving over 33,000 gallons of diesel fuel (2012-2019)**



**Composting, recycling, and other waste reduction practices can significantly reduce waste disposal costs for restaurants, businesses and schools!**



# Grow Ulster Green Compost

*Produced locally and sustainably at the*
*Ulster County Resource Recovery Agency Organics Recovery Facility*
*999 Flatbush Road, Kingston NY*



Our Grow Ulster Green Compost is manufactured from wood chips and food scraps from our Partners in Composting. Compost is screened, unblended, and available for sale in bulk or in 1 cubic foot bags. Ulster County Resource Recovery Agency is a proud member of the United States Composting Council and participates in the STA Certified Compost Program. Please visit www.UCRRA.org to learn more.




## DID YOU KNOW?

**It takes 500 - 1,000 years for nature to create 1 inch of topsoil!**

*This compost product has been sampled and tested as required by the STA Certified Compost Program of the US Composting Council. Test results are available online at www.ucrra.org/compost/ or by calling 835-336-0600.*
*The US Composting Council makes no warranties regarding this product or its contents, quality, and suitability for any particular use.*




Compost is an organic matter resource that has the unique ability to improve the chemical, physical, and biological characteristics of soils. These benefits help conserve water, reduce runoff, suppress plant disease pathogens, and reduce the need to use chemical fertilizers and pesticides.

Compost has many horticultural benefits, uses, and applications. Compost can be used to grow flowers, vegetables, trees/shrubs, or lawns. Compost can also be used in storm water management or erosion control applications.



US Composting Council® Proud Member *I'm a Soilbuilder!*

# HOW TO GET STARTED

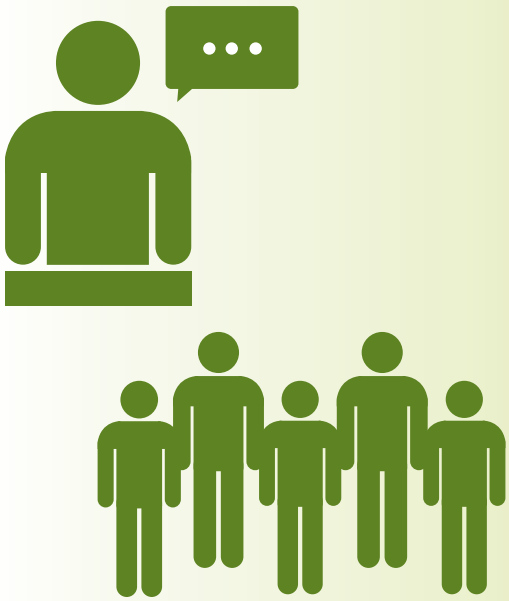
## Become a Partner in Composting

***Help Us Grow Ulster Green***

### Step 1

Contact the Ulster County Resource Recovery Agency (845-336-0600) to meet with Staff and tour our Organics Recovery Facility. These meetings are essential to understand our operations, and allow us an opportunity to learn about your business and your particular waste stream. You'll be asked to complete a Partners in Composting Questionnaire to gather important information.





### Step 2

A successful composting program includes a strategy for education and engagement with the entire community involved – how will employees, students, customers, or other participants be informed of your new composting program? Trainings and Site Visits to your location are available upon request. The UCRRA Recycling Outreach Team is available to assist local businesses, restaurants, schools, and facilities with a free consultation service to offer guidance on program planning. We recommend this for a successful composting program! UCRRA can also provide training on source-separation of food scraps, share free posters and other resources to our Partners in Composting. These services will help improve the ease and success of your composting program! We also ask our Partners to establish a plan for ongoing monitoring and oversight over the program, so that any new staff or new participants are always trained on what can and can not be composted.

### Step 3

We'll review your Questionnaire for details about your collection program and plan to train employees/students/participants. Upon approval, you'll become a Partner in Composting. We'll use the information from your Questionnaire to set up your account and start tracking how many lbs. of food you've composted. For a small deposit fee, Partners in Composting have the option to sign-out 35 gallon rolling carts for their food scrap collection program. You must sign an Agreement to utilize this equipment.



# DROP - OFF PROCESS

***UCRRA does not offer hauling services; Partners in Composting must self-haul food scraps to our Organics Recovery Facility once their account is set up.***

## WEIGH-IN

There is no appointment necessary to drop off loads of food scraps. The Organics Recovery Facility is located at the Ulster Transfer Station, 999 Flatbush Road in Kingston and is open Monday - Friday 7:00 am - 4:00 pm, Saturday 7:00 am - 3:00 pm. Drive your vehicle onto the scale and let the Scale Operator know your account information. They will direct you to the unloading zone.





## UNLOADING

As a permitted solid waste facility, safety is our top priority. Wear closed-toe boots and the appropriate clothing when unloading food scraps. Always be aware of your surroundings for traffic and heavy machinery on site. A member of our Operations Team will greet you at the unloading zone. UCRRA is dedicated to the quality of our finished compost product, which is why all loads are visually inspected for contaminants. You can expect feedback about the quality or contamination of food scraps brought to the site. UCRRA reserves the right to reject any contaminated loads. Under those circumstances, you may be charged additional fees.

## WEIGH-OUT

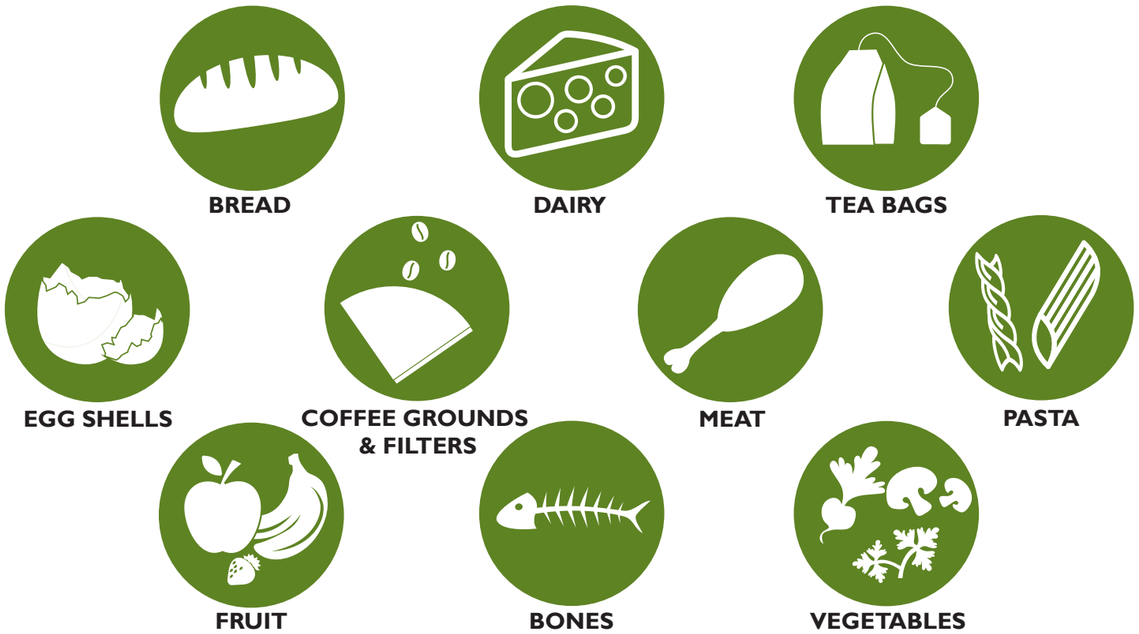
After unloading, drive your vehicle back onto the scale to weigh-out. The Scale Operator will calculate a tare weight so you are not charged for the weight of your vehicle. Make your payment at the scale by CHECK, CREDIT CARD (VISA, MASTERCARD, DISCOVER), CASH (EXACT CHANGE ONLY) or through your CREDIT ACCOUNT. Our Partners in Composting have the option to set up a credit account that would allow you to pay monthly by invoice. There is no fee to set up a credit account. A credit account is not required to use the facility.



# Compostable Organics
## THESE ITEMS ARE ACCEPTABLE

### All food scraps and food residuals

Uneaten food and food waste residuals including peelings, shavings, ends, cores, cooked or uncooked food scraps




## CERTIFIED COMPOSTABLE PACKAGING

BPI stands for Biodegradable Products Institute, and BPI provides a certification and labeling system for packaging that assures compostable products meet certain scientific standards for industrial composting. Approved packaging must be BPI certified compostable products with ASTM D6400 or D6868 standards. In addition to being certified, approved packaging must be easily identifiable as certified compostable such as green colored bags, green stripes, clearly labeled BPI, clearly printed COMPOSTABLE, etc. Visit www.bpiworld.org for a list of BPI certified compostable products.
Please see FAQ on page 11 for more information.

# Compost Contaminants
## THESE ITEMS ARE NOT ACCEPTABLE

### Non-food:
### Plastic, Glass, Metal, Cardboard, Paper, Clothing, etc.




Bulk liquids, grease, animal fats, cooking oils, etc., condiment packaging, produce stickers, rubber bands, twist ties, latex gloves, etc., utensils/straws, aluminum foil, pizza boxes, frozen food boxes, corrugated cardboard, brewery waste, animal manures, coated paper products (paper cups, paper plates), non-certified packaging (products labeled "eco-friendly", "plant-based", etc.)

***When in doubt, ask! Call 845-336-0600***

# Group Composting: Tips for Success




It's often not enough to just add another bin at the trash/recycling station. A successful composting program must have a strategy for education to engage the whole community involved. What does it take to launch a successful program?

## Composting in the Workplace/at School

- Conduct a waste audit to study what can be composted or reduced. Contact the UCRRA Recycling Outreach Team for assistance.
- Host meetings and trainings to inform, educate, and inspire participation in the composting program. Cover topics like: What is composting? What are the benefits of composting? How to source-separate food? What is contamination? Who to contact with questions about the program?
- Approval and support from all departments is essential (executive staff, custodial staff, cafeteria staff, other faculty, purchasing departments, etc.)
- Put a plan into action. Decide where to place compost bins, signs, stickers, and educational posters to launch the program. Look for more ways to notify participants such as through emails, staff meetings, or with a demonstration. Hands-on trainings at the compost collection bin is essential when launching a program.
- Pilot the program – look at challenges, look for opportunities, observe the waste stream, make adjustments as necessary. Ask for feedback from participants.
- Establish some type of ongoing monitoring and control of the program.

## Composting at Special Events

All of the tips mentioned above also apply for special events and festivals. Additionally, here are more specific tips for events:

- Contact the UCRRA Recycling Outreach Team for free consultation and guidance in event composting/recycling.
- Work with festival vendors as early as possible. Require or incentivize using compostable serviceware (cups, forks, plates, etc.) by all food vendors. Use an event policy or sustainability statement to increase compliance.
- Education at the bins is essential! Who will help - volunteers or staff? How will volunteers/staff be trained to control contamination?
- Announcements during the event, signs at each vendor booth, messages on event advertisements, social media, etc. can help raise awareness.
- Ongoing monitoring/control of the program throughout the event.

* *Community Events must have prior approval to use the UCRRA Organics Recovery Facility*

# Tips for Reducing Wasted Food

## Reduce

Learn how to interpret food labels: Best by / Use by / Sell by dates.
**Visit: www.USDA.org**

Before grocery shopping, check the fridge, freezer, and pantry for what's already "in stock".

Choose to buy bruised, imperfect, ugly produce.

Plan one meal per week with foods that have been stored in your kitchen the longest, or use up perishable foods that need to be eaten as soon as possible.

Learn how to properly store foods so they don't spoil.
**Visit: www.savethefood.com**

Eat leftovers! Make an "Eat First" shelf in the fridge. Hang a sign to remind you to eat those items before choosing other items.

## Reuse

Donate excess food to a Regional Food Bank.
**Visit www.feedingamerica.org/find-your-local-foodbank**

Donate fresh food and hot meals to Local Food Pantries or Meal Centers.
**Visit: ww.ulstercorps.org/agencies/food-pantries**

Find creative ways to reuse food scraps with new recipes (soups, sauces, casseroles, etc.)
**Visit: www.savethefood.com**

Organizations that donate food to nonprofit organizations are protected by law. Learn about Food Donation Liability and the Federal Bill Emerson Good Samaritan Food Donation Act
**Visit: www.feedingamerica.org/about-us/partners/become-a-product-partner/food-partners**

## Recycle

Compost any food scraps that cannot be reduced or reused in other ways.

## Understanding Food Labels

*A "Best if Used By/Before" date indicates when a product will be of best flavor or quality. It is not a purchase or safety date.*

*A "Sell-By" date tells the store how long to display the product for sale for inventory management. It is not a safety date.*

*A "Use-By" date is the last date recommended for the use of the product while at peak quality. It is not a safety date except for when used on infant formula.*

*A "Freeze-By" date indicates when a product should be frozen to maintain peak quality. It is not a purchase or safety date.*

*Definitions from United States Department of Agriculture.*

*Visit WWW.USDA.GOV for more information*

# Frequently Asked Questions



## *Why should we compost?*

Composting has many benefits! Food scraps are highly recyclable through composting. Composting reduces the waste stream, which saves landfill space for items that can't be recycled. Composting can help reduce waste disposal costs, especially for large waste generators. Composting is one of the most effective ways to reduce the pollution that causes climate change. The finished compost that results from the composting process has many horticultural uses and applications.

## *How does composting work?*

Composting is a natural process where organic materials (like food scraps, yard trimmings, and animal manures) are mixed together and managed in a controlled way. A complex food web of soil organisms work to break down, or decompose, the plant materials. As the soil organisms work to break down the materials, the compost pile will heat up. By providing consistent management for the chemical, physical, and biological processes at work, composters create an ideal environment for the soil organisms to thrive - and the end product is called compost.

## *Am I required to compost?*

Ulster County passed the Food Waste Prevention and Recovery Act in December 2019. The law goes into effect on July 1st 2020 and will regulate generators in Ulster County. The law requires large food waste generators to first separate and donate edible food, and recycle all remaining food scraps regardless of the distance to the nearest organics recycling facility. The Ulster County law differs from the State law in that it does not exempt schools, hospitals, or assisted living facilities. The Ulster County law establishes implementation tiers for large food waste generators starting at 2 tons per week in 2020; 1 ton per week in 2021; 0.75 tons per week in 2022; and 0.5 tons per week in 2023. **For more information about the law, please visit** www.ulstercountyny.gov

New York State passed the Food Donation and Food Scraps Recycling Law in April 2019. The law goes into effect on January 1, 2022 and requires large generators of wasted food and food scraps to separate and donate edible food and recycle all remaining food scraps if located within 25 miles of an organics recycling facility. Large generators are defined as making more than 2 tons of wasted food per week. **For more information about the law, please visit** www.dec.ny.gov/chemical/114499.html **or contact** FoodScrapsLaw@dec.ny.gov

## *Do I need a special permit to transport/haul my food scraps?*

Transporting residential and institutional waste (including food scraps) is exempt from NYSDEC transporter regulations (364-2.1(b)(1)). In addition, regulated waste (commercial or industrial waste) is exempt in quantities less than or equal to 2,000 pounds in a single shipment (364-2.1(b)(5)). If a transporter is hauling over one ton of commercial waste (which includes food scraps from a restaurant or grocery store), the transporter must register the vehicle with NYSDEC (364-3.1(c)). **For more information about the permits visit** www.dec.ny.gov/chemical/8483.html

## *How much space is needed?*

In small commercial kitchens, a simple five-gallon bucket can be used to collect food scraps and plate scrapings during the day. Regularly dump the bucket into a larger container, such as a designated tote bin for food scraps. In larger kitchens, a recycling-composting-trash station should be created. The station consists of three bins, with clear signs to show what goes where. Consult with the UCRRA Recycling Outreach Team for guidance on bin placement, or how many bins you may need.

# Frequently Asked Questions
*continued*



## *Will collecting food scraps create odors or attract pests?*

With sanitary management techniques and best practices, it's easy to prevent nuisances like odors and pests. Food scraps should be stored in a sealed, leak-proof container and the container should be regularly emptied and rinsed clean. Consult with UCRRA for guidance on preventing odors and pests.

## *Is there a lot of maintenance involved?*

No! The number of regular drop-offs you make to UCRRA depends on the amount of food scraps you generate. In general, plan to drop off food waste once per week. We recommend keeping collection bins lined with compostable bags to further reduce any maintenance of cleaning the collection bins.

## *Should we use compostable bags?*

Yes! Compostable bags help keep your food scrap collection containers clean and sanitary, while reducing the maintenance required to wash and rinse the containers. Compostable bags also make unloading at UCRRA easier. We recommend only using compostable bags that are BPI certified compostable products.

## *Why does UCRRA require compostable products to be BPI certified?*

BPI stands for Biodegradable Products Institute, and BPI provides a certification and labeling system for packaging that assures compostable products meet certain scientific standards for industrial composting. BPI certified compostable products are tested to meet the ASTM D6400 or D6868 standards.
ASTM (the American Society for Testing and Materials) is the industry technical standard based on pass/fail criteria for compostability using test methods and third party verification. Approved packaging must be easily identifiable as certified compostable, such as clearly printed COMPOSTABLE, clearly labeled BPI, or have coloring such as green colored bags, green stripes on cups, etc. This helps our operations team rule out contaminants and process material more effectively. **Visit www.bpiworld.org for a list of products.**

## *Can composting save money?*

Yes! Because food scraps make up a large portion of the waste stream, composting can help reduce waste disposal costs. When combined with other waste reduction and recycling practices, these costs savings can be substantial. This is especially true for schools, restaurants, cafes, and other food service establishments where the majority of the waste stream is inedible food scraps.

## *What is a waste audit?*

A waste audit is the practice of studying and recording the amount and types of waste generated at a specific location. Waste audits can be a facility walk-through or an actual "trash sort" where waste is collected, sorted, and weighed as various categories. Consult with UCRRA for guidance on how to conduct a waste audit.

## *Are there companies that will pick up my food scraps for me?*

UCRRA does not haul food scraps, but these services may be available in your area through a private company. UCRRA maintains a contact list for food scrap management services. Visit www.UCRRA.org

# Definitions

**BPI certified:** a certification and labeling system for packaging that assures compostable products meet scientific standards for industrial composting. BPI stands for Biodegradable Products Institute. Visit www.bpiworld.org

**Compost:** a crumbly, dark material that looks and smells like soil – but it is not soil. Compost is a humus material high in organic matter, soil microbes, and plant micronutrients. Compost has many horticultural uses and applications. Compost can be used to plant trees, shrubs, flowers, vegetables; it can be used on lawns, sown directly into fields and garden beds, used in greenhouses, for seed starter packs or container gardening. Compost aids in soil moisture retention, improving soil structure, and has many other chemical and biological benefits.

**Compostable:** any organic, biodegradable material that will decompose in the composting process. UCRRA accepts compostable packaging only if it is BPI certified.

**Composting:** the natural process by which plant and animal wastes slowly break down, or decompose; this process is aided by micro and macroscopic soil organisms. The composting process requires oxygen, moisture, and a 3:1 mix of carbon and nitrogen sources (browns and greens). The end result of these processes is "compost."

**EASP:** EASP stands for Extended Aerated Static Pile composting and is the composting method used at Ulster County Resource Recovery Agency. A network of perforated pipes and blowers allow a high volume of forced air to circulate through the pile continuously, (positive pressure) which helps control the decomposition process.

**Food Scraps:** inedible food and food waste residuals such as the peelings, shavings, ends, cores, of vegetables and fruits, or scraps of meat and fish bones, or dairy products, coffee grounds, etc. or any other food residuals generated in the preparation of a meal or during food processing (pre-consumer) or food residuals from plate-scrapings (post consumer)" Food scraps DOES NOT INCLUDE waste vegetable oil or other bulk liquids and grease.

**Large Food Scraps Generator:** a person, business, entity, or institution that generates an annual average of one half ton per week or more of food scraps, at a single location. Large generators may include, but are not limited to, supermarkets, food service businesses, hotels, correctional facilities, entertainment venues, hospitals, nursing homes, schools, caterers, and food preparation and processing businesses. **as defined by Ulster County Food Waste Prevention and Recovery Act.*

**Organics:** any natural, biodegradable material that derives from plants or animals. In composting, "organics" can mean food scraps, yard waste, paper, animal manures, etc.

**Sustainability Statement:** a written statement or plan that explains or outlines the company's goals to lessen the organization's environmental impact, or carbon footprint, through company practices, or procurement.

# Resources

## Biodegradable Products Institute (BPI Certified Products)
www.products.bpiworld.org
1-888-BPI-LOGO (274-5646)

## Cornell Waste Management Institute
www.cwmi.css.cornell.edu
607-255-1187

## Environmental Protection Agency
www.epa.gov

## New York State Association for Reduction, Reuse, Recycling
www.nysar3.org
518-482-7395

## New York State Department of Environmental Conservation
www.dec.ny.gov
Bureau of Waste Reduction and Recycling 518-402-8706

## New York State Pollution Prevention Institute
www.rit.edu/affiliate/nysp2i
585-475-2512

## North East Recycling Council
www.nerc.org
802-254-3636

## Ulster County Department of the Environment
www.ulstercountyny.gov/environment/department-environment
845-338-7287

## Ulster County Department of Health
www.ulstercountyny.gov/health/health-mental-health
(845) 340–3150

## U.S. Composting Council
www.compostingcouncil.org
301-897-2715




**ULSTER COUNTY RESOURCE RECOVERY AGENCY**

999 Flatbush Road, Kingston, NY 12401 • 845-336-0600 • WWW.UCRRA.ORG • @UCRRA



*Acknowledgements*

This booklet was created by Ulster County Resource Recovery Agency, made possible with the support of Ulster County and funding by New York State Department of Environmental Conservation and New York State Environmental Protection Fund.

# FOOD WASTE DROP-OFF PROGRAM

FOOD WASTE DROP-OFF
DC DEPARTMENT OF PUBLIC WORKS
WASTE LESS COMPOST MORE

## Interested in composting your food waste?

District residents can now drop off food waste for **FREE** at designated farmers markets. Food waste will be turned into compost, a nutrient rich soil additive that helps grow new food and plants. ***Come visit us at the market and ask our compost experts for more information!***

## HOW CAN I PARTICIPATE?

**1** Collect food scraps in a sealed container.

Optional: Store scraps in freezer to prevent odors and pests.



**2** Drop off your food scraps at your designated farmers market.




**3** Rinse the container and repeat!



## PARTICIPATING FARMERS MARKETS

Columbia Heights Farmers Market
14th and Kenyon St, NW
Year Round | Saturdays 9 am - 1 pm

*Uptown Farmers Market
14th and Kennedy St, NW
April 18 - Nov 21 | Saturdays 9 am - 1 pm

*University of District of Columbia Farmers Market (in front of the law school)
4340 Connecticut Ave, NW
May 2 - Nov 21 | Saturdays 9 am - 1 pm

*Brookland Farmers Market
(Monroe St) 716 Monroe St, NE
March 7-Dec 14 | Saturdays 9 am - 1 pm

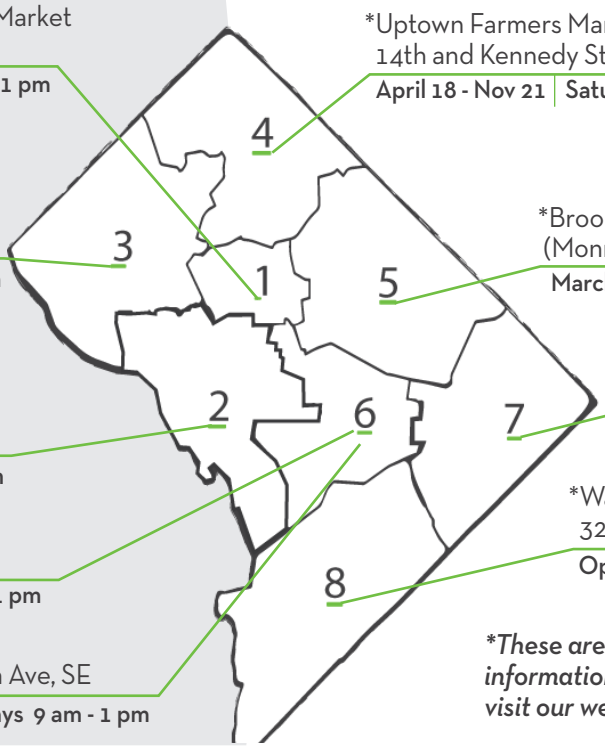
*Ward 7 Farmers Market
(Minnesota Ave) 3701 Hayes Street, NE
Opening June 6 | Saturdays 9 am - 1 pm

Dupont Circle Farmers Market
1500 20th Street, NW
Year Round | Sundays 8:30 am - 1:30 pm

*Ward 8 Farmers Market
3200 6th St, SE
Opening June | Saturdays 10 am - 2 pm

*SW Farmers Market
425 M Street, SW
April 4-Nov 28 Saturdays 9 am - 1 pm

Eastern Market
635 North Carolina Ave, SE
Year Round | Saturdays 9 am - 1 pm




***These are seasonal markets. For the most up-to-date information on the market locations and times, please visit our website: zerowaste.dc.gov/foodwastedropoff***

For more info please visit: **zerowaste.dc.gov/foodwastedropoff**

#ZeroWasteDC Zero.Waste@dc.gov

GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

FOOD WASTE DROP-OFF
DC DEPARTMENT OF PUBLIC WORKS

WASTE LESS
COMPOST
MORE

# COMPOST YOUR FOOD WASTE

## WHAT CAN I COMPOST?

### ACCEPTED ITEMS


Fruit, Vegatables,
Crushed Egg Shells


Coffee Grounds,
Tea Bags


Nut Shells


Breads, Grains,
Cereals, Rice,
Pasta


Household Flowers

### NOT ACCEPTED ITEMS


Meat, Bones,
Grease, Lard, Oils


Dairy
(Milk, Cheese, Yogurt)


Plastic Bags,
Wraps or Film


Foam Polstyrene


Recyclables
(Plastic, Metal, Glass, Foil)

Remove all stickers and tags - If possible chop items into smaller pieces.
This will help speed up the decomposition process.

The District is committed to achieving zero waste through waste diversion and reduction.
For more information please visit: **zerowaste.dc.gov/foodwastedropoff**

#ZeroWasteDC Zero.Waste@dc.gov

GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

iameco
recycling division

Athens-Clarke County
Solid Waste
Department



# ATHENS-CLARKE COUNTY
# COMPOST
# DROP-OFF PROGRAM

The Athens-Clarke County Solid Waste Department is now offering drop-off for food scraps and compostable products (paper plates, napkins, clamshells) for composting at no charge. This program offers the public the opportunity to divert their compostable material from the trash and turn it into beneficial, beautiful compost.




Compostable material must be loose or in a compostable bag.

## No cost

**for Athens-Clarke County residents**

## Drop-off Locations

**CHaRM**
1005 College Ave.
Athens, GA 30605
Monday: 10-7
Wednesday: 10-7
Saturday: 8 - noon

**Solid Waste Administrative Office**
725 Hancock Industrial Way
Athens, Ga 30605
Monday-Friday: 8-5

**Athens-Clarke County Landfill**
5700 Lexington Road
Winterville, GA 30683
Monday-Saturday: 8-3

## You can compost anything that was once alive.

**For more details on what to compost and the program, please visit www.accgov.com/compost**



WASTE NOT. USE LESS.

FAYETTEVILLE ARKANSAS

# City of Fayetteville Food Waste Drop-Off

## NO PLASTIC BAGS! BPI Certified Compostable Only.

BPI ® COMPOSTABLE IN INDUSTRIAL FACILITIES

Check locally, as these do not exist in many communities. **Not suitable for backyard composting.** CERT # 1444084



Fruits



Coffee grinds & tea with filters



Eggs & egg shells



Food-soiled paper: paper bags, paper towels, paper napkins



Vegetables



Consumable liquids



Cooked meats & fish: shells, bones, wooden skewers, wooden cocktail sticks



Bread, dough, bakery items, pasta, grains



Dairy: milk, cheese, yogurt



Processed Foods: pizza, cereal, chips, crackers, cooked meats, plate scraps

Acceptable Food Waste Materials

### ⊘ Items NOT Accepted:



- **Raw Meats (fish, poultry, pork, seafood)**
- **Plastic bags, serve ware, utensils, twist ties, rubberbands**
- **Wood, metal, glass or other non-food items**
- **Fats, oils, grease, non-consumable liquids, vegetable oil, lard**

Please contact the City of Fayetteville Recycling and Trash Collection Division at 479.575.8398 or recyclingandtrash@fayetteville-ar.gov to learn more.

# FOOD SCRAP DROP-OFF

Drop off your food scraps to be turned into compost at Domino Park

## DROPOFF

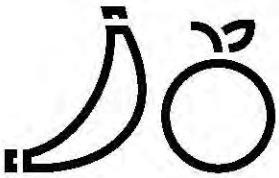
Domino Park
15 River Street, Brooklyn, NY 11249
Adjacent to the restrooms

## HOURS

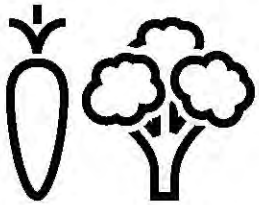
Mondays: 10AM – 12PM
Thursdays: 6PM – 8PM




## WHAT TO DROP OFF



Fruit



Vegetables



Ground coffee



Bread

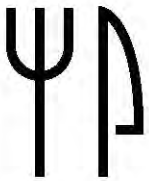
## NOT CURRENTLY ACCEPTED*



Fish & meat



Citrus



Compostable cutlery



Sauces & oils

* Domino Park's in-vessel composter efficiently turns food scraps and park plant material into compost in as little as two weeks. Due to this method, some compostable items cannot be processed.

dominopark.com
@dominopark

DOMINO PARK

# APPENDIX B
# FEASIBILITY STUDY

# 1 INTRODUCTION

Sullivan County (County) engaged SCS Engineers of New York, PC (SCS) to develop an organics management program in order to manage organic material locally, rather than exporting it for disposal. Reduction of the organic component (e.g., food waste, yard waste) of the County's solid waste stream has been identified as a means to reduce the County's greenhouse gas (GHG) emissions. This project was funded by the New York State Climate Smart Communities program. SCS teamed with the Institute for Local Self-Reliance (ILSR) and Naturcycle (collectively, the SCS Team) to prepare this report.

## NEW YORK STATE INITIATIVES

Ultimately, this report will be incorporated into the County's Solid Waste Management Plan (SWMP), which will be developed at a later date. The main focus of New York State's 2010 SWMP is to create a more sustainable materials economy. Relative to organics (e.g., food scraps, non-recyclable paper and yard trimmings), the New York State Department of Environmental Conservation (NYSDEC) is trying to create a combination of policies and programs to:

- Expand backyard composting;
- Expand on-site composting at institutions and large generators; and,
- Develop greater collection and recovery infrastructure for commercial, institutional, and residential food scraps and yard trimmings.

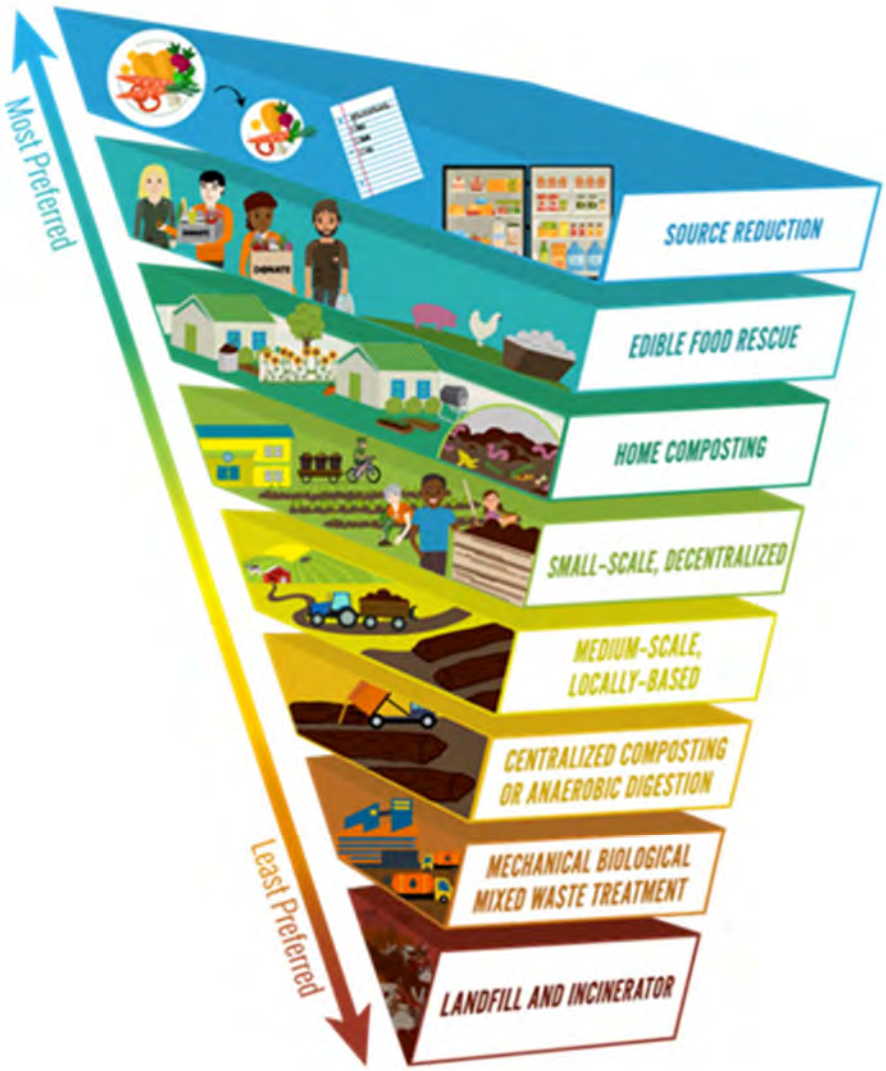
On the regulatory front, NYSDEC issued revised regulations in November 2017 for composting and other organics recycling facilities (i.e., Subpart 361-3). The revised regulations ease the regulatory burden for organics recycling facilities, in that more facilities can meet the requirements for an exemption or a registration, which streamlines the permitting process. Acceptable processes include composting, vermiculture, anaerobic digestion, fermentation, and others.

NYSDEC also administers state assistance programs (i.e., grants) for waste reduction, recycling and household hazardous waste (HHW) programs. Section 10 of this report provides details on potentially-applicable grant programs.

## COUNTY APPROACH

This organics management feasibility study considers diversion of organics from residential, commercial and institutional generators, and includes a technology review for capture/collection and processing of organics. As part of this feasibility study, we examined best practices nationwide, using ILSR's "Hierarchy to Reduce Waste & Grow Community" (Hierarchy; see **Exhibit 1** below) as a guide. The ILSR Hierarchy highlights the importance of source reduction, food rescue, and locally-based composting solutions as a first priority over large-scale regional solutions. Composting can be small scale and large scale, and everything in between, but too often home composting, on-site composting, community-scale composting, and on-farm composting are overlooked. Anaerobic digestion systems come in different sizes as well. The ILSR Hierarchy (in lieu of the EPA's simplistic inverted triangle) addresses issues of scale and community benefits when considering what strategies and infrastructure to pursue for food waste reduction and recovery.

Exhibit 1. ILSR Hierarchy to Reduce Waste & Grow Community




Key considerations factored into the proposed organics management program are:

- Scalability. It is expected that the quantity of organic materials will increase over time, as residents, institutions and businesses become educated and trained in organic materials diversion. The County's organics management program needs to be able to scale up over time.

- Size. Considering the quantity of municipal solid waste (MSW) managed within the County's system (about 44,000 tons per year) and a range of likely MSW diversion rates (e.g., 1 to 10 percent; due to organic material diversion), the selected system(s) may range in size from 400 tons per year to 4,000 tons per year.

# 2 PLANNING UNIT DESCRIPTION

This section describes the County Planning Unit and summarizes County demographics. This Planning Unit Description will be used in the Organics Management Plan, as well as the updated County SWMP (to be prepared by others). The planning unit is Sullivan County and the demographics include seasonal versus year-round population, and documentation of religious, cultural and ethnic backgrounds within the county.

The Department of Solid Waste & Recycling is responsible for implementing the County SWMP. The County's solid waste management system includes the County transfer station and materials recovery facility in Monticello, along with seven recycling/convenience stations throughout the County, which include the Bethel and Neversink facilities (town-owned).

## SIZE OF PLANNING UNIT AND POPULATION

The County population is 77,547 (2010 Census v2017). The County encompasses an area of 1,011 square miles[2], which calculates to 80 people per square mile, on average. The County's southern border is approximately 70 miles northwest of New York City. The area and population density of the County, and the resultant impact on transportation costs, are major considerations for the organics management program.

There are fifteen townships, six villages and thirty-six hamlets with the County. The largest town is the Town of Thompson with a population of 15,308. The County seat, Monticello, is located within the Town of Thompson. According to the Economic Development Corporation (EDC) of Sullivan County, the population can reach 300,000 to 350,000 at its peak, during the summer, when other temporary residents and visitors are counted. A large percentage of the temporary residents include visitors to Jewish camps and bungalow colonies. There are an estimated 100 Jewish camps located in Sullivan County, with a large percentage of these camps being located in the Town of Fallsburg.

The population breakdown by municipality is provided in **Table 1**. The 2010 US Census indicates an urban population of 20,034 and a rural population of 57,513 (i.e., 74% rural).

Table 1. Population by Municipality

| Municipality (Village) | Population (2010 Census v2017) |
|---|---|
| Bethel | 4,255 |
| Callicoon (Village of Jeffersonville) | 3,057 (359) |
| Cochecton | 1,372 |
| Delaware | 2,670 |
| Fallsburg (Village of Woodridge) | 12,870 (847) |
| Forestburgh | 819 |
| Fremont | 1,381 |

[2] Economic Development Corporation of Sullivan County. Other references indicate that Sullivan County encompasses 997 acres.

| Municipality (Village) | Population (2010 Census v2017) |
|---|---|
| Highland | 5,647 |
| Liberty<br>(Village of Liberty) | 9,885<br>(4,392) |
| Lumberland | 2,468 |
| Mamakating<br>(Village of Wurtsboro)<br>(Village of Bloomingburg) | 12,085<br>(1,246)<br>(420) |
| Neversink | 3,557 |
| Rockland | 3,775 |
| Thompson<br>(Village of Monticello) | 15,308<br>(6,726) |
| Tusten | 1,515 |
| **Total** | **80,664*** |

*Differs from 77,547 figure, noted above

According to the US Census, the median household income is $52,027 and 17 percent of the population lives below the poverty line.

## NEIGHBORING PLANNING UNITS

Bordering counties include: Delaware County to the north; Ulster County to the northeast; Orange County to the southeast; Pike County, Pennsylvania to the southwest; and, Wayne County, Pennsylvania to the west. The respective neighboring planning units are:

- Delaware County
- Ulster County Resource Recovery Agency (UCRRA)
- Orange County
- Pike County Solid Waste Management & Recycling, Pennsylvania
- Wayne County, Pennsylvania

## UNIQUE CIRCUMSTANCES

### Significant Industries

The County's primary industry is tourism. Visitor spending was $450 million in 2017. According to the EDC, agriculture is the County's second largest industry (see below for more information).

The County has been a popular vacation spot since the 19th century. The County hosted several resorts, golf courses, etc. between the 1920s and 1970s, and was the site of the 1969 Woodstock Festival. The majority of the tourism occurs during the summer months, so there are seasonal variations in population. The March 2018 Feasibility Study for the Formation of GUS indicates that

Sullivan County and Greene County are capturing material volumes above what would be expected, based on the baseline population estimates, suggesting an impact caused by seasonal population.[3]

Popular attractions include several parks, such as Catskill Park, which features 286,000 acres of state-owned land, and spans four counties, including Greene, Ulster, Sullivan and Delaware counties. Other attractions include Monticello Raceway and Casino, Monticello Motor Club, Resorts World Casino, and Bethel Woods Center for the Arts, as well as several breweries/distilleries, solar arrays, bluestone and forest products.

## Schools and Institutions

### Public School Districts

There are eight public school districts within the County, as follows:

- Eldred Central Schools
- Fallsburg Central Schools
- Liberty Central Schools
- Livingston Manor Central Schools
- Monticello Central Schools
- Roscoe Central Schools
- Sullivan West Central School
- Tri-Valley Central School

### Private Schools

There are four private schools within the County, as follows:

- Glory to God School (Christian)
- Hebrew Day School of Sullivan (Jewish-Orthodox)
- The Homestead School (Montessori)
- St. Peters Regional School (Catholic)

### Colleges, Universities and Other Higher Education Institutions

The State University of New York (SUNY) Sullivan (i.e., Sullivan County Community College) is located on 450 acres in Loch Sheldrake in the Town of Fallsburg. SUNY Sullivan enrolls approximately 1,700 students and employs approximately 100 staff.

### Correctional Facilities

Sullivan County Correctional Facility, a maximum security facility, and Woodbourne Correctional Facility, a medium-security prison, are co-located in the Town of Fallsburg. These facilities are located on 850 acres and are operated by the New York State Department of Corrections (NYSDOC). Sullivan County Correctional Facility currently houses approximately 600 prisoners and Woodbourne Correctional Facility currently houses approximately 850 prisoners. Prisoners are set to be transferred to a new county jail in Monticello, scheduled to open in 2019.

[3] Feasibility Study for the Formation of GUS: a New, Multi-County Solid Waste Authority, March 2018, for Ulster County Resource Recovery Agency, Sullivan County and Greene County.

### Hospitals

Catskill Regional Medical Center (CRMC) is a 218-bed facility located in Harris, with approximately 700 employees. CRMC also has a location at Grover M. Hermann Hospital in Callicoon, which is a 25-bed facility.

### Airports

Sullivan County International Airport is a one-runway, county-operated airport (James Arnott – Airport Superintendent) located on 600 acres in the Town of Bethel.

## Hotels/Resorts/Attractions

Bethel Woods Center for the Arts features an 800-acre campus, at the site of the 1969 Woodstock festival in Bethel. The Center includes an amphitheater with seating for 15,000 people; an indoor event gallery for 440 people; and, a conservatory/museum.

Construction has commenced on the Chatwal Lodge, which will be a five-star luxury retreat in Bethel. The retreat will include 34 private villas and suite accommodations, and provide a farm-to-table culinary experience. The retreat is expected to open in 2020.

Monticello Motor Club (MMC) is a private country club, which features 4.1 miles of smooth race-grade asphalt in Monticello. The MMC was built on the site of the former Monticello Airport.

Monticello Raceway and Casino features standard-bred horse races and includes a 40,000 square foot casino, with dining, located in Monticello.

Resorts World Casino includes a 100,000 square foot casino, with a hotel and dining. Construction is underway on the related Kartrite Resort and Indoor Waterpark, and Montreign Monster Golf Course. The Kartrite hotel will feature 324 all-suite rooms, and the indoor waterpark will be the largest in New York. The Resorts World Casino complex is expected to attract four million visitors per year, once the water park and golf course are open.

The Sullivan Event Center is located on 55 acres in Rock Hill and features a hotel, two event venues, and three restaurants.

Villa Roma Conference Center is a Roman-themed resort, with 18-hole golf course and restaurant (Beechwoods) in Calicoon, with over 400 full-time employees and serving over 200,000 guests per year.

Y01 features a 68,000 square foot wellness spa and salon, with a yoga and fitness center, and nutrition center. Y01 features an amphitheater and 131 lakeview guest rooms, and is located at the site of the old Kutsher's Hotel & Country Club, overlooking Bailey Lake in Monticello.

## Commercial Businesses

Some of the larger businesses in the County include food product producers/distributors, including:

- Nonni's Foods in Ferndale
- Formaggio Cheese in Hurleyville
- Ideal Snacks in Liberty
- La Belle Farm in Ferndale

- Hudson Valley Foie Gras in Ferndale

Specialty metal fabrication businesses include Metcar Aerospace Materials Division in Fallsburg, and D.C. Fabrication & Welding in Ferndale.

The County has numerous diners, pubs and restaurants, in addition to farmer's markets. Distillers and breweries include Aaron Burr Cidery, Bashakill Vineyards and Farm Brewery, Callicoon Brewing Company, Catskill Brewery, The Dining Cat Saloon & Catskill Distilling Company, Rock Valley Spirits, Roscoe Beer Company and Shrewd Fox Brewery.

## Retail

There are no large retail centers within the County, with mostly boutique-type storefronts in the villages. The closest, large retail centers are located in Middletown, in adjacent Orange County.

## Agricultural Activities

As noted above, agriculture is the County's second leading industry. In 2012, agriculture and agricultural industries, including agricultural production, support services, and manufacturing, directly contributed $741 million in sales and nearly 1,500 jobs in Sullivan County. These operations supply the New York Metropolitan Area with eggs, milk, meats and other specialty farm products.

## Parks and Recreation

There is significant parkland in Sullivan County. There are five County-operated parks including:

- Lake Superior
- Delaware & Hudson Canal Linear Park
- Stone Arch Bridge Historical Park
- Minisink Battlefield Park
- Livingston Manor Covered Bridge Park

Lake Superior State Park is operated by Sullivan County, under license from the Palisades Interstate Park Commission. Catskill Park (also known as the Catskill Forest Preserve) is a state-owned park, located across four counties, including Sullivan. The 70-mile Upper Delaware National Scenic and Recreational River (federally-operated) borders the County to the west.

The County offers many recreational opportunities, including hunting, fishing and boating. The Basha Kill Wildlife Refuge is a state-operated Wildlife Management Area (WMA), including over 2,000 acres of wetlands and adjoining uplands where visitors can experience wildlife habitat and, enjoy hunting and fishing. Destinations for trout fishing include the Beaverkill, Willowemoc, Neversink, Callicoon and Mongaup Creeks, as well as the East, West and main branches of the Delaware River.

## Wastewater Treatment Facilities

The following is a list of the wastewater treatment plants (WWTPs) and sewer treatment plants (STPs) within the County:

- Bloomingburg WWTP
- Cochecton Lake Huntington Sewer Dept.

- Delaware Callicoon Sewer Dept. STP
- Emerald Green/Lake Louise Marie
- Jeffersonville WWTP
- Kauneonga Lake STP
- Liberty (Village of) WWTP
- Liberty (Town of) Loomis STP
- Liberty (Town of) Swan Lake STP
- Monticello WWTP
- Rockland Sewer Dept.
    - Livingston Manor STP
    - Roscoe STP
- South Fallsburg Sewer Dept.
    - W.H.O. South Fallsburg Plant
    - Loch Sheldrake-Browns-New Hope Plant
    - Mountaindale Plant
- Thompson Sewer Dept.
    - Dillon Farms
    - Kiamesha Lake
    - Melody Lake
    - Sackett Lake
- Tusten Narrowsburg Sewer Dept.
- Woodridge STP

Some plants are permitted under the New York City Department of Environmental Protection (NYCDEP) including:

- Grahamsville STP

## SOLID WASTE MANAGEMENT ACTIVITIES

The Department of Solid Waste & Recycling manages the County's solid waste management system. The system includes the transfer station and materials recovery facility in Monticello, and seven recycling/convenience stations throughout the County, including Bethel and Neversink (town facilities). The County convenience stations are as follows:

- Ferndale Transfer Station
- Highland Transfer Station
- Mamakating Transfer Station
- Rockland Transfer Station
- Interim Western Sullivan Transfer Station
- Monticello (convenience area for local population) Transfer Station and Materials Recovery Facility

The County facilities accept many types of solid waste and recyclables. Fees are charged for the disposal of all solid waste. There are no fees for most recyclables.

The Towns of Bethel and Neversink operate recycling and transfer stations for their residents' recycling and sanitation needs. The County provides receptacles for recyclables at these locations.

The County system operates as a hub-and-spoke system, with the Monticello facility as the main hub. Separate containers for MSW and construction/demolition debris (C&D) are provided at each facility and then transported and consolidated at the Monticello Transfer Station. Similarly, commingled recyclables including glass, plastic and paper are brought back to the Monticello facility. Specific recyclables, such as scrap metal and electronics, are picked up by outside vendors. Single-stream recyclables are brought to a facility in Beacon. Fiber and cardboard material is baled and sold to market.

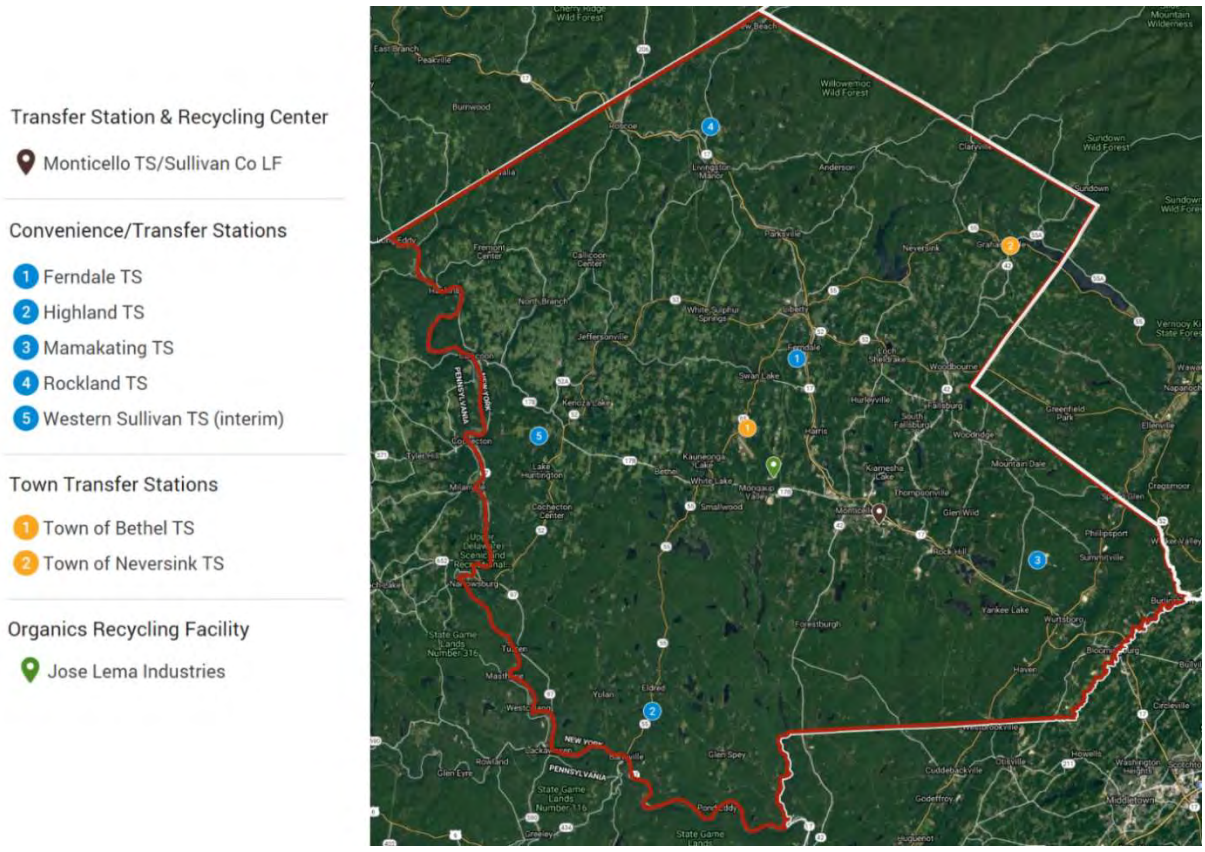
**In 2018, the County transferred 44,000 tons of MSW**, through its system of transfer stations, with ultimate disposal at Seneca Meadows landfill. The one-way distance from the Monticello transfer station to the landfill is about 190 miles. The County also managed C&D debris (about 25,000 tons), as well as various source-separated plus single-stream recyclables through its system.

At its transfer stations, the County does not accept yard trimmings, such as leaves, grass and woody material. Most municipalities do not collect yard trimmings. Yard trimmings are largely managed by property owners on their property or by landscapers.

The only permitted or registered organic recycling facility in the County (per NYSDEC data) is Jose Lema Industries, located in Mongaup Valley. This company is registered to accept up to 10,000 cubic yards per year of yard trimmings.

A map depicting the locations of the solid waste management facilities is provided in **Exhibit 2**.

Exhibit 2. Sullivan County Transfer and Recycling Facilities



# 3 WASTE QUANTITIES AND COMPOSITION

## WASTE COMPOSITION OVERVIEW

Waste composition information helps municipalities plan waste reduction programs and policies, develop waste diversion and recycling programs, and conserve money and resources. Waste composition studies gather waste samples from incoming waste loads and sort the sample contents into distinct material categories. Each material category is weighed and the relative proportion of that category is calculated. For example, the relative proportion of ten pounds of newspaper found in a 200-pound waste sample calculates to newspaper comprising five percent of disposed waste. The waste composition is the average of the relative percentages of each material category from all waste samples.

Municipalities usually conduct a waste composition study to assess the types and quantities of materials disposed in waste that could be diverted through recycling programs. Some municipalities conduct follow-up waste composition studies every five to ten years to evaluate the effectiveness of their waste diversion programs.

Waste composition studies are tailored to the needs of the municipality; hence, each one is unique in the type of waste targeted and the materials sorted. Most waste composition studies examine waste from the single-family residential sector, but other studies also examine waste from the multi-family residential sector, institutions (such as government facilities, hospitals, and schools), and commercial sources (office buildings, retail, food service, and recreational facilities).

Due to the limited budget, a comprehensive seasonal waste composition study, with field sampling, is not feasible for this project. Instead, we have relied on existing waste composition data to identify the range of organic materials (food scraps, yard trim, and compostable paper) present in the waste stream.

## CHANGES IN WASTE COMPOSITION OVER TIME

When using results of waste composition studies of other municipalities to estimate the types and quantities of materials in the waste disposed by County residents, it is important to use recent waste composition data. Waste composition has changed over the past 25 years due to the following factors:

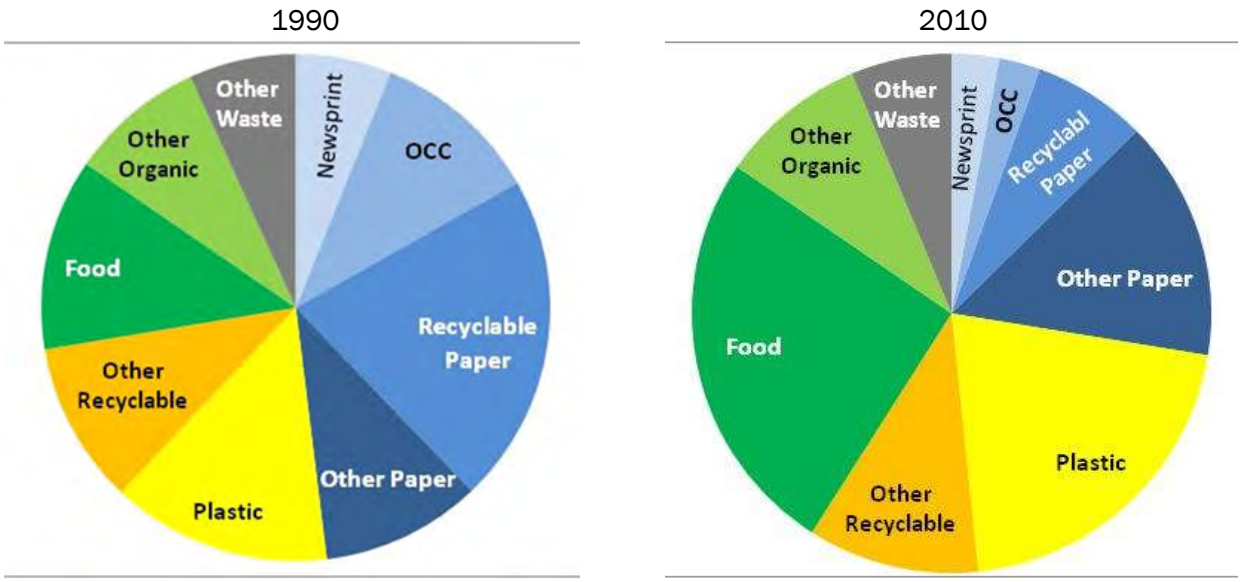
- Recycling Programs - Many municipalities initiated their recycling programs in the 1980s by establishing recycling collection centers where residents could drop-off recyclable materials. Since then, the number of communities with curbside recycling programs has risen steadily. The convenience of curbside collection has resulted in an increasing quantity of material separated for recycling programs. Single-stream recycling (collecting all recyclable paper and bottles/cans in a single recycling container) has also increased recycling convenience.

- Light-weighting - Waste composition has changed across the country due to the light-weighting of products and packaging. For example, there has been a decline in the total amount of glass containers, but an increase in the amount of plastic bottles in beverage packaging. In addition, manufacturers are creating products and packaging with less material and lighter weight materials. The weight of aluminum beverage cans and plastic bottles have decreased each year for a number of years.

- **Technology** - The availability of information on the internet has reduced the size of printed brochures, magazines, newspapers, and books. Additionally, electronic devices have become smaller and multi-faceted, replacing larger electronics, such as televisions, cameras, and house phones.

**Exhibit 3** demonstrates the changes in waste composition between 1990 and 2010 in waste disposed by single-family households in Orange County, North Carolina. While the proportions of the individual waste components are different for every community, the trends presented are typical for most residential waste streams in the U.S. There has been a significant reduction in recyclable paper, corrugated cardboard (OCC), and newsprint, since 1990. By diverting paper and other recyclables to recycling programs, the percentage of food in the disposal waste stream has increased by default. Additionally, the proportion of plastic in the waste stream has also increased, even though most recycling programs have been receiving increasing quantities of plastic bottles. As noted, plastic has replaced glass and metals in packaging and many products.

Exhibit 3. Changes in Single-Family Residential Waste Composition
Orange County, North Carolina




## REPRESENTATIVE WASTE COMPOSITION STUDIES

When estimating materials in a waste stream from another municipality's waste composition data, it is important to remember that waste composition can be influenced by the following:

- **Geographic Area** – Warmer climates have year-round yard waste, while colder climates have yard waste mainly in fall and spring. Leaves are a larger seasonal fluctuation in areas with deciduous trees. Further, yard waste is not accepted at the County facilities.

- **Sector (Residential versus Commercial)** – Residential waste generally has lower quantities of high-grade office paper and consistent presence of food waste. The composition of commercial waste is highly dependent on the type of business. For

example, offices have greater quantities of recyclable paper, retail stores have high quantities of corrugated cardboard, and restaurants have high quantities of food waste.

- **Capacity of the Local Waste Diversion Programs** – The availability and operation of curbside recycling collection affects the waste composition. Programs that require additional payment for curbside recycling collection do not divert as many materials as curbside collection programs that have a single fee for all collection services. Pay-as-you-throw (PAYT) programs that require greater monthly payments from households that generate greater quantities of waste are also effective at diverting recyclable materials to a recycling program. Outreach and education efforts to promote recycling and waste reduction programs also affect the waste composition.

**Exhibit 4** presents the composition of organic material from four state-wide waste characterization studies. The composition is split into residential and commercial or institutional sources. These state-wide studies include both urban and rural geographic areas, with a range of waste diversion programs. The recycling rate for each state is not included in **Exhibit 4** because there is not a consistent and uniform method across the country for calculating a recycling rate.

Exhibit 4. Composition of Organic Materials in Recent Statewide Waste Characterization Studies

| Material | CT 2015 | | RI 2015 | | VT 2013 | | DE 2016 | |
|---|---|---|---|---|---|---|---|---|
| | Res | Com | Res | Com | Res | Com | Res | Com |
| Food Waste | 20.0% | 25.5% | 20.0% | 17.5% | 16.7% | 11.2% | 20.2% | 21.9% |
| Yard Waste | 10.2% | 4.1% | 7.7% | 2.3% | 3.2% | 2.9% | 4.9% | 3.9% |
| Compostable Paper | 10.4% | 13.4% | 7.3% | 5.3% | 6.2% | 3.8% | 9.6% | 10.2% |
| | | | | | | | | |
| Total Organics | 40.6% | 43.0% | 35.0% | 25.1% | 26.1% | 17.9% | 34.7% | 36.0% |

**Exhibit 5** below presents the results of a waste composition study completed for the Development Authority of the North Country (DANC) in 2016. The DANC counties provide a useful comparison because they are generally rural, with low population density. The counties have the following demographics (2017 census estimates):

- Jefferson County – Population 114,187; 92 persons per square mile
- Lewis County – Population 26,551; 21 persons per square mile
- St. Lawrence County – Population 111,623; 42 persons per square mile

Exhibit 5. Composition of Organic Materials in DANC Characterization Study

| Material | DANC SWMF | Jefferson County | Lewis County | St. Lawrence County | | Average North Country |
|---|---|---|---|---|---|---|
| Organics | 34.1% | 36.2% | 38.6% | 34.8% | | 35.9% |
| Other | 26.3% | 28.5% | 34.9% | 28.7% | | 29.5% |
| Textiles | 7.5% | 11.2% | 6.5% | 9.4% | | 8.8% |
| Electronics | 2.9% | 2.0% | 2.2% | 3.2% | | 2.8% |
| HHW | 1.9% | 1.5% | 0.6% | 0.5% | | 1.1% |
| Total Glass | 1.8% | 1.4% | 0.6% | 1.7% | | 1.4% |
| Total Metals | 3.2% | 2.0% | 3.6% | 2.5% | | 2.8% |
| Total Plastic | 8.9% | 7.4% | 4.8% | 7.5% | | 7.1% |
| Total Paper Packaging | 4.7% | 3.4% | 2.7% | 4.3% | | 3.7% |
| Total Paper | 8.8% | 5.7% | 5.5% | 7.5% | | 6.8% |

## WASTE COMPOSITION AND QUANTITY TOOLS

### NYSDEC Planning Tool

The NYSDEC provides a planning tool (Population and Municipal Solid Waste Composition Calculator) on its website that estimates waste composition (based on data from New York City and Onondaga County; Seattle and San Francisco; other states across the country, including VT, WI, MO, GA, OR, OH, DE, PA, CA). We used the NYSDEC planning tool and 2017 County waste disposal and diversion tonnages to generate a waste composition for Sullivan County. According to this tool, organic material represents 17.7 percent of Sullivan County's waste (13.3 percent food and 4.5 percent yard waste). Additionally, compostable paper is estimated to be 6.7 percent of the waste stream (i.e., 24.4 percent of the County's MSW is compostable). Detailed waste composition results, based on the NYSDEC planning tool, are presented in **Appendix A**.

Compostable materials estimated by the NYSDEC planning tool (24 percent) are less than expected, when compared to the recent waste composition studies presented above (range from 26 to 41 percent for residential waste). One possible explanation, for the lower proportion of organic materials estimated by the NYSDEC planning tool, is that the NYSDEC data is taken from older waste composition studies, when food waste was a smaller percentage. The data in **Exhibit 4 and Exhibit 5** were obtained within the past 5 years.

### RIT and EPA Food Waste Estimators

The Rochester Institute of Technology (RIT) provides a food waste estimation tool on the following website: https://www.rit.edu/affiliate/nysp2i/food/tools/food-waste-estimator. This resource estimates food generation for different institutional and commercial generators, such as colleges, hospitals, and restaurants. The number of employees or students using a facility is the basis for estimating the quantity of food waste for a specific generator.

In April 2018, the United States Environmental Protection Agency (US EPA) released an Excess Food Opportunities Map – Technical Methodology (EPA/600/X-18/072/April 2018), which included both potential generators of food wastes and potential end users of food wastes. Based on the US EPA's review of the North American Industry Classification System (NAICS), 89 categories of industries,

representing approximately 1.3 million establishments in the US, were identified as potential sources of excess food. These 89 industries are grouped into the following sectors:

- Food manufacturers and processors (54)
- Food wholesalers and distributors (22)
- Educational institutions (2)
- The hospitality industry (3)
- Correctional facilities (1)
- Healthcare facilities (1)
- Food services facilities (6).

Using the US EPA equations and methodology, source separated organics (SSO) quantities can be calculated.

## Phone/Mail Survey

We prepared a mail and telephone survey for use with commercial businesses and institutions likely to generate food scraps and other organics. The survey requested the following information from each business/institution:

- The types and quantities of organic waste generated (annually or weekly, including seasonal variability).

- How the organic waste is handled (including the name of the hauler, processing facility, end user, or the disposal facility, if available).

- If the organic waste is currently diverted from landfill, how is it used (animal feed, composting, digestion, donated, etc.).

- If the organic material has been tested and the results, particularly data on moisture content and percent solids, which is relevant for anaerobic digestion technology.

- If the waste is disposed in a landfill, are there barriers that prevent the company from donating and recycling more food waste? (For example: liability concerns, limited access to organics recyclers, food safety concerns, insufficient recycling options; transportation constraints [distance, cost, fleet, etc.]).

Fifteen (15) businesses and organizations completed the survey (see **Appendix B** for a summary of the information obtained). The key findings are as follows:

- Most of the facilities generate pre- and post-consumer food waste and OCC. Most businesses do not separate organic wastes, and do not know the quantity of organic wastes that they generate.

- Some businesses had a general idea of the organic wastes that they generate and estimated the amount to range between 4 and 25 tons per year of food waste.

- The business types and sizes were variable, and waste collection frequency ranged from daily to monthly. Most businesses indicated that they experience higher volumes during

the warmer months due to seasonal population fluctuations. The medical facilities have fluctuations due to patient count.

- Of the seven businesses that separate some percentage of organics, two businesses are diverting food to charity organizations, and five businesses are performing some form of composting, ranging from vegetative waste composting and demonstration compost bins to community gardens. Two businesses (SUNY Sullivan and Bethel Woods) are considering on-site composting.

- Those who reported their MSW hauler are using Thompson Sanitation. Approximately half of the businesses are generating grease, but they did not know or did not provide the hauler information. Only a handful of businesses are generating liquid waste, and one business is generating biosolids.

- The cost of implementing an organics diversion program is the primary driver.

- Environmental impact, sustainability and stewardship are secondary drivers.

- A few of the businesses were concerned with storage, hauling and disposal considerations, and associated costs, as well as liability and compliance with applicable regulations.

- The need to provide labor, and educate and train staff, were other general concerns.

## RECOMMENDATIONS FOR BASELINE QUANTITY

As presented in Section 2, the County manages about 44,000 tons per year of MSW for disposal (does not consider recycling quantities). The County's MSW disposal rate is calculated as 3.1 pounds per capita per day (lb/cap/day). Based on the NYSDEC planning tool and recent waste composition studies, compostable materials in the MSW disposal stream are estimated to be 25 percent, or 11,000 tons per year. The capture rate of the compostable materials will vary, depending on the programs that the County employs to divert compostable material from the MSW disposal stream.

As a point of reference, Ulster County operates a compost facility, which began operations in 2012 and has expanded over time. Based on readily-available data, we estimate that Ulster County recovered and composted about 2 percent of its MSW in 2017 (about 2,000 tons of source-separated organics). Using this rate of 2 percent of the MSW disposal stream, Sullivan County could capture about 900 tons per year via a compost program, which equates to an 8 percent capture rate of the compostable materials (i.e., 900 tons divided by 11,000 tons).

Chittenden Solid Waste District (CSWD) in Vermont has developed a relatively-mature program for diversion of organics from the disposal stream. Information on the organics disposal bans and the food recovery hierarchy have been mailed to every residential, institutional, and commercial postal patron. A variety of educational programs and technical assistance for setting up food scrap collection and diversion programs are currently available to residents, businesses, and schools. CSWD's 2013 Household Solid Waste Survey suggests that 55% of households in Chittenden County compost yard trimmings and 49% compost food scraps at home. Based on 2018 data, CSWD recovered and composted about 6 percent of its MSW in 2018 (about 6,000 tons of source-separated organics at its compost facility). Using this rate of 6 percent of the MSW disposal stream,

Sullivan County could capture about 2,600 tons per year via a compost program, which equates to a 24 percent capture rate of the compostable materials (i.e., 2,600 tons divided by 11,000 tons).

Based on Ulster County and CSWD, and expanding the capture rate on each end of the range to 5 percent and 35 percent, we recommend that Sullivan County plan for recovery of 500 tons of organics per year initially, with a possible future increase to 4,000 tons of organics per year.

# 4 SOURCE REDUCTION AND FOOD RESCUE

## SOURCE REDUCTION

Similar to overall waste generation, source reduction is the first priority for organic waste. Businesses and residents can learn to prevent the creation of wasted food by taking simple steps such as making grocery lists, inventorying supplies, and buying less.

Source reduction for residents is typically focused on "refrigerator management". Vermont prepared a tip sheet for its residents to help with source reduction at the household level (see **Appendix C**).

The EPA developed tip sheets for grade schools, food manufacturers, restaurants, universities, and grocery stores that provide suggestions for ways these sectors can prevent food loss and waste (see **Appendix C**).

As one example, we present a summary of the February 2019 report, as prepared by Champions 12.3, entitled "The Business Case for Reducing Food Loss and Waste: Restaurants". The report documents that restaurants can successfully and profitably reduce their kitchen waste. The key findings from the study are as follows:

- Results are based on an analysis of data from **114 restaurants in 12 countries.**
- Successful Intervention Methods:
  - **Measure** how much and where food is being wasted so managers can prioritize hotspots to tackle and monitor progress over time.
  - **Ask employees** for ideas when developing and implementing kitchen waste reduction methods and embed the importance of food waste prevention into standard training and operating procedures.
  - **Adjust purchasing** practices and focus on scenarios that lead to overproduction.
- Financial Gain:
  - The average **benefit-cost ratio for food waste reduction was 7:1** over a three-year time frame.
  - The average site saved more than two cents on every dollar of cost of goods sold.
  - The food waste-reduction programs implemented by the surveyed sites were **relatively inexpensive in terms of absolute dollars spent.** The total investment in food waste reduction for all was between $10,000 and $20,000 over the three-year period.
- Over a 12-month period, the average restaurant saw a **26% reduction in kitchen food waste** (by weight).

## FOOD RESCUE OVERVIEW

Sullivan County is served by The Food Bank of the Hudson Valley, which is a branch of the Regional Food Bank of Northeastern New York and a member of Feeding America, the national food bank network. The Regional Food Bank is based in Latham, New York. The Food Bank of the Hudson Valley is currently located in Cornwall-on-Hudson, New York.

Working in partnership with the food industry, the Food Bank of the Hudson Valley collects large donations of unmarketable, but still edible food, and distributes it to charitable agencies in a six-county region. In 2016, the Food Bank of the Hudson Valley provided more than 15 million pounds of food to 300 member agencies in Sullivan, Orange, Ulster, Dutchess, Rockland, and Putnam counties.

The food industry is the backbone of food banking. Many local and national companies donate food to the Food Bank of the Hudson Valley, including:

- Distributors
- Farmers
- Food Brokers
- Manufacturers
- Foodservice Operations
- Retailers
- Wholesalers

The Food Bank of the Hudson Valley accepts donations of shelf-stable, fresh and frozen food, and non-food items, such as paper goods, personal hygiene products and cleaning supplies (i.e., any item available from a grocery retailer, distributor or farm). These products may no longer be marketable, but if they are still good to use and can be safely consumed, they are of great value to the non-profit organizations the Food Bank of the Hudson Valley serves.

There are many reasons why companies choose to donate, including:

- Production flaws
- Overproduction
- Mislabeling
- Unlabeled product (can be accepted with verification of ingredients)
- Discontinuation of product line
- Pack changes or reformulations
- Code dates – guidelines are researched and followed for safely utilizing close or past dated products
- Cosmetic packaging damages
- Shipping errors
- Deliveries that are not accepted and cannot be returned cost-effectively
- Product samples or test market items
- Unharvested or imperfect produce

The Food Bank of the Hudson Valley cannot accept items under the following conditions:

- Product that has been thawed
- Prepared food that has been exposed to public self-service

- Product that has been repackaged, opened or removed from its original packaging

Benefits to donors include the following:

- **Tax Incentive**. All businesses are eligible for a tax deduction for donations of product to the Food Bank of the Hudson Valley. Businesses can deduct from their taxes an amount equal to the cost of the donated items plus one-half their fair market value, or two-thirds the cost, whichever is less (see **Appendix D** for a legal fact sheet on tax incentives).

- **Liability Protection**. The Bill Emerson Good Samaritan Act of 1996 protects food donors from liability when donating to a 501(c)3 non-profit organization, for all products donated in good faith (see **Appendix D** for a legal fact sheet on tax incentives).

## COUNTY FOOD PANTRIES AND FOOD BANKS

The website for the Food Bank of the Hudson Valley lists about 20 entities that serve Sullivan County as a food pantry or a food bank (see complete list in **Appendix E**). We attempted to contact each entity and gathered information via our phone calls and internet research. A summary is provided below and in **Appendix E**, relative to the types and quantities of food that local food pantries can accept, as well as the food waste that they generate in the course of their operations.

### The Sullivan County Federation for the Homeless

The Sullivan County Federation for the Homeless is a not-for-profit organization established in 1987 and located at 9 Monticello Street in Monticello. The organization provides food and advocacy to those in crisis situations living within Sullivan County. The Federation for the Homeless operates the only soup kitchen in Sullivan County, providing breakfast and lunch five days a week to local residents. They also operate a food pantry twice a month, where individuals receive canned food, cereal, juice, pasta and other staples, as well as an emergency food pantry where individuals are given food on an emergency basis 24 hours a day, 7 days a week. Donations of perishables and non-perishable items in any amount are accepted. The Federation for the Homeless generates less than a garbage bag of food waste every two weeks. During the non-winter months, they operate a garden and compost.

### First Presbyterian Church of Jeffersonville Food Pantry

The First Presbyterian Church of Jeffersonville Food Pantry is located at 4907 State Route 52 in Jeffersonville. The pantry is open the third Saturday of every month from 9 to 11 am The pantry accepts mostly small donations of non-perishable goods and serves an average of 20-30 people per month. Most donations come from government agencies in the form of free donations, wholesale items or food orders. The pantry generates less than a garbage bag of food waste per month.

### Roscoe Shepherd's Food Pantry

The Roscoe Shepherd's food pantry is located at 2 Church Street in Roscoe. The pantry, affiliated with the New York Conference of The United Methodist Church, was founded and is currently directed by Marsha Banks. It serves over 400 people per month, with all types of foods from non-perishables, such as canned/frozen/dried foods, to perishables, such as fresh produce and meats. The pantry is operated by church members, members of other houses of worship, pantry clients, and unaffiliated people who want to help. The pantry is open Wednesdays from 2 to 4 pm and accepts all quantities of donations. The pantry generates less than a garbage bag of food waste per month.

The program is also planning to implement lessons for people to learn how to cook foods they might not be familiar with, which will further lessen the quantity of food diverted to landfills.

## St. Andrew's Mission Pantry

The St. Andrew's Mission Pantry is organized by the St Andrews's Episcopal Church, a member of the Delaware Catskill Episcopal Ministry, and is located at 5277 State Route 42 in South Fallsburg. The pantry serves between 65-70 people, twice a month, on the 2nd and 4th Friday of the month. Hours for collection are between 5 to 7 pm. The pantry regularly accepts donations of non-perishable items, in an average amount of 1-2 grocery bags per donor. The pantry generates less than a garbage bag of food waste per month.

## The Shepherd's Pantry

The White Lake Reformed Presbyterian Church, located at 6 Mattison Road in White Lake, operates the Shepherd's Pantry. The purpose of the pantry is to provide support for over 200 needy families, residing within the Town of Bethel and surrounding areas. The regular times of distribution are on the 2nd Thursday of the month, from 11 to 1 pm, and the fourth Thursday of the month from 5 to 7 pm. The pantry accepts donations of both perishable and non-perishable food, with no limit of quantity per donation. The pantry generates less than a garbage bag per service day, equating to less than two garbage bags of food waste per month.

## United Way

A food pantry is operated by the United Way at 33 Lakewood Avenue in Monticello. The pantry operates between Monday and Friday from 8:30 am to 5 pm. The pantry accepts donations of both perishable and non-perishable food, with no limit of quantity per donation. The pantry generates up to three garbage bags of food waste per month.

## St Peter's Roman Catholic Church

A food pantry is operated by St Peter's Roman Catholic Church at 262 North Main Street in Liberty. The pantry operates on Wednesdays from 10 am to 1 pm, and Saturdays from 10 am to 12 pm. The pantry accepts donations of both perishable and non-perishable food, with no limit in quantity per donation. The Shop Rite grocery store is a major donator. The pantry generates less than a garbage bag of food waste over 6 months.

## Claryville Reformed Church

A food pantry is operated by Claryville Reformed Church at 946 Claryville Road in Claryville. The pantry serves around 40 people per month, and operates on Tuesdays and Thursdays from 10 am to 7 pm. The pantry accepts donations of both perishable and non-perishable food. The pantry generates less than a garbage bag of food waste over 6 months.

# 5 HOME COMPOSTING

An oft-cited reason for low food recovery levels in the U.S. is lack of adequate capacity to process material. Too often, communities focus solely on developing one or more large-scale composting sites and overlook the fact that composting can be small scale, large scale, and everything in between, including: backyard bins, community-garden sites, on-site campus systems, farm-based operations, low-tech and high-tech regional facilities. A diverse and distributed infrastructure is needed that encompasses home, community-based, and on-site composting. These local composting options bring additional benefits as they engage and educate citizens, support countywide composting efforts, enhance local soil fertility, and can be quickly implemented.

As illustrated in **Exhibit 1**, ILSR has developed a *Hierarchy to Reduce Food Waste & Grow Community*, which visually illustrates the case for a diverse and distributed infrastructure that includes home composting and community-scale composting (covered in Section 7). The benefits of which are as follows:

- **Raises Awareness**
  - Exposes community members to the concept of source-separation of food scraps
  - Educates children and the general public about composting, how it is done, and how it can be incorporated into everyday life
  - Creates advocates and the necessary leadership for changes in policies, laws, and regulations
  - Prepares the next generation for full-scale composting as part of our way of life

- **Environmental Benefits**
  - Creates a rich nutrient-filled soil amendment
  - Enhances soil fertility
  - Improves soil structure, thus reducing stormwater runoff and soil erosion
  - Precludes the need for energy-intensive fertilizers, pesticides, and fungicides
  - Improves plant growth, and thus carbon sequestration
  - Reduces waste
  - Protects the climate by cutting landfill methane emissions and creating a carbon sink in soils
  - Reduces vehicle emissions by decreasing transportation distances between material generators and compost producers and users

- **Community Benefits**
  - Allows composting to take place at the home and neighborhood level
  - Builds the culture and know-how of composting in the community
  - Keeps resources and money within the local community
  - Builds healthier local soils
  - Promotes human-scale technology, instead of large capital intensive systems
  - Supports locally-grown, healthy food production, and “closed-loop” systems

- **Local Government Benefits**
  - Diverts materials from landfills and incinerators
  - Allows management of organic materials close to the source
  - Meets local directives for recycling and waste reduction
  - Extends life of regional landfills, avoiding cost and environmental impact of new disposal facilities
  - Helps reduce public and private sector solid waste management costs

- Builds support for local municipal or county composting programs
- Offsets stormwater costs (when compost is used in low-impact development)

- Local Economy, Jobs Training & Employment Benefits
  - Stimulates and diversifies local economies by supporting local small-scale enterprises
  - Encourages local training, volunteering, and employment opportunities
  - Sustains more jobs on a per-ton basis than landfilling or incineration
  - Helps urban and rural farmers diversify farm products and increase farm income
  - Supports new businesses in green infrastructure and low-impact development (e.g., rain gardens, green roofs, conservation landscapes, and bioswales)

## OVERVIEW

Home composting offers a hyper-localized way to divert food waste from the waste stream with virtually zero transportation costs and increased individual- and community-level food recycling awareness and participation. At-home or backyard composting saves local governments money by avoiding the need for municipalities to collect and process material. By directly engaging citizens in the act of converting waste into a resource, home composting also builds a critical culture of composting know-how. This, in turn, will help build support for larger-scale municipal efforts.

In its May 2018 report, *Yes! In My Backyard: A Home Composting Guide for Local Government*, ILSR pointed out the misconception that home composting adoption is low due to poor system designs, lack of space, and odors. Rather, we found that adoption is low because citizens are not incentivized to compost at home and are not provided the training, guidance, equipment, and exposure to best practices to succeed. The report concluded that too little attention is paid to home composting, though it is among the best opportunities to reduce the need for municipal management of food scraps, especially in the near-term and especially in areas lacking facilities to compost. Another misconception about home composting is that it can only divert a small portion of a household's waste.

The County has supported home composting for years, through education, fact sheets and site visits. There are many reasons that the County should continue, and enhance, its home composting program. A robust home composting program:

- Can be implemented faster than large-scale centralized composting systems.
- Can provide a way to divert food scraps and yard trimmings in communities with no facilities.
- Encourages production and use of compost on the same site in which the materials are generated.
- Retains organic matter for residential soils.
- Builds a culture of composting know-how and appreciation in the community, which in turn will build support for and participation in County-wide food scrap recovery programs and ingrain composting knowledge in the next generation.
- Serves as an important community engagement and education tool.

- Encourages source reduction of food waste, due to direct exposure to the amount of food wasted.
- Can divert significant tonnage from disposal; studies indicate 23 to 83 pounds a month per household.
- Is an extremely cost-effective method to divert significant tonnages without requiring intensive municipal or county services.
- Avoids the labor and costs of collecting and handling material, leading to considerable savings.
- Saves money on avoided tipping fees at disposal sites (as well as at composting sites); savings that are cumulative as long as households keep composting.
- Can complement a curbside organics collection program; the two options are not mutually exclusive.
- Contributes to a distributed and diverse food recovery infrastructure.
- Provides other social and environmental value beyond the direct tipping savings and decreased waste collected at curbside.

We estimate that for every 10,000 households that implement home composting, an estimated 1,400 tons per year could be diverted from disposal, avoiding about $70,000 per year in disposal fees alone (based on national landfill tip fees). For every 10,000 households receiving personalized hands-on training and support with subsidized bins, this tonnage could grow to as much as 5,000 tons per year, with avoided disposal fees increasing to about $250,000. Investing in a good home composting program represents a potential significant savings for Sullivan County.

## US EXPERIENCE

In 2017 and 2018, ILSR identified and evaluated a number of government-supported home composting programs. We sought to document a wide range of programs to share lessons learned and tips for replication. Our research was published in our May 2018 report, *Yes! In My Backyard: A Home Composting Guide for Local Government*, available online at: https://ilsr.org/yimby-compost. In July 2018, ILSR held a webinar featuring the report along with presentations from three communities highlighted in the report: Austin, Orlando, and Portland (Oregon). The webinar recording is available at: https://ilsr.org/webinar-home-compost-july-2018.

A number of programs – such as Los Angeles County, Napa, Miami-Dade County, and Austin – have shown that people will participate in home composting programs even if the programs require residents to take a class in order to receive a discounted bin. Austin offers rebates/vouchers for compost bins after an in-person or online class. The other three programs offer in-person home composting workshops and significantly discounted bins at the site of the workshops. These programs also maintain active outreach campaigns, and advertise the discounted bins and the dates and locations of the workshops.

## Orange County, New York

In 1993, SCS conducted a home composting waste reduction demonstration and evaluation project in Orange County, NY. The Project was sponsored by the New York State Energy and Research Development Authority and was carried out by the Orange County Department of Environmental Facilities and Services, Cornell Cooperative Extension of Orange County, and SCS.

The results for the year-long program were as follows (on a weight basis):

- Yard waste: 20 percent
- Food waste: 15 percent
- Recyclables: 23 percent
- Other waste: 42 percent

As shown, the participants achieved a high level of waste diversion overall (58 percent). Participants were able to divert 35 percent of their waste via home composting.

The participants in this study were a self-selected group of volunteers who already had an interest in composting. Most were already composting or were interested in learning how to compost before signing up for the study. The success of this study was excellent; however, the participation/recovery rates need to be tempered prior to application across an entire community.

The following are highlights from select programs ILSR has documented:

## New York City

New York City's early investment in home composting and a master composter training program has led to hundreds of community compost sites and built an army of citizens who understand how to compost and the value of composting properly. Community compost sites also double as demonstration sites, which are important as locations where residents can purchase composting bins and take workshops. The City funds a master composter course that encourages graduates to provide composting education (including home composting education) in their respective neighborhoods. This decentralized model allows residents throughout the City to obtain home composting bins and education within (or near) their neighborhood.

## Orlando

Orlando's program is fairly new, launching in February 2015. Within two weeks of the program's start, there were 3,000 requests for a composting bin. The key to the program's success is twofold: (1) an innovative and ambitious marketing and outreach *"Get Dirty"* campaign launched on Valentine's Day, and (2) providing the bins at no charge to residents (either through pickup or free home delivery). **0** shows one of the clever "Get Dirty" campaign advertisements.

Exhibit 6. The City of Orlando Launched Brilliant "Get Dirty" Campaign on Valentine's Day 2015




## Austin

Austin's home composting program stands out for its adaptability, flexibility, and diversity of options. Its voucher/rebate system allows residents the freedom to choose any type or model of bin, and Austin offers more ways for residents to get educated about composting than any other program ILSR documented. Austin is also noteworthy for its annual research to assess and improve the program. The City's yearly program reports contain useful information from which other cities can benefit.

# BINS AND EQUIPMENT

An initial step in setting up a County home composting program is to choose which composting bins and equipment to distribute, sell, or qualify for rebates/vouchers (see **Appendix F** for a list of bin and equipment suppliers). When deciding which bin to offer or feature in a home composting program, factors to consider include:

- The bin's ability to provide conditions for materials to compost adequately;
- The bin's ability to keep out rats and other pests, price, and the ease of assembly and use;
- A bin's ability to compost adequately, in turn, depends on characteristics such as volume capacity and ability to aerate material (composting needs oxygen!). Bins that are too small may not allow the pile to heat up and actively compost.

Alternatively, County home composting programs can construct their own in-house bins to offer a cheaper option to their residents. New York City sells metal trash cans repurposed into compost bins and also constructs its own worm bins. Napa, CA offers classes where residents construct their own

worm bins for free using materials provided by the program. Mesa, Arizona repurposes worn out plastic trash carts into compost bins and offers them to residents for a $5 delivery fee. Montgomery County, Maryland offers residents free GEOBIN® composters, which are essentially rolls of recyclable plastic that can be easily assembled into a cylinder 3 feet high, with an adjustable diameter up to 5 feet wide.

## Pricing and Delivery of Bins

Sullivan County can either sell bins at a subsidized price (Napa, Austin, Cheverly in Maryland, and Vancouver in Canada do this); at the wholesale price (New York, Oregon, and Los Angeles), which still works out to be a savings to the resident; or provide bins for free (Orlando and Miami-Dade County). Data collected in a 2004 Oregon Metro study found that 51% of Oregon Metro residents favored a 1% increase in garbage rates so that all households could have the option to receive a free home compost bin. Of the people who already considered composting appealing, 62% felt that Oregon Metro and local governments should subsidize the cost of compost bins to encourage people to compost at their homes. Though this study cannot be applied to all jurisdictions, the findings provide some evidence that most people will not object to the idea of their government subsidizing home compost bins.

### Free Bin and Free Delivery

The City of Orlando provides Earth Machine™ bins for free and delivers them to residents' homes free of charge. The bins are the property of the City of Orlando and must be returned if the resident moves out of the city limits or stops using the composter. The deliveries are made by adding the bins to the trash cart delivery truck's standard routes and cost the City no extra money. The ease with which residents can obtain a compost bin in Orlando has almost certainly been one of the main reasons Orlando's home composting program was able to distribute more bins in a single year than other programs ILSR reviewed. Offering free bins and free bin delivery is a great way to get new people interested in home composting.

Miami-Dade County also offers bins for free, but requires residents to pick them up at the County's Solid Waste office. The County's program has been successful, but has not distributed nearly as many bins as Orlando's program.

### Selling Bins at Bulk Sale Price Instead of Subsidizing

Subsidizing bins so residents can buy them at prices significantly below market value is an effective option to entice residents to pick one up. An alternative is for jurisdictions to simply use their leverage to bulk purchase bins and other composting equipment and pass this savings on to residents. If funding is constrained, this might be a good option.

For example, Los Angeles County does not subsidize the price of the Soil Saver and Can-O-Worms that are provided to residents who attend composting workshops. However, if one were to purchase these products online, Soil Savers generally sell for $99.99 and up, and Can-O-Worms go for $80 and up. The County sells both of these for $40. Oregon Metro, Seattle, and New York City also sell bins to residents at wholesale prices instead of subsidizing.

Another way to offer bins at bulk prices is to set up a pre-order program. ORBIS/Norseman, the manufacturer of the Earth Machine™ bin, offers a pre-order program, which is a joint project between ORBIS and the jurisdiction. Residents can go to an online pre-order website to order their bin at the discounted bulk price. ORBIS delivers bulk orders to a central site arranged with the jurisdiction and residents pick up their bin at the site. Milwaukee; Livingston County, Michigan; and

Wake County, North Carolina, have set up pre-order programs. Wake County distributed almost 1,000 bins during its most recent spring 2018 pre-order event.

### Truck Sales

Single- or multi-day truck sale events are an option for local governments with more limited resources and program commitment. Truck sale events can also supplement yearlong bin sale programs, or programs can start with truck sale events to test out the interest for home composting and then transition to yearlong sales if the bins are popular. During these events, trucks loaded with composting bins show up to pre-planned locations to sell bins to residents at discounted prices negotiated between a company and the local government. San Diego, Vancouver, and New York City have held compost bin truck sales in the past. Several bin manufacturers – such as EnviroWorld, the maker of the FreeGarden™ Earth composting bin, and ORBIS/Norseman, the maker of the Earth Machine™ – will partner with local governments to help organize truck sale events.

Visit the following link for more information on organizing a truck sale event with EnviroWorld, http://enviroworld.ca/truckloadsale.pdf, or http://www.earthmachine.com/municipal/contact.php for information on organizing a truck sale event with ORBIS/Norseman.

### Vouchers and Rebates

San Diego, Austin, and Napa (vouchers only for worm bins.) have chosen to offer a voucher or rebate for composting bins rather than delivering or providing bins for pickup. The primary advantage of vouchers and rebates are to give residents the freedom to choose whichever bin they like. San Diego has chosen to partner with one local chain (with multiple locations) where residents can claim their vouchers. Austin partners with a variety of local stores to offer vouchers and provides rebates for the proof of purchase of a composting bin obtained from any retailer.

By providing vouchers and rebates, San Diego and Austin were also able to secure free advertising of the program in marketing publications put out by the partnering retailers. San Diego's program saw a significant spike in demand for vouchers when their retailing partners published advertising materials with details on the vouchers. Data collected for Austin's program found that advertising put out by its partnering retailers was the second most common way in which residents found out about its vouchers. Furthermore, vouchers and rebates allow a city or county to take a more hands off approach in the program and not have to deal with ordering or distributing bins.

In 2018, ILSR worked with the District of Columbia City Council to pass a Home Composting Incentives Act, which establishes a rebate/voucher system up to $75 per bin per resident. The law was based on Austin's program. However, residents only qualify for the rebate/voucher if they have taken a class.

## RECOMMENDATIONS

Sullivan County should support a home composting program to increase material diversion. Based on our research of other successful programs, Sullivan County should consider three main tasks:

- Make home composting bins accessible to residents.
- Provide composting education and information, in addition to the current Compost Basics presentation provided to civic groups.
- Raise awareness of the benefits of composting.

In general, we recommend the following 10 steps for a successful program:

1. Get initial buy-in from those who will implement the program, such as municipal support. This includes making sure that local ordinances, and health and sanitation departments will not impede home composting.

2. Decide how the program is going to fit into your other organics reduction and recycling strategies.

3. Secure dependable multi-year funding. Outside grants and donations can help offset costs.

4. Secure solid supply lines for compost bins. Either issue a request-for-bids from manufacturers or set up a voucher/rebate arrangement with local retailers to stock home composting bins.

5. Decide on a bin type and price, and means of getting them into the hands of residents.

6. Set up easily accessible composting education and training. This can include workshops, informational material, and hotlines.

7. Advertise the program.

8. Provide support to residents after they purchase bins. The success of the program is not just how many bins are sold, but how many are in use.

9. Collect data on composted amounts from participating residents and calculate the costs/savings of the program.

10. Keep data on as many aspects of the program as possible, such as number of bins distributed, number of attendees in workshops, how residents hear about the program, and program expenses. Use this data to analyze and improve the program.

A Sullivan County-supported program should aim to get more people to compost at home and keep them composting successfully. The best way to encourage people to start composting is by making composting bins and equipment more easily available or cheaper than retail prices. However, even with access to discounted bins, many people will not start composting because they are either unaware of composting's benefits, or they believe they do not have the capacity or expertise to start composting on their own. A county-supported program can spread awareness of the benefits of composting through marketing and outreach campaigns, and provide composting education and training to help people start composting at home and to keep them composting successfully.

## Bins and Equipment

- Provide composting bins to residents: purchase in bulk through a contract with manufacturers and sell the bins at the wholesale price to residents; subsidize the price of bins; or provide vouchers or rebates to give residents discounts on bins sold at local retailers.

- Offer at least one stationary backyard composting bin model (such as the FreeGarden™ Earth or the Earth Machine™). These bins can compost both food scraps and yard trimmings and are relatively cheap.

- Offer a variety of bin types – for example, worm bins, Green Cones, tumblers – to accommodate a range of options and household/backyard situations.

- Include worm or vermicomposting bins to provide an option to individuals without yards or who live in apartment buildings. In addition, unlike other composting systems, vermicomposting can be done with old newspaper and food scraps. Carbon sources like leaves and twigs are not needed.

- Offer enclosed systems that keep out rodents, for urban areas with existing rat pressure. Tumblers are generally built off the ground and harder for rats to access. Some stationary backyard bin manufacturers offer optional bases to prevent access from unwanted critters. Regardless of the system chosen, proper composting in the system is key.

- Consider home delivery of bins to interest more residents in home composting.

## Education and Training

- Offer education and training to enable home composters to succeed, troubleshoot on their own, and to produce high-quality compost. Key facts people need to know include:

    - The importance of oxygen and moisture
    - Balancing nitrogen-rich material with carbon-rich material
    - Materials not to compost
    - How to know the compost is ready to use

    When people learn how to compost properly, they will, for instance, avoid odor problems. When people learn to always cover food scraps with a thick layer of leaves and forgo adding problematic materials like dairy and meat products, the compost pile is less likely to attract unwanted critters. Training can also provide other basic information about identifying and mitigating rat activity.

- Tie training to bin giveaways or distribution. Training can be optional or required to obtain a composting bin, but requiring training ensures residents are exposed to best management practices (BMPs). Requiring training does not significantly decrease program participation rates.

- Make education or training easily accessible in order to encourage participation. Studies have shown that the main reason people are wary to start composting is that they lack confidence in their composting abilities or believe that composting is always smelly and messy.

- Hold workshops during fairer weather and in places that are already frequented by residents in order to increase participation. An example is the weekly teach-in program conducted at the Monticello convenience area.

- Provide updates on-line and via social media.

## Measure, Evaluate, and Improve

- Calculate the program's costs and savings. Overtime, a home composting program can be expected to save Sullivan County more money in hauling and tipping fees than it costs to implement.

- Solicit volunteers to weigh materials home composted in order to develop more accurate estimations of diversion rates and savings from hauling and tipping fees.

- Evaluate the program to determine the effectiveness of current approaches and see where improvements can be made. Data to collect might include: the number of bins distributed, residents' satisfaction with bins, where residents learned about the program (to assess different marketing techniques), the location and times of day the most residents are showing up for workshops.

## Outreach and Marketing

- Develop strong outreach efforts and innovative marketing campaigns to increase program participation.

- Invest in a strong marketing push when launching program to get people interested right from the beginning. The program can follow up with cheaper long-term marketing.

- Where appropriate, show residents how they can save money on their waste hauling bills through home composting. This is especially relevant in communities with volume- or weight-based trash fees.

## Ordinances

- Review existing laws and rules (e.g., Local Law #1 of 1992) to make sure none prevent home composting. Update any archaic laws or pass new ordinances to support home composting.

- Focus any new ordinance or rule toward fostering successful and well operated home composting rather than creating prescriptive requirements that may unnecessarily stifle home composting.

- Facilitate budgeting for education and training by passing an ordinance to require the County's Department of Solid Waste and Recycling to provide home composting education and training.

- Instead of imposing fines or shutting down home composting sites that have issues with odors or pests, consider requiring residents in violation of home composting regulations to take a composting class.

# 6 PRE-TREATMENT TECHNOLOGIES

Analogous to home composting, pre-treatment technologies are used by businesses, institutions and other organizations to manage organics at the source. In this case, as opposed to a home, the pre-treatment technologies are employed at the business or institution itself. As the name implies, these technologies are typically the initial phase of the treatment of organics, with subsequent treatment phases occurring off-site.

## PRE-TREATMENT TYPES

Pre-treatment technologies, sometimes referred to as "pre-processing systems," treat and process food scraps and select other organic wastes through thermal and/or biological methods, and typically rely on the material's high moisture content, typically between 70 and 90 percent. These systems are most often used by large-scale organic waste generators and, depending on the quantity of material processed, vary from roughly the size of a kitchen cabinet to the size of a school bus. Pre-treatment systems may have built-in pulpers, grinders, or shredders, and can be broadly classified as either wet or dry systems.

### Wet Pre-Treatment Systems

Wet systems are generally referred to as liquefiers or biodigesters, and require a connection to a water source. Inside these systems, organic waste materials, such as food scraps, are mixed with water and microorganisms (for certain systems), and the mixture is digested. This digestive process breaks down solid particles into smaller pieces, which can be discharged, either into a containment system for further processing or to the local wastewater treatment collection system. These systems generally use continuous processes and often a pulper, grinder, or shredder is placed at the beginning of the process to size-reduce input material.

Wet systems are typically smaller than dry pre-treatment systems, especially on the basis of processing capacity per unit volume/footprint. Depending on the goal of the host facility, wet systems may be better suited for facilities with limited space, and where there are unused anaerobic digestion capacity and low water utility rates.

Wet pre-treatment systems cannot typically accept material such as soiled paper, waxed cardboard, and napkins, whereas dry pre-treatment systems generally can. A typical wet pre-treatment system is shown in Exhibit 7.

Exhibit 7. Typical Wet Pre-Treatment System



*Source: The Composting Collaborative Pre-treatment Directory*

## Dry Pre-Treatment Systems

Dry systems include dehydrators and accelerated composting systems. These systems use slow turning and other agitation methods in conjunction with either 1) heat alone over an extended period to evaporate the water from the discard waste material (dehydrators), or 2) heat and/or microbes as part of a biological process (accelerated compost systems).

Dehydrators do not require process inputs other than electricity or natural gas for thermal heating. Small to mid-size systems typically use more electricity per pound of material processed than similarly sized wet pre-treatment systems. Dehydrators may process material in as little as 12 hours and therefore may accommodate up to two processing cycles per day.

Accelerated composting systems, typically consisting of in-vessel systems, often require a carbonaceous additive, such as sawdust or wood chips. These systems generally use batch processes and often size reduction of input material occurs at the beginning of the process cycle. Accelerated composting produces a "product" within 24 hours to 7 days.

# INPUT FEEDSTOCKS

Organic wastes generated in back-of-house operations are typical input products of pre-treatment systems. On-site source separation of food wastes and employee training are required for pre-treatment system users. Many pre-treatment operations cannot accept certain commonly-discarded organic materials.

Depending on the system, materials frequently encountered in restaurant environments that are **not accepted** may include:

- Coffee Grinds
- Tea Bags and Filters
- Pineapple Tops

- Corn Husks
- Corn Cobs
- Avocado, Mango, and Papaya Pits
- Raw Dough
- Rice
- Certain Mollusk Shells (Clams, Oysters)
- Large bones
- Fats, Oils, and Greases (FOG)
- Waxed Cardboard
- Silverware, Napkins, Plastic Bags, Cloth, Cans, Packaging
- Rubber, Glass, Metal, Plastics in general
- Pet Waste
- Hazardous Waste, Pesticides, Acidic Wastes, Detergents and Other Cleaning Products
- Certain "Compostable" Dishware

## OUTPUT PRODUCTS

Output products vary between process types and brands of pre-treatment system.

### Wet Systems

If the effluent is temporarily stored after the initial pre-treatment, it may be further processed on-site or transported in batches for use by other specialized third-parties as a process input. Common end-uses for the effluent include anaerobic digestion, commercial composting, or direct discharge into WWTP intake areas.

If the effluent is disposed via the plumbing system, it is further processed at the local WWTP. The local WWTP may have limitations on the quantity and characteristics of the effluent.

Vendors of liquefiers should provide documentation on the biological oxygen demand (BOD) and total suspended solids (TSS) of the treated food waste to ensure it meets the discharge limits set by the WWTP. Prior to purchasing or leasing liquefiers, food waste generators need to check with the local WWTP to see if this equipment is allowed.

### Dry Systems

A few vendors of in-vessel composting systems state that finished compost (i.e., meets a scientifically robust test for stability) is produced in 7 days or less. The majority of vendors state that their process meets pathogen and vector attraction reduction in the vessel (55°C for 3 days), but that additional curing/maturation is needed prior to use. The latter is what is recommended, and thus space should be available on-site or off-site for further processing.

In California, state regulations do not define dehydrated food waste any differently than unprocessed food waste. It is considered a solid waste and must be handled as such. CalRecycle's guidance on dehydrators states the following:

- Dried food waste is not compost or a compost product. Food waste dehydrators do not use a biological process to reduce pathogens and decompose food waste into a stable substance.

- If it becomes wet again, the dried food waste can reabsorb water. At this point it will have similar characteristics to unprocessed food waste, meaning it can attract vectors and create odor.

## BENEFITS

Benefits of pre-treatment systems include the following:

- **Ability to significantly reduce or eliminate the volume of managed discarded material.** Dry pre-treatment typically reduces material volumes by 50 to 80%. Wet pre-treatment effectively reduces waste volumes by 100%, if they are discharged to the local sanitary sewer. Thus, waste management costs can be eliminated or reduced for certain institutions.

- **Reduction of odors and the attraction of nuisance pests.** The need for odor and pest control measures is virtually eliminated by wet pre-treatment processes and significantly reduced by dry pre-treatment processes. Pre-treatment technologies are self-contained and temporary storage measures exist to transition processed material to its final end use.

- **Reduction of transportation.** Pre-treatment systems significantly reduce or eliminate the quantities of organics needed to be hauled off the site of generation. Dry pre-treatment processes reduce the volume of material required to be transported by vehicles. Wet pre-treatment processes generally use the wastewater treatment system for "disposal".

## POTENTIAL ISSUES

Potential issues related to pre-treatment systems include the following:

- **Wet pre-treatment systems may require permitting by the local WWTP**. The discharge from these systems includes parameters, such as BOD, TSS, and other items. The discharge may require special permits or effluent sampling measures on a recurring basis.

- **Wet pre-treatment systems may not be permitted.** Two major municipalities have investigated the effects of BOD and TSS loading by pre-treatment processes: New York City (NYC) and San Diego. NYC requires that on-site processing systems be registered under the NYC commercial organics rules. NYCDEP is currently assessing the impact of effluent loading from pre-treatment processes. San Diego has assessed the processes and asserted that the sewer system and WWTP cannot accommodate the BOD and TSS loading of down-the-drain pre-treatment systems, and therefore they are not permitted.

- **Dry pre-treatment systems do not reduce pathogen levels of inputs.** As a result, the outputs of dry systems may not be stabilized and are limited in their applications. Their outputs should not be considered compost and require further processing to be considered as such.

- **On-site source separation of food wastes and employee training is required for pre-treatment systems.** Many pre-treatment operations cannot accept certain commonly-discarded organic materials.

## VENDORS

There are at least 23 different pre-treatment technology vendors (see **Appendix G**). As listed, these vendors offer about 100 different models of pre-treatment systems. Ranges of operating parameters and other notes about the systems include:

- Maximum Processing Capacity: 15 – 6,614 pounds/day
- Price: ~$10,000 – $100,000+
- Volume/Weight Reduction: 15 – 99%
- Largest Dimension (typically length): 2.4 – 60 ft
- Height: 2.2 – 15 ft
- Total Volume: 7 – 8,550 $ft^3$
- Energy Use (electricity-based systems): 0.4 – 1,400 kWh/day
- Energy Use (natural gas-based systems): 560 – 4,100 scf/day
- Water Use: 14 – 320 gal/day
- Product Warrantees: Generally 1 or 3 Years
- Service plans are generally offered with the systems.
- Most offer options to lease the systems rather than purchase.
- Only the Power Knot systems appear to be able to accept fats, oils, and grease.
- Most systems are able to accept paper and packaging, but generally no more than 10-20% of total system inputs, maximum.

The data currently available are self-reported by the pre-treatment system vendors themselves. We have not conducted an independent third-party evaluation of these technologies.

Individual technologies are summarized in **Table 2** (Wet Pre-treatment Systems) and **Table 3** (Dry Pre-Treatment Systems) below.

Table 2. Wet Pre-Treatment System Technologies and Key Parameters by Vendor

| Vendor (Distributor) | Product Lines (Model Nos.) | Price Range | Input Capacity (lb) |
|---|---|---|---|
| **BioHiTech Global** | Eco-Safe (4,8,12), Revolution (Seed, Sprout) | $26K-$44K | 500-2,400/day |
| **Emerson (Insinkerator)** | Grind2Energy | Based on customer need | 2,000/hr |
| **Orca Technology (Totally Green Inc.)** | OG (15, 25, 50, 100) | $10K-$50K | 360-2,400/day |
| **Power Knot** | LFC (20, 50, 70, 100, 200, 300, 500,1000) | $16K-$250K | 45-4,000/day |
| **Rendisk** | Flex WasteDispo, Solus Eco | $29K-$103K+ | 1,000-1,500/day |
| **Salvajor Company** | Disposers (100, 200, 300, 500), Scrap Master SM500 , Collector S914 | $4K-$17K | 250-750/day |
| **Somat Company** | DH-100w Dehydrator, SPC-60S Close Coupled Pulper, SPC-75S Close Coupled Pulper | $35K-$59K | 220-1,250/day |

Table 3. Dry Pre-Treatment System Technologies and Key Parameters by Vendor

| Vendor (Distributor) | Product Lines (Model Nos.) | Price Range | Input Capacity (lb) |
|---|---|---|---|
| **BioGreen 360, Inc.** | BioGreen360 | n/a | n/a |
| **Resource Env. Solutions (Canasco)** | Hungry Giant | n/a | n/a |
| **Enic Ecovim (IVS Waste Solutions)** | ECOVIM (66, 250, 650, 1100) | $20K-$75K | 66-1,100/ treatment cycle |
| **Food Cycler** | ES (150, 300, 500, 1000, 1500) | $100K+ | 250-1,540/day |
| **FOR Solutions, LLC** | Model Composting System (500, 1000, 2000, 4000, 8000) | $135K-$410K | 1,000-8,000/day (5 day week load) |
| **Gaia (OnSite Waste Solutions)** | Gaia GC (20, 30, 50, 100, 150, 200, 300, 400, 600, 1000, 1200, 2000) Electric; GG (150H, 200H, 300H, 400H, 600H, 1200H) Gas | $21K-$350K+ | 40-4,400/day |
| **Ridan Composting Ltd (Food Waste Experts)** | Small/Medium/Large | ~$10K | 15-74 |
| **Susteco AB (EC ALL Ltd)** | Big Hanna (T60, T120, T240), Neter (12, 20, 28, 36) | $45K-$154K | 44-3,401/day |
| **Tidy Planet Limited (Food Waste Experts)** | Rocket A (500, 700, 900, 1200), Rocket B (1200, 2500) | $20.5K-$100K | Up to 11,000/day, (as low as 50 l/wk pretreated) |
| **Urban Solutions (EcoRich LLC)** | ER (20, 50, 100, 150, 200, 300, 500, 1000, 1500, 2000, 2500) | ~$10K-$100K+ | 20-2,500/day |
| **XACT Systems, Inc.** | 510/615/630/637/740/1040/1060 | $50K-$100K+ | 1,500-2,500+/day |
| **BioFerm Energy Systems** | COCCUS, Dry Fermentation, EUCOlino | $400K-$1M | 15,000-380,000 lb/day |
| **DariTech Inc. dba TR Environmental** | EnvironDrum (6-20, 6-32, 8-40, 5-14) | $90K-$350K | 3-25 cubic yards/day |
| **Global Enviro Inc.** | Global Enviro (110T,275T,550T) | $107K-$176K | 600-3,000/24 hr |
| **Envac US** | Micro Vac | $500K-$1.5M | 180 Liter/hr |
| **EnviroPure Systems** | EPW | $107K-$176K | 12,000-14,000/day |
| **Grenn Good Composter** | GG-CMO (30,50,100,300,500) | $22K-$185K | 200-3,000/day |

| Vendor (Distributor) | Product Lines (Model Nos.) | Price Range | Input Capacity (lb) |
|---|---|---|---|
| **Green Mountain Technologies** | Earth Tub Systems, Earth Flow Systems | $12K-$60K+ | 100-6,000/day |
| **Impact Bioenergy** | AD (25 Horse, 185 Nautilus) | $37K-$600K | 25-925 tons/yr |
| **Mechline** | Mechline Waste2GO biodigester / W20.400 | $ 21,876 | 400/day |
| **SEaB Energy Limited** | FB( 24,48,72,96,120) | $211K-$760K | 1,320-6,600/day |
| **Vertal U.S Inc** | CITYPOD (S,M,L,XL) | $35K-$119K | 107-836/day |
| **Global Composting Solutions** | HotRot (1811, 1206, 3518 | - | 660-26,000/day |

## RESOURCES

Resources relating to pre-treatment technologies include the following:

- Composting Collaborative Pre-treatment Directory: The Composting Collaborative is a non-profit effort by GreenBlue, BioCycle magazine, and the US Composting Council (USCC) to accelerate composting access and infrastructure, and thereby improve soil health and divert compostable material from landfills. The organization maintains a directory of available pre-treatment technology options. Contact: Charlotte Dreizen, Project Manager at GreenBlue.

- RecyclingWorks Massachusetts: RecyclingWorks Massachusetts, a recycling assistance program that helps businesses and institutions maximize recycling, reuse, and food waste diversion, developed a directory of on-site systems for managing food waste.

- California Department of Resources Recycling and Recover (CalRecycle): CalRecycle maintains information on wet and dry pre-treatment processes, specifically dehydrators and liquefiers. Background information, proper handling techniques, climate change impacts, research links and more are available on the CalRecycle website.

- BioCycle Magazine: BioCycle reports on pre-treatment systems on a regular basis. A two-part article series on dehydrators and liquefiers/biodigesters was published in October 2013 and January 2014 and may be viewed on the BioCycle website. Contact: Nora Goldstein, Editor.

# 7 COMMUNITY-SCALE COMPOSTING

## OVERVIEW

Community-scale composters serve an integral and unique role in both the broader composting industry and the sustainable food movement. They are often social innovators and entrepreneurs. Many collect food scraps with bikes while others employ youth and marginalized individuals. A growing number utilize cooperative ownership structures. The composters are located at schools, universities, community gardens, farms, and many other places – urban, rural, and suburban. Their distinguishing feature is keeping the process and product as local as possible, while engaging the community through participation and education.

In community composting programs, resources are recognized and managed as community assets. These programs are typically characterized by local control and community access, but not necessarily community ownership. Organic materials and nutrients remain and are recycled within the community. The composting systems employed are scale-appropriate to a discrete geography. Community composting involves a relatively small-scale system in which material is converted into compost within a local community. Many, but not all, community composting programs are non-profit, mission-driven enterprises.

Composting locally at the neighborhood or community-level yields many other benefits: social inclusion and empowerment, greener neighborhoods, improved local soils, enhanced food security and fewer food deserts, less truck traffic hauling garbage, more local jobs, and increased composting know-how and skills within the local workforce that is reinforced in the next generation. When composting is small-scale and locally-based, community participation and education can flourish. When materials are collected, processed and used within the community these benefits are realized at the local level. Community-scale operations can move from concept to operation in a relatively-short time frame and community composting can build critical support for, and participation in, future county-wide food scrap recovery programs.

ILSR has been at the forefront of advancing community-scale composting by documenting early adopters, sharing tips for replication, facilitating networking and resources, and developing policies to support a distributed and diverse infrastructure. In its 2014 report, *Growing Local Fertility: A Guide to Community Composting*, ILSR outlined the following guiding principles of community composting:

1. **Resources recovered:** Waste is reduced; food scraps and other organic materials are diverted from disposal and composted.

2. **Locally-based and closed loop:** Organic materials are a community asset, and are generated and recycled into compost within the same neighborhood or community.

3. **Organic materials returned to soils:** Compost is used to enhance local soils, support local food production, and conserve natural ecology by improving soil structure and maintaining nutrients, carbon, and soil microorganisms.

4. **Community-scaled and diverse:** Composting infrastructure is diverse, distributed, and sustainable; systems are scaled to meet the needs of a self-defined community.

5. **Community engaged, empowered, and educated:** Compost programming engages and educates the community in food systems thinking, resource stewardship, or community

sustainability, while providing solutions that empower individuals, businesses, and institutions to capture organic waste and retain it as a community resource.

6. **Community supported:** Aligns with community goals (such as healthy soils and healthy people) and is supported by the community it serves. The reverse is true, too; a community composting program supports community social, economic, and environmental well-being.

## US EXPERIENCE

Community composting is thriving and growing. ILSR convenes an annual National Cultivating Community Composting conference, which has outgrown its previous format as a companion forum at the USCC conference. At this year's event in NYC (May 2019), ILSR anticipates almost doubling participation from 2018, when there were 80 participants from 17 states plus DC, Puerto Rico, and Haiti. The number of organizations that have formally joined the Community Composter Coalition, which ILSR launched and facilitate, has grown to 41 members in 14 states plus DC. ILSR's listserv now has 111 active members and is growing (it is by invitation only). ILSR has identified 434 sites in the US composting at the community scale.

The operations in ILSR's network demonstrate the range of activities possible from demonstration/ training sites to pedal-powered collection systems, worker-owned cooperatives, and farms employing multiple composting techniques. These programs are categorized into 10 main types, generally based either on the type of venue (such as school or farm) or the type of operation (such as collector or composter):

1. **Community gardens**: Composting is incorporated into opportunities for neighborhood gardening. The community gardeners frequently are allowed to compost their own yard trimmings and food scraps. In some instances, other neighbors and local businesses are allowed to drop off their food scraps on a limited basis. Compost is used on-site to improve soil fertility for growing food. Excess compost is given away or donated to other locations where it can be used.

2. **Farms (rural and urban):** Many farmers already compost their own crop waste, wood, and livestock manures. Farmers may initiate the development of a composting program to serve the community or community members might approach a farmer (or several) in search of an on-farm composting partner. Urban farms often involve the community by relying on neighborhood volunteers or by offering training programs.

3. **Schools**: School composting programs can take several forms from classroom worm bins and school garden composting to source-separation collection systems combined with a nearby off-site composting operation, often a local farmer. On-site composting done in conjunction with school gardens provides a full soil-to-soil loop that few students would experience otherwise. In higher education institutions, or schools with agriculture or sustainability programs, students may earn academic credit for collecting materials, learning processing methods, doing controlled experiments, or using the compost produced for on-campus horticultural experiments.

4. **Drop-off networks**: A network of drop-off locations for collection of food scraps within a neighborhood, city, or district is set up by volunteers or one or more community groups. These may involve creating an online map showing various locations within an area, zip code or town where residents may drop off their food scraps for free, often in exchange for minimal volunteer involvement. Some networks are funded by small grants that cover

supplies but usually not salaries. Local governments are also supporting networks through their departments of public works or parks & recreation, and may use city employees to collect and process materials. In some cases, the food scraps are composted at the drop-off site. In other cases, the drop-off site is a transfer point and the food scraps are transported to a farm or other operation.

5. Collection entrepreneurs or Micro Haulers: Small-scale local entrepreneurs collect food scraps – from residences, restaurants, grocery stores, breweries, coffee shops and other sites – by bicycle, trailer, or truck and transport material to a nearby composting operation.

6. On-site composters: Materials are processed into compost at the same location that generates the materials. Compost is used on-site or distributed or sold to off-site users. Schools and community gardens are common on-site composters.

7. Off-site composters: Food scraps and other materials are delivered to a small-scale site for processing. Finished compost is screened and sold (or donated) and primarily used off-site (distinguishing this model from a farm that is composting). Local residents may become "paying members" and help with some of the more labor-intensive tasks, such as turning and screening. In other cases, worker-owned cooperatives may be formed where everyone is paid. These programs are typically mission-driven and tend to be non-profit operations but can also include small-scale for-profit businesses. Composting can be a small project of a larger community-based organization, such as a community development corporation (CDC).

8. Demonstration and community leader training sites: The goal of demonstration/training sites is engagement, education, and empowerment. Visitors come to learn about composting, and to tour various models of open and closed bin systems they can purchase or build to use in their backyard. The New York City Compost Project runs a robust Master Composter train-the-trainer program at its network of demonstration sites. The heart of the program is selecting and training community leaders in the art and science of composting who then return to their community to start small-scale composting projects.

9. Worker-owned cooperatives: Worker cooperatives ("co-ops") are businesses owned and run by and for their workers. Like other types of co-ops, they can operate in any industry; many are also democratically self-managed, using a variety of approaches. Collection services companies and composting operations can both operate as worker co-ops.

10. Home-based or homesteader hubs: Residents or homesteaders offer their own backyards to compost neighborhood leaves and other materials (such as the products of neighborhood street festivals). Sometimes they may be a community-based project in "start-up phase," still looking to lease land. There are limits to what can be done at this scale, due to state and local composting regulations or labor requirements.

These categories do not intend to imply that all schools or farms are community-based, nor that a farm or drop-off network comprises the entire program. Rather, community-based initiatives can take place at schools or farms, and involve collection entrepreneurs or worker-owned cooperatives. Further, many programs defy categorization as they represent an amalgamation of types.

New York State correctional facilities successfully composted on-site organics, until closure of prison farms in 2009-2010. Correctional facilities typically have open space, which may permit re-examination of on-site composting of the prison organic waste stream.

Community composting programs in rural areas may differ from those in urban or suburban sites. In densely-populated New York City, for instance, where a vibrant and diverse community composting network has blossomed, some are defining locally-based compost as within 10 square city blocks, meaning you should be able to find a community compost site within 10 blocks of your home.

In sparsely populated rural areas, locally-based composting could entail producing and using compost within a 10-mile radius of where the materials are generated. The level and flavor of public participation differs too. The emphasis on public participation and recruiting volunteers is strong in urban areas among urban farms and community gardens. Community engagement in rural areas may more typically be characterized by partnerships among farms, schools, food scrap generators, non-profits, and municipalities.

In rural Vermont, for instance, community composting programs have arisen from a highly participatory process. Stakeholders across the private, public, and nonprofit sectors, came together to form an informal coalition. There were many public meetings to get input from farmers, activists, students, and others in order to build infrastructure and programs around community assets. This groundwork for success was laid by the work of many groups, organizing over a decade, including: Farm to Plate, Rural Vermont's Council on the Future of Vermont, Zero Waste by Central Vermont Waste District, Toxics Action, Vermont Agency of Natural Resources, and more.

By encouraging locally-based composting, local planners and policymakers will ultimately strengthen the public's commitment to all forms of recycling, improve the quality of compost produced, and build support for and proper participation in municipal or county residential collection programs. Educated citizens, directly composting and growing local food, and benefiting from greener neighborhoods, likely will sort their compostables with greater care, thus reducing the level of contaminants. Moreover, community-based composting is an ideal form of recycling, approaching the way ecosystems naturally function: few resources are lost from the system, all matter that was once alive is returned to the earth to support new life. It reduces truck hauling for managing garbage and for providing food. By supporting local food production, the distance between the food producer and the eater can be narrowed. Finished compost is more readily available for growing food by households, urban and rural farms, community gardens, and school gardens. It is also available for low-impact development and green infrastructure such as rain gardens, green roofs, green streets, and bioswales – all BMPs for controlling stormwater. In short, community composting builds more resilient and sustainable communities.

## LOCAL GOVERNMENT SUPPORT

There are many ways Sullivan County can support community composting. ILSR surveyed community composters across the US to find out how local government could help them. **Exhibit 8** below summarizes some of their responses:

Exhibit 8. Requested Government Assistance












New York City and the District of Columbia are two jurisdictions that are directly supporting community composting in their cities.

## New York City

With more than 200 community composting sites and 8 to 10 mid-size operations in five boroughs, New York City is a unique example. Much of this work has been supported by the NYC Department of Sanitation's NYC Compost Project. Like the city itself, diversity characterizes these initiatives. Some sites accept food scraps from the local community while others only accept from their garden members. For instance, New York City is home to more than 600 registered community gardens, some of which compost food scraps on-site. Several sites are connected to an urban farm or a non-profit dedicated to collecting and processing food scraps. Land used for composting could be privately owned, publicly owned and managed by the City or State, or a land trust established by a private donor.

A few community sites in New York City process organics from the general public collected at NYC farmers' markets, called Greenmarkets. The nonprofit GrowNYC started the Greenmarket Food Scrap Collection program, which allows residents to drop off their food scraps at about 50 GrowNYC Greenmarket locations. The scraps largely go to local community compost sites, which can handle more than 100 tons per year.

Many are affiliated with the NYC Compost Project, which is managed and funded by NYC's Department of Sanitation. There are 7 host sites for the NYC Compost Project: the Lower East Side Ecology Center; Earth Matter NY; Snug Harbor Cultural Center & Botanical Garden; The New York Botanical Garden; Queens Botanical Garden Farm & Compost; Brooklyn Botanic Garden; and Big Reuse. The Big Reuse site (**Exhibit 9**) is located on less than a ½-acre site, but can process up to 1,000 tons of food scraps per year.

Since 1999, the NYC Compost Project has trained over 1,200 Master Composters and certified over 670 Master Composters (1,286 trained and 679 certified as of June 30, 2018). Certification requires 24 hours of classroom instruction, and 30 hours of volunteer work to be completed within 1 year of finishing the classroom portion.

Exhibit 9. NYC Compost Project, Big Reuse Site



Aerial view of compost site, located under the Queensboro Bridge

## District of Columbia

Two agencies (Department of Parks and Recreation and Department of Public Works) in the District of Columbia support local composting of food waste. The Department of Parks and Recreation (DPR) created a community composting cooperative network at community gardens throughout the City. The network has been operating successfully for several years, and the Department of Public Works started a drop-off program at eight farmers' markets in 2017, contracting out collection to Compost Cab, a local hauler. The community garden sites actively engage residents in the composting process. In order to participate, residents take a one-hour compost training and volunteer at the garden for a total of nine hours a year. Once training is complete, members of the cooperative can drop off their food waste whenever they want. There are 56 compost cooperative sites. Each site utilizes an enclosed 3-bin compost system, called the Compost Knox, designed by Urban Farm Plans (See **Exhibit 10**).

Exhibit 10. Compost Knox 3-Bin System at a DC DPR Compost Cooperative Site




The Department of Public Works program is a very different model, but one that has also proved popular. Each ward in the District has a drop-off site open on Saturdays (most are seasonal) during the farmers' market. While a less hands-on experience with composting than the DPR program, the farmers' market drop-offs have introduced composting to many new people. In 2017, there were 12,024 individual drop-offs and the average weight per drop-off was 8.27 pounds. In 2018, there were 51,498 individual drop-offs of a total 340,619 pounds of food scraps (6.61 pounds per drop-off participant). [DC figures from Howard Lee, DC Department of Public Works, email communication, January 9, 2019.]

Food waste collected at the farmers' markets go to some of the DPR cooperative composting sites for processing, as well as to a county facility in Prince George's County, Maryland. Having two types of drop-off programs has helped raise the profile of composting in the District of Columbia and allows residents to be involved in composting at whatever level they want.

## COMPOSTING SYSTEMS FOR THE COMMUNITY SCALE

There are many types of community-scale composting systems. Regardless of size, well managed composting systems share common traits. Adequate microorganisms are necessary to digest organic materials, in conjunction with adequate oxygen, moisture, and food for microorganisms (that is, a balanced carbon to nitrogen (C:N) ratio); diversely sized food particles that provide pore space for oxygen to travel; and, an adequate volume of material to best allow the microbial population to grow and thrive (usually a cubic yard or more). Food scraps represent materials high in nitrogen; thus, any food scrap composting program must find adequate supplies of carbon-rich materials such as wood chips, straw, leaves, and brush. In addition, compost needs time and space to stabilize and

mature after an initial phase, typically characterized by high temperatures, and frequent monitoring and management.

Several basic types of composting configurations are used by community-scale and farm-scale operations:

1. Windrow
2. Bin systems
3. Aerated static piles
4. Passively aerated static piles
5. In-vessel
6. Static piles
7. Vermicomposting

These systems are not mutually exclusive and can be used in combination with each other.

## Windrow

By far the most common technique for composting, beyond home scale, is the turned windrow method. A windrow is an elongated pile, which is generally turned or "rolled" from the side with a bucket loader, tractor, or a specially-engineered machine called a windrow turner (See **Exhibit 11**). Windrows can also be turned by hand. The long shape of a windrow makes the piles easy to turn and provides surface area for passive airflow into the compost. Windrows also provide a simple means to organize a compost site, by combining and tracking materials of a similar age in a scalable volume.

Several of New York City's community composting sites started with manual turning of windrows. Teams of volunteers with shovels would get together to turn a windrow and take part in the action of managed composting. Some sites now use skid-steer loaders for turning (e.g., Earth Matter and Big Reuse) and are permanently staffed with 5-day workweeks. Red Hook Community Farm continues to hand turn piles. Avoiding machines when possible can help some programs meet their core goal to use sustainable practices. In addition, when machines are introduced, volunteers may disappear, undercutting public education and engagement goals. Like the bin systems described below, human-turned windrows lend themselves to engaging volunteers. Windrow systems may allow larger amounts of materials to be handled than in bin systems. Instead of managing 2-person teams, sites may have 10-person teams turning and managing windrows with low-cost equipment such as wheelbarrows.

Exhibit 11. Windrow system and turner at the Potomac Vegetable Farm, Virginia



## Bin Systems

Composting in bins is probably the most common style for backyard home-scale systems. The concept applies to larger volume systems as well; bins are commonly used for demonstration sites, community gardens, neighborhood drop-off networks, and K-12 schools (see **Exhibit 12**). Composting material is contained in a wire bin, a bay with sides, or any number of configurations that provide walls to support the compost pile in order to fit more materials vertically into a smaller space. The material is turned for aeration and can be accessed from an open side or a door/hatch for loading and unloading.

Container-based bins can be plastic and take different sizes and shapes. Many of the systems designed for backyard use are roughly the size of a garbage can and may look like a tall box. They require the user to aerate the contents by some means -- either dumping out everything and turning it back inside, or using a pitchfork or specialized auger on the inside. Materials in bins with volumes less than 3'x3'x3' will not heat up to the 120-150 degrees F, which is considered optimal for well-managed systems. "Cube-based" bins – typically at least 3'x3'x3' – are larger in size than containers and can more reliably achieve the volume necessary for the material to heat up, which reduces pathogens and seeds and accelerates decomposition. While several off-the-shelf brands are available for container-based bins, cube-based bin systems are typically custom built (many open-source designs exist). They are commonly made from wood and chicken wire or hardware cloth, and can be constructed from repurposed materials such as pallets or concrete blocks.

Many community-based sites choose a bin system because it is easy for inexperienced or untrained volunteers to use. Once a bin is full, it is considered a "batch" and no new material is added to it unless the recipe needs adjusting. Each batch is rotated to the next bin, which is typically how the

pile is turned. It is common to have three bins, with the first bin being the place where fresh material is added. Once the first bin is full, a batch is done, and it gets turned into the second bin, and then into the third bin in a constant succession based on the rate of input. At sites in cold climates like New York, insulating the bins can be effective at maintaining high temperatures even in the dead of winter. Bins can be utilized on a large scale too, often as a way to organize aerated static pile (ASP) systems. The concept is the same; maintain distinct batches and use space efficiently by containing material vertically on less of a footprint. In such instances, the aeration pipes are commonly placed at the base of the bins, often in trenches. A large version would be a constructed box with one end open to allow for a bucket-loader to add or remove materials.

Exhibit 12. Aerated bin system at St. John's University in New York City



## Aerated Static Piles (ASP)

Aerated static piles (ASP) are compost piles with perforated pipes or ductwork underneath that are actively aerated with blowers to pull (negative aeration) or push (positive aeration) fresh air through the material. The ductwork distributes airflow evenly throughout the material. Controls, such as timers and temperature sensors can be used to operate the fans, which supply fresh oxygen to microbes as well as cool the material if need be. ASP systems can be small- or large-scale, and can be custom built or purchased as fully engineered systems. There are significant benefits that can come with ASP systems and, as is the case with more complex composting systems, a significant learning curve as well. Operators find temperature and moisture control to be some of the most challenging factors to manage, which is why some turning is still advisable. **Exhibit 13** shows the ASP system installed at Red Hook Community Farm in Brooklyn, New York.

Exhibit 13. ASP System Powered by Solar Photovoltaic Array at Red Hook Community Farm, Brooklyn, NYC



## Passively Aerated Static Pile

Passive aeration of compost is the process that all composting methods rely on when not being actively aerated through turning or forced aeration with blowers. This process relies on the porosity of the compost's "organic matrix" and the processes of convection and diffusion, which is why large particles that create a porous architecture are such an important factor in any composting recipe. As compost heats, it creates a "chimney effect," pulling fresh cool air into its base passively (e.g. without mechanization such as blowers).

## In-Vessel

In-vessel systems are enclosed systems, which on a small scale would include plastic tumblers and on a large scale would include rolling drums, containerized ASP systems, and several auger turned systems, to name just a few (see **Exhibit 14**). In-vessel systems come in many forms, but will either be continuous flow or batch systems. Batch systems would require more than one unit if a constant input of food scraps is being added, so that fresh material is not being added to batches that are almost complete and ready for unloading. Small-scale tumblers are often recommended for urban residential settings. They are also useful as transitional storage units for materials dropped off by walk-ins. For big sites, tumblers will not work for finishing the product. Often manufacturers' claims about how little time it takes to produce a mature compost have to be ignored.

In the more high-tech systems, oxygen, moisture, and temperature can be automatically controlled. In-vessel systems are popular for venues where space is limited. They can take up little space relative to other composting systems and move compost material efficiently. Nuisances such as odors and pests are mitigated through containment, aeration, and biofilters. Most in-vessel systems will require a secondary composting phase, as what comes out of the vessel will not be mature

enough for most uses. However, visible food scraps and odorous compounds will be broken down for the most part at this stage. The companies that produce these systems promote the efficiency and control their systems offer. In-vessel systems can also be designed on-site, from repurposed materials, at low cost.

Exhibit 14. In-vessel Rocket composter



## Static Piles

A compost pile that is formed and then left completely unturned is known as a static pile. They are constructed on the ground without any equipment or piping underneath, although they may be covered, for instance, by a tarp. With adequate porosity, the pile may still achieve high temperatures and maintain some level of aerobic activity. A static pile will only function properly if it is receiving sufficient airflow. Lack of oxygen will lead to anaerobic breakdown of materials and the production of methane and odorous compounds. The pile can be monitored to gauge its progress. This is an acceptable method for some, but unturned composting would not be adequate where solid waste or organic regulations apply. In general, some level of active management is greatly encouraged to achieve a hot pile that will inactivate pathogen and weed seeds, deter pests, speed up the process, and educate and engage the public about the art and science of composting. Static pile composting is not a best management practice for community food scrap composters and we advise against an unturned approach.

## Vermicomposting

Vermicomposting – or worm composting – involves special species of worms decomposing organic materials into a rich humus. *Eisenia fetida*, commonly called red wigglers, is the most popular species of worm for vermicomposting. Vermicomposting is commonly seen at demonstration sites, community gardens, K-12 schools, and universities (see **Exhibit 15**). Small worm bins can be purchased or constructed for indoor use, including in classrooms, apartments, and offices. For larger community-based settings such as community gardens or urban farms, a good vermicomposting system requires that the red worms feed off of partially composted materials that have undergone an initial phase of hot composting, which inactivates weed seeds and pathogens. Thus, vermicomposting works well for making upgraded compost.

Exhibit 15. City of Middleton, CT: vermicomposting with stacking bins



## RECOMMENDATIONS

Sullivan County should support a community composting program to increase material diversion. Based on our research of other successful programs, Sullivan County should consider three main tasks:

- Promote existing community composting programs and obtain further access to residents,
- Provide composting education and information, and
- Raise awareness of the benefits of composting.

In general, we recommend the following 10 steps for a successful program:

1. Promote existing community composting programs and seek new leaders to implement new programs. This includes making sure that local ordinances, and health and sanitation departments will not impede community composting.
2. Decide how community composting is going to fit into your other organics reduction and recycling strategies.

3. Secure dependable multi-year funding to provide support to community compost programs. Outside grants and donations can help offset costs.

4. Set up easily accessible composting education and training. This can include workshops, informational material, and hotlines.

5. Advertise the network of community compost programs.

6. Provide support to community compost programs.

7. Collect data on composted amounts from participating programs and calculate the costs/savings of the program.

8. Keep data on as many aspects of the program as possible, such as number of programs, number of attendees in workshops, how residents hear about the program, and program expenses. Use this data to analyze and improve the program.

To be successful, community composting programs need to be supported with a robust training component. We suggest that Sullivan County support a composter train-the-trainer program. These can be 1-hour home composting training sessions or 6-week courses for master composters, who in turn can train others or be able to operate community-scale sites. Composting at the community scale is not difficult, but there is some basic science to know in order to avoid odors, pathogens, and unwanted vermin, and to learn how to produce and use high-quality mature compost. Training is important so that community composters are successful.

# 8 FOOD SCRAP DROP-OFF

For organics materials that are not managed at home, at a business, or within a community, the County will need to provide a means to collect or consolidate the materials. Once collected and consolidated, the organic material can be directed to a centralized compost or anaerobic digestion facility. The County will need to rely on food scrap drop off locations, since curbside collection is limited in the County.

Nationally, a survey conducted by ILSR from June to November 2017, on behalf of BioCycle, identified 67 food scrap drop-off programs servicing 318 communities. The survey found that 6.7 million households have access to drop-off sites for source-separated food scrap. Drop-off sites range from seasonal farmers' markets open one day a week, to staffed multi-material recycling depots open 7 days a week.

We reviewed the following food scrap drop off programs:

- Tompkins County
- New York City
- Towns within Westchester County
- Saugerties
- Bath, Maine

At the end of this section, we present recommendations for implementation of a food scrap drop-off program in Sullivan County.

## TOMPKINS COUNTY

Tompkins County's population is 104,802 (2010 Census v2017). The County encompasses an area of 492 square miles, which calculates to 213 people per square mile (versus 80 people per square mile in Sullivan County).

Tompkins County operates and maintains Food Scraps Recycling Drop Spots at locations throughout the County. Users can bring up to 10 gallons of food scraps and paper napkins and towels per day, free of charge, to one of the 15 Drop Spots. Kitchen containers, compostable bags, and transportation containers are available, free of charge, from the County's Department of Recycling and Materials Management. The following materials are accepted:

- Bread and Grains
- Beans and Nuts
- Eggs and Dairy
- Fruits and Vegetables
- Meat, Fish, and Bones
- Paper Towels/Napkins

Yard waste is not accepted at the Food Scraps Recycling Drop Spots, but it is accepted at the County Recycling & Solid Waste Center.

Attendants are located at each Drop Spot to assist residents, as necessary. Residents place food scraps directly into 64-gallon totes (see **Exhibit 16**). Replacement compostable bags are available at the Drop Spots and the Recycling and Materials Management office.

Exhibit 16. 64-Gallon Drop Spot Tote




In the second half of 2018, a new Food Scraps Transfer Building was constructed at the County's Recycling and Solid Waste Center to facilitate collection, consolidation and transportation of food scraps to Cayuga Compost in Trumansburg (about 11 miles one-way; Cayuga Compost is a for-profit private company). The new building is used to transfer material from the Drop Spots and county office buildings, and accepts material from commercial haulers. The structure includes a 40x60-foot tip floor that drains and collects liquids, and an automated tote dumping and washing station. Funding was partially provided by a NYSDEC Climate Smart Communities grant.

We spoke to Barb Eckstrom of Tompkins County, who provided the following details and insights:

- Initially looked at a curbside collection pilot and drop spots.
- Investigated programs on west coast and via BioCycle conferences.
- First drop spot was located at the Recycling and Solid Waste Center in 2013.
- Motto is "Clean, convenient, comfortable".
- The Recycling Center is operated by Casella; Casella hauls food scraps to Cayuga Compost.
- County has a multi-year contract with Cayuga Compost for processing.
- Drop spots are added around the County each year.
- Work with villages on drop spot locations, including community centers, village halls; provide Amish-built sheds, where supplies are stored.

- Hire drop spot attendants as contract employees; have attendant manual.
- Two locations are staffed by County staff.
- County transports full carts from satellite drop spots to Recycling and Solid Waste Center hub; previously used a trailer; now use a box truck.
- Most drop spots are open once per week.
- Provide residents with kitchen caddies, compostable bags, 6-gallon transport containers that lock; no charge for service.
- Key issue is contamination.
- In 2018, 400 tons received at drop spots; 2000 tons of food scraps in total, including commercial collection.
- Education is provided via website and social media.
- 50% funding from NYSDEC Municipal Waste Reduction and Recycling Program grant.
- Funding for program is via annual fee on property for non-disposal tons.

Tompkins County provided the following photos:

Exhibit 17. Tompkins County Photos




Fork 'em over!
Learn more at
www.recycletompkins.org
FOOD SCRAPS
RECYCLING


STOP
Fork 'em over!
FOOD SCRAPS
RECYCLING

## NEW YORK CITY

The New York City Department of Sanitation (DSNY) operates and maintains Food Scrap Drop-Off Locations (via non-profit organizations), at locations throughout the five boroughs. Residents can bring food scraps, free of charge, to one of the 152 drop-off locations. The following materials are accepted:

- Fruit and vegetable scraps
- Coffee grounds, filters, and paper tea bags
- Bread and grains
- Eggshells
- Nutshells
- Corncobs
- Food-soiled paper towels and napkins
- Shredded newspaper
- Sawdust and wood shavings from untreated wood
- Stale beans, flour, and spices
- Cut or dried flowers
- Houseplants and potting soil
- Feathers

Items that are accepted at neighborhood drop-off sites differ from the organic materials that DSNY collects from buildings that receive curbside organics collection. Commercial food scraps are not accepted at the drop-off sites.

Food scrap drop-off sites are located in public spaces. Site schedules differ from one another. Likewise, attendants may or may not be present at each location.

### Grow NYC

Grow NYC is one of the non-profit organizations that operates some of the DSNY food scrap drop-off locations. Grow NYC operates about 60 sites, located at Greenmarket, Youthmarket, and Fresh Food Box locations. They recommend that food scraps be transported in large yogurt containers or other covered plastic containers, paper bags, plastic bags, milk cartons or in commercially-available compost pails.

### Big Reuse

Big Reuse is another non-profit organization that operates some of the DSNY food scrap drop-off locations. Big Reuse operates 14 drop-off locations, including two that are open daily. Most other locations are open one day per week. Eight locations are unstaffed, including the two locations that are open daily.

We spoke to Leah Retherford of Big Reuse, who provided the following details and insights:

- Upon initial opening, someone needs to be committed to the drop-off site to provide education and outreach.

- Food scraps are placed into 64-gallon wheeled carts.

- Big Reuse owns and operates a box truck, equipped with a lift gate, to collect the full carts and transport them to its compost facility, located under the Queensboro Bridge.
- Compostable bags are allowed and decompose in the compost process.
- Education and monitoring is key to minimize contamination (e.g., plastic bags).
- The carts at the Astoria library location, which is open daily, are picked-up once per week.

Big Reuse provided the following photos (see also **Exhibit 18**):

Exhibit 18. Big Reuse Photos




Typical drop-off location, with green 64-gallon carts




Box truck used to transport full and empty green carts



Tipping of green cart at the compost facility

## TOWNS WITHIN WESTCHESTER COUNTY

The Scarsdale Food Scrap Recycling Program started in January 2017 as a drop-off program, whereby Scarsdale residents could drop their food scraps into designated bins at the town recycling center. Once a week, the bins are emptied and taken to a commercial composting facility. From the beginning, the program has had high community participation and a clean stream of organics. Since January 2017, over 250 tons of food scraps have been collected and composted through the program.

In June 2018, Scarsdale approved the first curbside pickup program for food scraps in Westchester County. Scarsdale residents, once registered, can have their food scraps bin picked up weekly at their home.

The Recycling Center food scrap drop-off site remains open for resident food scrap drop-off, Monday through Saturday, from 8:00 AM until 3:00 PM (see **Exhibit 19**). The drop-off location can be used whether one participates in the curbside pickup program or not. The following materials are accepted, with clarifying notes shown in parentheses:

- Fruits and Vegetables (remove stickers, bands, ties)
- Meat and Poultry (bones ok)
- Fish and Shellfish (shells ok)
- Dairy Products
- Bread and Pasta
- Rice and Grains
- Egg Shells
- Chips and Snacks
- Nuts and Seeds
- Leftover, Spoiled and Expired Food (cooked ok)
- Coffee Grounds (paper filters ok)
- Tea Bags (no staples)
- Paper Towels and Napkins
- Cut flowers (not landscaping waste)
- Compostable Bags

We spoke to Ron Schulhof and Michelle Sterling of the Scarsdale Food Scrap Recycling Committee, who provided the following details and insights:

- Recommend early establishment of a drop-off location(s), with subsequent hauling to an existing compost or AD facility, operated by others. This will help quantify the amount of materials that could be managed by a County facility.

- Use Toter-type carts for drop-off, which occupy 2 to 3 parking spaces on the site. Ten 65-gallon carts are now used.

- Coordinate use or non-use of compostable bags with the compost facility.

- Brand the program as food scrap recycling, as opposed to composting.

- Collected food waste is hauled to the Ulster County facility by a private hauler.

- Collected about 2 to 2.5 tons per week, on average, in the first year.
- Provide free finished compost to residents during a "Give-back Day" to promote the program.
- Require the hauler to use a fully-sealed truck to preclude leaks and odors.
- Open to site tours.

Exhibit 19. Scarsdale Drop-off Site




Many municipalities throughout Westchester County have visited the Scarsdale drop-off site in order to set up a similar program in their town. Subsequently, 12 municipalities have started their own food scrap recycling programs, based on the Scarsdale model, including the following municipalities: New Castle, Larchmont, Town of Mamaroneck, Village of Mamaroneck, Bedford, Greenburgh (Hartsdale, Hastings, Tarrytown, Irvington; see **Exhibit 20**), Rye Brook, and Rye.

Exhibit 20. Greenburgh Drop-off Site




## SAUGERTIES

The Town of Saugerties operates and maintains a Food Scrap Recycling program at its transfer station. The program is free for those with a transfer station permit. A "Food Waste Only" permit is available to residents and non-residents for $15/year. The following materials are accepted:

- Fruits
- Vegetables
- Meat
- Dairy
- Bones
- Grains
- Eggs, eggshells
- Coffee grounds, coffee filters
- Food-soiled paper (not cardboard)
- Tea bags (minus staples)

Residents place food scraps directly into 64-gallon carts. The carts are collected weekly by Community Composting Company of New Paltz, which provides clean carts to replace the full ones. Community Composting charges the Town for each pickup and cleans all carts at its site in New Paltz. Community Composting told us that the program is "working fine". The compost facility operated by Community Composting is located in Kerhonkson and is open for tours.

Community Composting bans compostable bags/liners because, under current Northeast Organic Farming Association (NOFA) rules, the finished compost cannot be certified as "organic", if compostable plastic is a component of the feed stock. Community Composting allows paper bags and uncoated kraft paper bags.

## BATH, MAINE

We spoke to Lee Leiner of Bath Public Works, who provided the following details and insights:

- The City is pleased with the introduction of food scrap drop-offs and is generally interested in keeping this material out of the landfill in order to extend its life.
- Rely on a local firm (Garbage to Garden), who had started commercial collections in town. They agreed to start a curbside collection program available to all for a $14/month subscription fee. The City worked with the company to create a drop-off kiosk. They had done similar facilities in other communities.
- Sign board bolted to a concrete block with several totes arranged in front of it (see Exhibit 21). The City started with two totes and once per week collection; quickly ramped up to 6 totes, staying with once per week collection. Subsequently, they added another kiosk at the other end of town after public requests. The second location remains a two-tote site.
- Pros: quick and easy to get started; light City involvement; relatively low on-going cost; low initial expense; good public participation and PR considering the very limited effort to promote it. The company has been great and has been hired to perform trash/recycling/composting during our July 4 multi-day festival.
- Cons: None really; haven't had any issues with contamination and few issues with overflowing containers. Some holidays create lots of food waste and Halloween generated a lot of pumpkins. A few instances of bagged leaves left at the collection kiosk which required "re-education" of the dumper (we accept leaves for an in-house composting program separately). So far, have not gotten any complaints of rodents, odors, flies, etc.
- Current goal is to slowly grow the program.

## POSSIBLE APPLICATION IN SULLIVAN COUNTY

As indicated above, there are numerous food scrap drop-off programs that are operating successfully in New York and throughout the country. We recommend that the County implement a drop-off program to capture the residential food scrap stream, at a minimum. Acceptance of yard waste should be considered as well. Possible locations to consider include any or all transfer stations, and seasonal farmer's markets, among others. We recommend that the first drop-off be located at the convenience center in Monticello.

Exhibit 21. Bath Compost Dropoff Site



# 9 CENTRALIZED COMPOSTING TECHNOLOGIES

We evaluated the following composting technologies for implementation by the County at a centralized location:

- Turned Windrow Composting: a controlled aerobic decomposition process by piling organic materials in long rows (i.e., windrows) and introducing oxygen by periodically turning the windrows.

- Aerated Static Pile (ASP) Composting: a controlled aerobic decomposition process by placing organic materials in piles and introducing oxygen by forcing air through the piles. Piles may or may not be covered with a fabric, depending on the specific technique utilized.

- In-vessel Aerobic Composting: a controlled aerobic decomposition process that uses rotating drums, silos or tunnels to mix and aerate the materials.

Composting is the most prevalent method of processing organic materials. Generally, there is a progression of increased costs and operating complexity from turned windrows, to ASP, to in-vessel aerobic composting. As cost and complexity increase, so do the capabilities and benefits of the technologies.

## PROCESS OVERVIEW

Composting involves the aerobic biological decomposition of organic materials to produce a stable, humus-like material. Composting happens naturally in the environment when organic material falls to the soil surface. There are many compost technology options for managing most organic materials in the waste stream, each striving to optimize the biological conditions in the mass of material to achieve the most uniform, mature compost in a reasonable amount of time.

The composting process is somewhat forgiving in practice, so it is not always necessary to meet ideal conditions for making good compost, but, the closer the system can get to the ideal, the better and more consistent the product will be. The resultant compost product makes a valuable soil amendment due to its high organic matter content. Organic materials contain rich nutrients that can play an important role in rebuilding soil structures. According to the USCC, compost's useful properties lead to healthier soil and plants, better nutrient cycling and greater fertility, and aid in erosion control and storm water management.

One distinct advantage that composting has compared to other organic processing systems is its ability to work at a wide range of scales with both low technology and high technology systems. A homeowner's backyard compost bin or pile can be an effective method for recycling household food scraps and yard trimmings. On a larger scale, municipal and private facilities can recycle from as little as a few hundred cubic yards of organics to more than 200,000 cubic yards each year and handle a variety of materials, including yard trimmings, food scraps, manure, biosolids, and mixed solid waste. This report largely focuses on yard trimmings and food scraps.

When evaluating alternative processing methods or technologies, key criteria include available land and labor. Minimal or passive composting systems with limited management requirements will use more land area and take more time. More active composting systems with greater management requirements can process the materials more quickly, using less land. While it is important to be

aware of odor concerns, a properly-designed and operated composting system will not create problematic, persistent odors, regardless of the technology.

At a municipal and county level, it is common to compost leaves. Addition of food scraps to municipal leaf compost systems is becoming more common. The volume of food scraps that can be processed is limited by the amount of leaves (or other carbon source) available and the ability to achieve a proper mixture. Leaves and food scraps are mixed in appropriate proportions to create the proper carbon-to-nitrogen ratio; to add bulk to increase the stability of the pile; and, to increase porosity to allow greater air flow through the material during the decomposition process.

In general, the composting process involves the following steps:

- **Receiving and pre-processing of feedstocks:** Organic materials may be weighed or measured, upon receipt, and then stockpiled prior to processing (e.g., leaves). The receiving area can be an open area, partially-enclosed area or fully-enclosed area, such as a building. Some organic materials, such as food scraps, are generally not stockpiled for any length of time and are typically incorporated into the composting process within a short period of time (e.g., the day of receipt). The organic materials (e.g., food scraps, yard trimmings, soiled paper) may be mixed and/or shredded to create a mixture that meets the system's feedstock requirements. The types of organic materials and mixtures, and the amount of processing required, will depend on the process or technology used.

- **Depackaging systems**: Systems such as the Tiger Depack by Ecoverse may be needed for organics still in the package. Packaged food may originate from supermarkets or from food processing companies, with large amounts of discarded, unopened food products from product discontinuation, errors in logistics, recalls, etc.

- **Processing:** Pre-processed organic materials are placed in piles or introduced into process vessels where the aerobic process occurs.

- **Post-processing and storage:** Processed organic materials are screened to remove non-organic materials and large particles (e.g., sticks, rocks, wood chips) to create fine-grade compost for distribution or sale. In some cases, additional curing time or processing may be needed, such as for the in-vessel process.

Key concepts, applicable to most compost technologies, are defined as follows:

- **Composting Pad:** Ground on which composting activities take place. An "all weather composting pad" is one of sufficient construction, firmness and grading so that composting equipment can manage the process during normal inclement weather, including rain, snow and freezing temperatures.

- **Contact Water:** Water that has come in contact with raw feedstocks or active composting piles. It does not include water from curing piles, finished compost or product storage piles.

- **Curing:** A continuation of the composting process after the high heat stage during which stability and maturity continues to increase.

- **Stormwater:** Precipitation that has not come into contact with raw feedstocks or active composting piles.

The composting area should include an all-weather composting pad, graded at a slope of 1 to 6 percent, with run-on and run-off control. The typical compost pad might include a 3-inch asphalt millings layer, over 6 inches of crushed stone, over a 10-oz. geotextile, over a prepared subbase. There should be a minimum of two feet between the ground surface and seasonal high water table.

## REGULATORY AND ENVIRONMENTAL ISSUES

Certain facilities are exempt from Subpart 361-3, such as a compost facility located at a site controlled by the waste generator. Other facilities can comply by following the registration provisions. For example, a composting facility can simply register with the NYSDEC if it accepts more than 3,000 cubic yards, but not more than 10,000 cubic yards of yard trimmings per year; or one that accepts no more than 5,000 cubic yards or 2,500 wet tons of source-separated organics (SSO) per year. Facilities that do not qualify for an exemption or a registration must obtain a permit through an application process. Pursuant to Subpart 361-2, land application is also an option for food processing waste, leaves, grass, and other organic waste.

Potential environmental issues associated with composting, which require management include the following:

- **Odors:** Odor is the primary concern when handling organic materials. Odors can be an issue during the receiving/pre-processing step and during the active composting phase of the process.

- **Water**: Stormwater and contact water must be managed. Control systems, such as impoundments, treatment systems or direct connections to sanitary sewer lines, may be needed to meet regulatory requirements.

- **Pesticide residue:** Potential for pesticide residue and other contaminants in the feedstock material as well as the finished product.

Contact water should be directed to an appropriately sized containment, recycling, or treatment system. Stormwater should be managed via BMPs, consistent with the State Pollutant Discharge Elimination System (SPDES) Program.

The processing facility must comply with local zoning and land use ordinances, and buffer distances (per Subpart 361-3) as set forth in **Table 4**:

Table 4. Regulatory Setbacks

| Feature | Distance for Registered Facility (ft) | Distance for Permitted Yard/SSO Facility (ft) | Distance for Other Permitted Facility (ft) |
|---|---|---|---|
| The property line | - | - | - |
| Residence or business | 200 | 200 | 500 |
| Streams, lakes, wetlands, or other bodies of water; potable well | 200 | 200 | 200 |

Locating a facility within a 100-year floodplain is not advisable.

## US EXPERIENCE

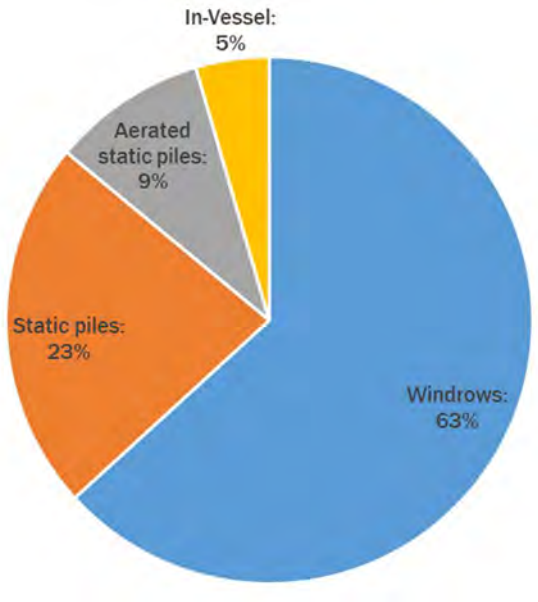
From December 2016 to June 2017, BioCycle editors collected the most recent data that states had compiled about organics recycling activities. A one-page questionnaire was completed by 43 states and the District of Columbia, primarily by officials in state solid waste agencies whose responsibilities include organics recycling. Data submitted was from Calendar Years 2015-2017.

The "2017 State of Organics Recycling in the U.S."[4] snapshot survey found a total of 4,713 composting facilities. Yard trimmings composting represents the largest number of operations in the U.S.: 2,698 or 57 percent of all facilities in the U.S. There were 249 composting sites that process yard trimmings and food scraps, and 620 that process multiple organics, which include feedstocks such as yard trimmings, food scraps, livestock manure and industrial organics. For example, Massachusetts reports 185 composting facilities processing multiple organics and did not include any sites in the yard trimmings only or yard trimmings and food scraps only categories

Thirty-four states reported data on the composting methods utilized by facilities in their states (see **Table 5**).

Table 5. US Compost Facilities by Method

| Composting Method | Number of US Facilities |
|---|---|
| Windrows | 1,135 |
| Static Piles | 409 |
| Aerated Static Piles | 170 |
| In-Vessel | 81 |




[4] BioCycle Magazine, *The State of Organics Recycling*, October 2017.

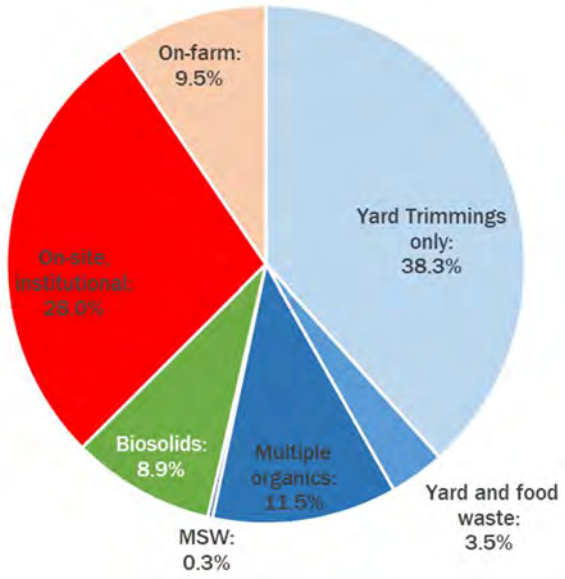
Many composting facilities (2,364, or 50 percent) compost less than 5,000 tons/year of feedstocks.

## NEW YORK EXPERIENCE

There are a number of compost facilities in New York that compost various feedstocks, using varying methods. In total, New York reported that about 460,000 tons per year are/were composted, based on 2014-2016 data. New York reported 347 compost facilities, with the following breakdown of facilities by feedstock (**Table 6**):

Table 6. New York Compost Facilities by Feedstock

| Type of Feedstock | Number of NY Compost Facilities |
|---|---|
| Yard Trimmings Only | 133 |
| Yard and Food Waste | 12 |
| Multiple Organics | 40 |
| MSW | 1 |
| Biosolids | 31 |
| On-site, Institutional | 97 |
| On-farm | 33 |




**0** is a list of existing compost facilities in New York which take some amount of food scraps (not comprehensive) and the technologies they employ.

Table 7. New York Food Scrap Compost Facilities

| Facility Name | Facility Location | Technology |
|---|---|---|
| Ulster County RRA | Kingston | ASP |
| McEnroe Farm | Millerton | Open windrow |
| Community Composting | Kerhonkson | ASP |
| Big Reuse | Queens | Covered ASP |
| Queens Botanical Garden | Queens | ASP - Bin |
| St. John's University | Queens | ASP - Bin |
| Onondaga County | Camillus | ASP - Bunker |
| Cayuga Compost | Trumansburg | Open windrow |

Additional lists, as documented on the NYSDEC website and the Pollution Prevention Institution (P2I) website, are provided in **Appendix H**.

## WINDROW

With a windrow composting system, the organic feedstock is formed into long narrow piles (windrows) and periodically turned, based on temperature and time. The turning serves to mix and break up material; aerate the windrow; and, release excess moisture.

This technology is the recommended option for most municipalities, especially when composting yard waste only. This technology includes modest operation and maintenance requirements, and limited equipment needs. Typically, for municipal operations, windrows are turned every 3 to 4 weeks by a front-end loader.

Some facilities use more sophisticated and expensive windrow turning machines, instead of front-end loaders, for aerating and turning the windrows. Front-end loaders may be used to initially form the windrows, but a windrow turner is used to turn and aerate the leaves, resulting in more thorough and efficient blending and aerating, as compared to a front-end loader.

In windrows, aeration occurs two ways: Primarily by convection, when warm vapors rise through and exit the piles, drawing fresh air in behind; and, by direct exposure, when piles are mechanically-turned inside out, clumps are broken apart, and materials are fluffed, thereby improving circulation. Since the piles are repeatedly agitated, the recipe can be adjusted, if needed, in response to changing conditions or odors. Turning windrows also ensures materials are evenly mixed and exposed to high temperatures in the pile's core. If odors emerge after turning, windrows can be covered with a 3 to 6-inch layer of finished compost.

There are several factors to consider when using turned windrows to process food residuals so as to avoid odors, pests and pathogenic contamination. Piles with food residuals may need more frequent turning initially versus those with yard waste alone. Maintaining temperatures in excess of 131°F is necessary to kill pathogens in food residuals. Though these factors can present challenges not previously encountered with composting yard waste, they are minor and infrequent, if piles are managed properly. Using turned windrows to manage food residuals is a versatile system that can be easily adjusted to accommodate changing conditions.

A summary of a materials management plan for a turned windrow composting facility is as follows:

- Identify and segregate incoming material, including brown material (e.g., leaves, wood chips) from green material (e.g., food scraps, grass clippings).
- If packaged food is accepted, a "depackaging" unit will be needed. Plastic material needs to be separated from the compostable material.
- Mix brown and green material in a proper ratio, and place into open windrows.
- Use a compost turner to process all compostable materials.
- Turn each windrow 13 to 15 times per 4-month process. (It is expected that incoming feedstock material will be fully composted within 5 to 6 months.)
- After 4 months, screen material and place in curing stockpile.
- Sell finished compost in the Spring (for Fall leaves) and in the Fall (for Spring leaves and excess Fall leaves).
- Odor control can be accomplished as follows:
    - Align windrows perpendicular to the topographical fall line, so that contact water runs between the piles, rather than through them, and minimize ponding.
    - Build windrows to proper height and shape.
    - Form incoming material into windrows promptly.
    - Maintain proper temperature and oxygen levels with an effective turning schedule.
    - Time pile turnings to coincide with favorable weather and wind conditions.

## AERATED STATIC PILE

ASP composting is a more complex technology, which is typically used to process larger volumes of food scraps as opposed to turned windrows. ASP systems may include covered or uncovered piles, in which the oxygen concentration is maintained by blowing or pulling air through the windrow using a blower and aeration pipes. Water may be added to maintain moisture content.

In an ASP system, piles of organic material are aerated by blowers, controlled by timers or temperature feedback, moving the air through perforated pipes. Turning is required periodically to exchange inner and outer material.

With ASP composting, a blower moves the air, either by suction to pull air through the pile and into the perforated pipe ("negative pressure"), or by forcing air from inside the perforated pipe outward through the piles ("positive pressure"). The blower can operate continuously or intermittently, on a timer or via temperature control. Since negative pressure pulls air through the pile into the pipe, odors can be filtered out before discharge (e.g., with a biofilter). With positive pressure, covering the pile with a layer of finished compost usually suffices as an odor-controlling biofilter.

With positive pressure, air flow is better and can be more effective at drying wet materials and cooling excessively hot piles, if needed. Whereas, the turned windrow method moves the materials to expose them to air, the forced aeration method moves the air so that it is distributed throughout the materials.

Since ASPs are not turned during the process, the mixture and set-up are important to ensure even air distribution and composting. Organics are mixed and then placed on a base of porous materials (e.g., wood chips, chopped straw), in which the pipes are located. Initial pile height can be up to 8 feet, provided the porosity of the composting materials is sufficient to allow air to move between the particles. If the material is particularly wet, it may be necessary to use a bulky carbon source (e.g., wood chips) to increase porosity in the mixture. It is also useful to cover the pile with a 3- to 6-inch layer of finished compost to maintain moisture on the pile surface, discourage pests, insulate against heat loss, and prevent odors from leaving the pile. Texture, recipe and formation of the piles are critical.

Within the region, Ulster County operates an ASP compost facility. The facility began operations in 2012 and has expanded over time. Based on readily-available data, we estimate that Ulster County recovered and composted about 2 percent of its MSW in 2017 (about 2,000 tons of SSO). Ulster County recently received a grant, which will help it expand its composting program further to include SSO from institutions, like prisons and schools.

Odors and volatile emissions can be less of an issue for ASP systems. Some BMPs include covering the pile with a wood chips or a finished compost blanket to control odors. Several vendors also market covered ASP systems that utilize a fabric cover over the windrow to manage odors. These piles are built, covered with an engineered fabric, and then processed with forced aeration. Further, ASP systems have a smaller footprint and faster process time when compared with open windrow compost systems.

Surface water runoff and excessive moisture due to rainfall are typically less of an issue for covered ASP systems than turned windrows or uncovered ASP systems, due to the cover. However, systems are needed to manage the contact water from the windrows, regardless of whether they are covered or uncovered.

Hybrid systems of ASP and turned windrows may be used for cost efficiencies. The ASP system can be used for the first phase of processing, when the potential for odors is the highest. Subsequently, the materials can be processed in open windrows.

## IN-VESSEL

In-vessel composting is a high technology approach, consisting of different proprietary systems that usually involve mechanical agitation and forced aeration, and may be enclosed in a building. These are the most capital intensive composting systems and result in the greatest level of process and odor control; however they have the shortest composting time. These systems are generally used for composting sludge and/or food waste and not simply yard waste.

Large-scale, in-vessel compost systems are substantially housed in a large building, are equipped with a rotating drum or other equipment for controlling the environment of incoming materials in a uniform manner, and have a variety of processing screens and other devices for removing contaminants and preparing a marketable product. Curing may be done partially inside and partially outside. Facilities are typically equipped with a process air system and biofilters for removing odor

from exhausted air. Substantial permitting effort and larger capital costs may be required and a sophisticated operating strategy is usually necessary.

One example of a large-scale system is the Delaware County biosolids and MSW composting facility in Walton, New York. Items of note are as follows:

- The facility was built to process biosolids primarily, with MSW used as a bulky agent.
- On average, the facility processes 80 tons of MSW and 18 tons of biosolids, on a daily basis. The plant is designed to handle 35,000 tons per year of MSW, but takes in approximately 28,000 tons per year.
- 35 percent of the incoming MSW, by weight, is sent to the landfill.
- The bio-reactor is 14 feet in diameter by 180 feet long and processes the MSW only, with a retention time of three days.
- The MSW from the bio-reactor gets mixed with the bio-solids and then is placed in bays that are 7 feet deep by 10 feet wide by 200 feet long. The material stays in the bays for approximately 56 days.
- The odor control system moves 75,000 cfm of air through the plant and exhausts it through a biofilter.
- The facility cost for development, design and construction was about $25 million.

In-vessel compost technology on a small to medium scale can also be used for managing food scrap in areas with limited space (e.g., schools). Certain vendors have designed vessels specifically for on-site composting of food residuals. These vessels are fully-enclosed and may include power mixing, aeration, and biofiltration of process air. The Earth Tub is one example of a small, in-vessel compost system (3 cubic yard capacity), which is used by some facilities.

Odor control is one of the main advantages of in-vessel technology. However, if the recipe or balance is not correct or if the compost system is not designed to manage the actual feedstock, odor will be generated and it may escape from the unit.

Another factor to consider is climate. Vessels can freeze if proper steps are not taken.

Similar to ASP, in-vessel systems can be employed in hybrid systems with open windrows. The initial phase of composting can use an in-vessel system, followed by further composting in open windrows.

## COMPOST TECHNOLOGY SUMMARY

A summary of the pros and cons of the turned windrow (low-tech) and forced aeration (high-tech) methods is as follows:

- Windrows are low-tech, while forced aeration requires a blower system, and personnel to maintain and repair it (costs).

- In turned windrows, the recipe and pile structure can be adjusted after initial construction, while forced aeration requires proper mixing before initial construction (versatility).

- Windrows can be turned and moved at will, while a forced aeration system must be disassembled before moving materials (versatility).

- Negative pressure forced aeration can help control odors by collecting air into the suction pipe, enabling filtration before discharging. Windrows require turning to aerate and can release odors as the pile is opened (odor).

- Positive pressure-forced aeration can eliminate excess moisture and excessively high temperatures by blowing higher volumes of air into the pile than the negative pressure system can pull in. Turned windrows must be turned repeatedly, or mixed with drier materials, to reduce moisture and temperature (moisture control, temperature control).

- Forced air piles can be built as an extended pile, reducing the size of the "footprint" needed to process a given amount of material (land area).

- Forced air systems must be designed to assure the air flow will be sufficient for the amount to be composted (design).

Each technology can be expanded and could be moved, although site/civil components (e.g., concrete pads) are not moveable. **Table 8** provides a summary of composting technologies:

Table 8. Composting Technologies Summary

| CRITERIA | COMPOST TECHNOLOGIES | | |
|---|---|---|---|
| | **WINDROW COMPOSTING** | **ASP COMPOSTING** | **IN-VESSEL COMPOSTING** |
| **Type of Technology** | • Windrows turned regularly for aeration by purpose-built machinery | • Windrows are not turned<br>• Can be open or covered<br>• Aeration provided mechanically (via air blower) | • Composting in a container or building (long tubes, and tunnels)<br>• Aeration provided mechanically (via air blower)<br>• Supplemental windrow composting optional |
| **Technology Provider (example vendors provided)** | • Can be self-provided or contracted<br>• Example compost turner providers:<br>o Backhus<br>o Scarab<br>o Komptech | • Operation can be self-provided or contracted<br>• Example providers include:<br>o O2 Compost<br>o Engineered Compost Systems<br>o Sustainable Generation | • Example providers include:<br>o Green Mountain Tech<br>o DT Environmental<br>o Engineered Compost Systems |

| CRITERIA | COMPOST TECHNOLOGIES | | |
|---|---|---|---|
| | **WINDROW COMPOSTING** | **ASP COMPOSTING** | **IN-VESSEL COMPOSTING** |
| **Provider Background, Experience, and Resources** | • Many equipment vendors<br>• Widely practiced technology, allowing for large variety of providers and equipment<br>• Most equipment information is readily available online | • Many vendors at locations nationwide<br>• Relatively wide variety of vendors and equipment<br>• Most equipment information is readily available online | • Majority of vendors demonstrate at least 5 years' experience<br>• Several vendors demonstrate over a decade of experience<br>• Some facilities processing food waste |
| **Stated Material and Energy Balance; and Volume Reduction** | • Total volume reduction approximately 50-60% | • Total volume reduction approximately 50-60% | • Total volume reduction approximately 50-60% |
| **Compatibility with Proposed Organic Material Stream(s)** | • Compatible with the proposed waste stream<br>• Food waste will require mixing with leaves/wood to achieve design C:N ratio | • Compatible with the proposed waste stream<br>• Food waste will require mixing with leaves/wood to achieve design C:N ratio | • Compatible with the proposed waste stream<br>• Food waste will require mixing with leaves/wood to achieve design C:N ratio |
| **Compatibility with Proposed Organic Materials Volumes** | • Capable of handling proposed volume | • Capable of handling proposed volume | • Capable of handling proposed volume |
| **Facility Footprint Required** | 2-4 acres | 1-3 acres | 1-2 acres |
| **Labor requirements** | 1 full-time | 1 part-time | 1 part-time |
| **Capital Cost** | $0.5-1 million | $1-2 million | $1-2 million |

# 10 ANAEROBIC DIGESTION TECHNOLOGIES

## PROCESS OVERVIEW

Anaerobic digestion (AD) involves the decomposition of organic waste in an oxygen-deficient atmosphere, which ultimately results in production of methane-rich biogas. The AD process involves three key steps:

- Hydrolysis
- Acido/Acetogenesis
- Methanogenesis

Each process step relies on a separate group of microorganisms. However, the overall process requires that each step remain coordinated so that one group is not inhibited or does not process at the same rate as the other groups. Otherwise, the overall performance will be sub-optimal. Important digester conditions, which must maintained, include: neutral pH; consistent feed rate and composition; and, near-constant temperature.

Historically, AD has been used to process low solids/wet organic materials, such as manure, biosolids, and liquid industrial waste. "Wet" systems generally use vessels, which are mixed, and fed using pumps.

While wastewater biosolids generally have a moisture content of 90% or higher, the organic fraction of MSW typically has a moisture content in the range of 50% to 75%, depending on the source of the waste material (e.g., restaurants, offices). Organics with a moisture content in this range cannot be managed using typical "wet" pumping systems, unless supplemental liquids are added. Under this scenario, the addition of supplemental liquids is primarily for the purpose of allowing the materials to be pumped, and to promote mixing between microbial populations and the waste materials. However, this requires pre-processing of the organic materials, such as removal of large particle sizes, grinding or shredding, to make transport via pumping feasible.

In contrast, a "dry", high-solids AD system has minimal, if any, liquids added and the moisture content in the system is typically that which is inherent in the waste materials. In a high-solids AD system, materials are typically managed using conveyors or mechanized equipment (e.g., wheel loaders) to move the materials into, within, and out of the process. One of the primarily limitations with high-solids systems is ensuring adequate distribution and contact between microbial populations and the organic materials. Inadequate mixing can result in incomplete digestion of wastes.

The two main by-products of AD are digestate (solid and liquid) and biogas. Solid digestate is the solid material that remains after digestion, which can then be composted or disposed. The biogas is typically used in a boiler to produce thermal energy or in an engine to produce electricity.

## US EXPERIENCE

In 2017, the USEPA surveyed U.S. operators of AD facilities that accept food waste to identify the number of facilities in the U.S. and their locations, and to learn about their operations. The first report, dated September 2018 (2018 EPA Report)[5], covers data for calendar year 2015 and

[5] USEPA, "Anaerobic Digestion: Facilities Processing Food Waste in the United States in 2015", September 2018.

summarizes data received for three types of anaerobic digestion facilities: (1) stand-alone food waste digesters; (2) on-farm digesters that co-digest food waste; and (3) digesters at water resource recovery facilities (WRRFs) that co-digest food waste. Future reports will summarize data for 2016, 2017, and 2018.

EPA confirmed the operational status of the AD facilities through direct contact with operators. **Table 9** provides a summary of AD facility operation:

Table 9. Number of AD Facilities Confirmed Operational and Accepting Food Scraps (2015)

| Digester Type | Confirmed Operational |
|---|---|
| Stand-alone digesters | 58 |
| On-farm digesters | 18 |
| Co-digestion systems at WRRFs | 78 |
| **Total** | **154** |

In the 2018 EPA Report, food-based materials include, but are not limited to:

- Food scraps that have been separated and collected by municipalities from residential sources;
- Food scraps that have been separated and collected from institutions or venues (e.g., prisons, hospitals, stadiums);
- Food scraps from food preparation at restaurants, cafeterias, and other food services;
- Plate scrapings from restaurants, cafeterias, and other food services;
- Fats, oils and grease (FOG);
- Unused food collected from grocery stores (e.g., bakery items, bruised fruit, items past shelf life); and
- Pre-consumer by-products of the food and beverage processing industries.

Thirty-five states had at least one confirmed operating digester. States with ten or more confirmed operating digesters included California (30), Wisconsin (17), Ohio (13) and New York (13).

New York has three (3) stand-alone digesters, five (5) on-farm digesters, and six (6) WRRF digesters, as follows:

- Stand-alone:
    - AB-Inbev, Baldwinsville
    - Buffalo Bioenergy, West Seneca
    - Niagara Bioenergy, Wheatfield

- On-Farm
    - Patterson Farms, Auburn
    - Noblehurst Green Energy, Pavilion
    - CH4/Synergy Biogas, Wyoming
    - Lamb Farms, Oakfield
    - Lawnhurst Farm, Stanley

- WRRF
    - Newtown Creek, Brooklyn
    - LeRoy R. Summerson, Cortland
    - Gloversville Johnstown, Johnstown
    - Rome WPCF, Rome
    - Metropolitan Syracuse, Syracuse
    - City of Watertown, Watertown

The majority of the digester types were wet digester systems. The top pre-processing/de-packaging activity for both stand-alone digesters and on-farm digesters was manual or mechanized de-packaging, and for co-digestion facilities at WRRFs, screening for debris or sorting.

## TECHNOLOGIES

Most AD technologies can be classified as continuous or batch systems, with one or two stages. Continuous systems include configurations where flow of feedstock into the digester occurs continuously. For high-solids systems, material transport may occur using hoppers with conveyor systems.

Additionally, AD systems may be designed as large- or small-scale systems. Large-scale AD systems are typically custom designed to fit a particular feedstock. In contrast, small-scale systems may be pre-manufactured modular systems that can be delivered on-site (see **Appendix I** for a list of small-scale vendors). Modular systems are being designed increasingly smaller to serve individual sites such as restaurants, grocery stores, and institutional facilities.

Regardless of the scale, pre-processing and material handling are key considerations in the design and operation of an AD system. In all cases, some level of pre-sorting or contaminant removal (e.g., glass, metal, plastics) is necessary to minimize equipment wear and tear, and pump clogging, and to ensure an acceptable level of quality in the post-digestion solids that are ultimately produced. Depending on the digester design, particle size may need to be uniform and a small size. The level of pre-processing and material handling is dependent on both the composition/source of the incoming organic materials and the design of the AD system.

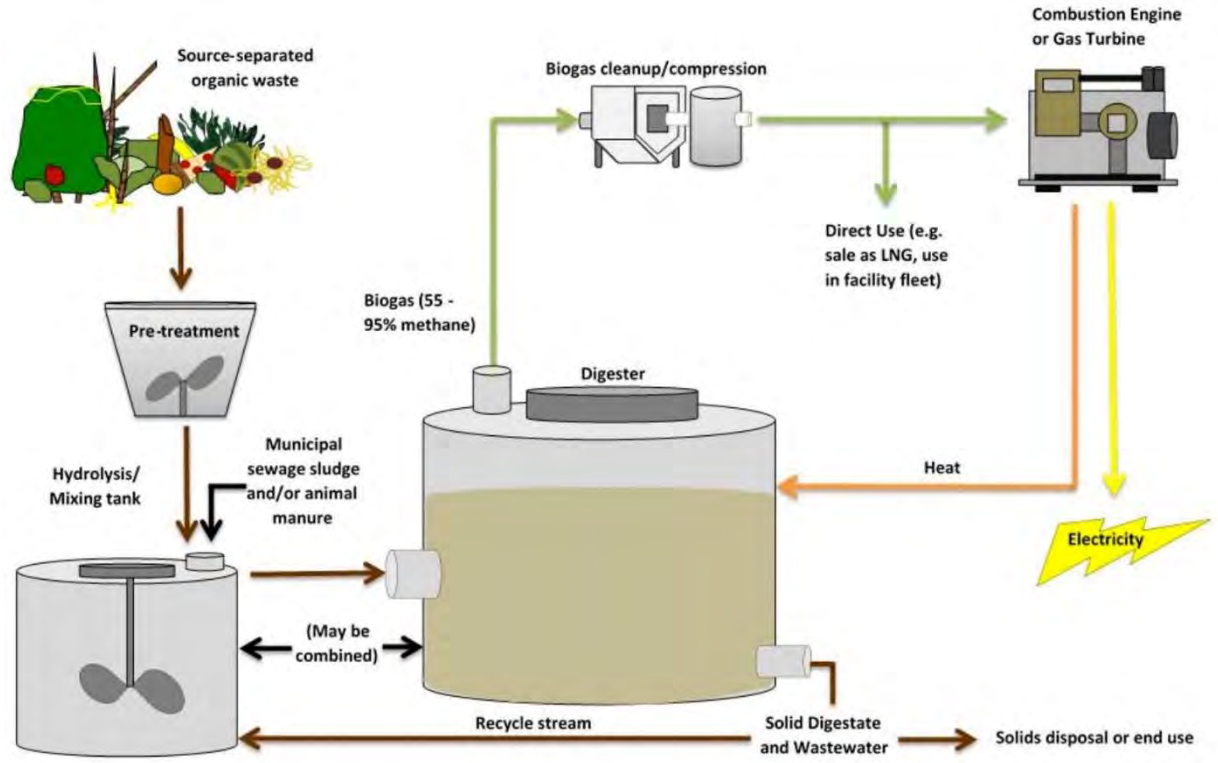
Digester or reactor designs include the following types:

- Continuous stirred-tank reactors (CSTR)
- High-rate bioreactors (HRB)
- High-solids anaerobic digesters (HSAD)
- Plug flow reactors
- Hydraulic self-stir reactors
- Hybrids of the above

There are many commercially-available systems in the US. In a 2015 report (2015 Environmental Research and Education Foundation Report)[6], EREF identified 33 vendors and 13 vendor-processors (see **Appendix J**). Vendors typically manufacture and/or design AD systems. Vendor-processors offer similar services plus operating services.

Typical schematics of AD systems, as presented in the 2015 EREF report, are included on the following pages.

Exhibit 22. Representative Schematic of Custom/Large-Scale Single Stage Wet AD System




[6] EREF, "Anaerobic Digestion of Municipal Solid Waste," August 2015.

Exhibit 23. Representative Schematic of a Modular/Small-Scale Single Stage Wet AD System

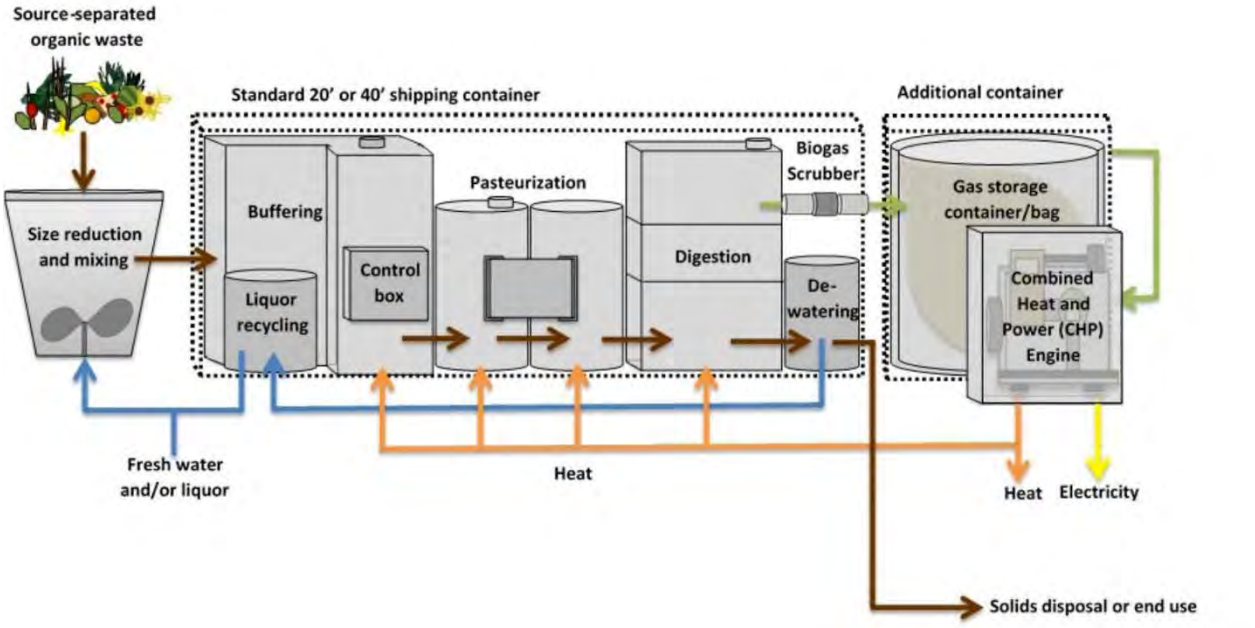
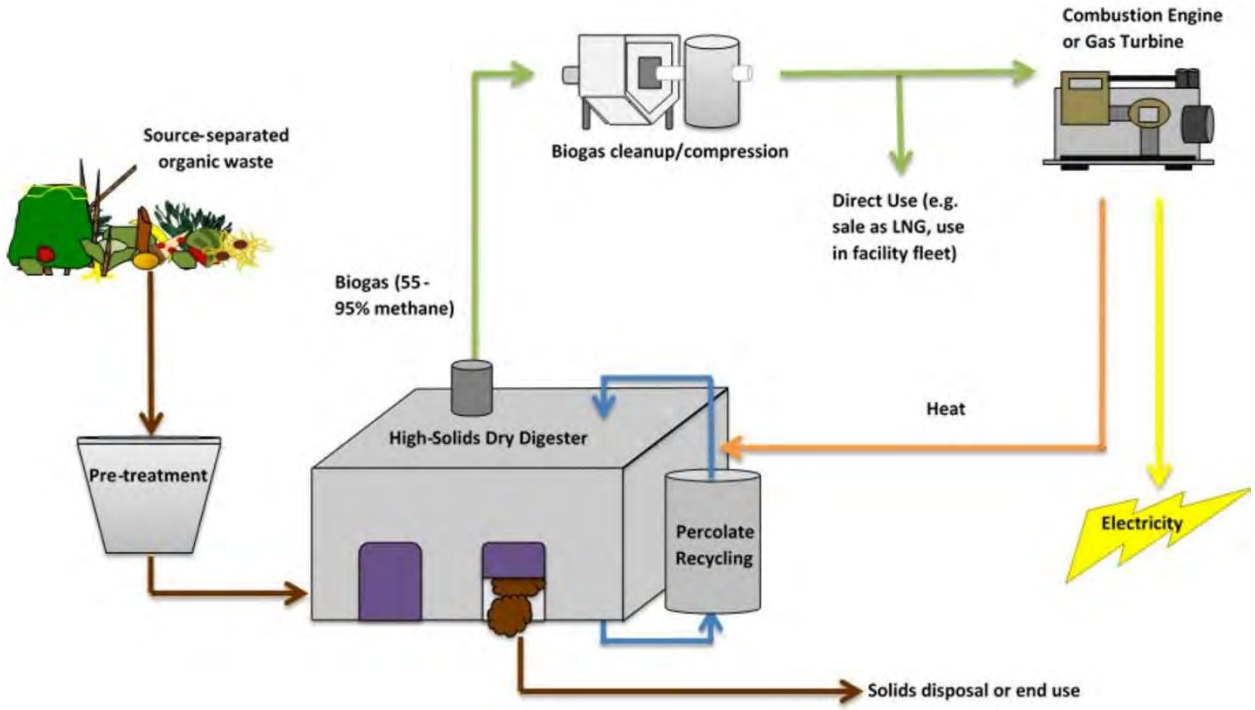



Exhibit 24. Representative Schematic of a Custom/Large-Scale Dry AD System



# Co-Digestion

## Process Overview

Co-digestion involves the inclusion of a food waste slurry into an AD process. Typically, the food waste is collected and processed (on- or off-site), and then added as a mixture to the anaerobic digester. The food waste slurry is engineered to have the optimal physical and chemical properties for mixing and energy production within the digesters.

As with standard AD, the two main by-products of co-digestion are digestate (solid and liquid) and biogas. Solid digestate is the solid material that remains after digestion, which can then be composted or disposed. The biogas is typically used in a boiler to produce thermal energy or in an engine to produce electricity.

## Waste Management CORe Facilities

Waste Management (WM) has developed the Centralized Organic Recycling (CORe) process for processing food scraps (referred to as Engineered Bioslurry, or EBS), with subsequent incorporation into a WRRF anaerobic digester. WM has/is developing four facilities, located in large metropolitan areas, including Boston, New York City, Los Angeles, and northern New Jersey (currently under construction).

The CORe system can accept all commercial food waste, including meat, dairy, eggs, fish, fruits, vegetables, bakery items from supermarkets, restaurants, and institutions, and incidental amounts of plastic, metal, paper, and cardboard from packaging. However, the system cannot process wood and yard waste, rubber, ropes, wires, polystyrene foam, glass, cleaning supplies, chemicals, bulky items, or trash.

### Boston Facility

The Boston facility currently accepts approximately 50 tons/day of residential and commercial food waste, but has capacity for 250 tons/day. Material is delivered to the facility primarily by local compactors and collection routes serviced by the company Save That Stuff. WM then transports the EBS from the Boston facility to the Greater Lawrence Sanitary District (GLSD) WRRF, 30 miles north of Boston.

Food scraps are first separated from containers and packaging. The food scraps are ground and mixed with water or other organic waste liquids received at the facility to produce the EBS. The EBS is mixed and allowed to settle in a series of tanks, which separate out any residual solid material.

At the GLSD WRRF, there are two receiving tanks, each 119,000 gallons. The EBS is transferred to and from each tank via 10-horsepower pumps (2 per tank), and blended via 25-horsepower pumps (2 per tank). The product is then mixed with wastewater solids in the anaerobic digesters, where methane is produced. The concentrated solids are separated out, dried, and sized into fertilizer pellets.

### New York Facility

The New York facility operates similarly to the Boston facility, making use of the Varick transfer station in Brooklyn. This facility accepts approximately 50 tons per day of residential food waste from Brooklyn, Queens, and the Bronx. The EBS produced at the transfer station is then transferred to the NYCDEP Newtown Creek WWTP.

### Los Angeles Facility

The Los Angeles facility accepts 65-85 tons/day of residential and commercial waste at a transfer station in Orange, CA. WM then transports the EBS to the Sanitation Districts of Los Angeles County (LACSD) Joint Water Pollution Control Plant in Carson, CA.

The food scraps increase the biogas production of the anaerobic digesters. Every ton of food waste that is processed and introduced into the co-digestion system results in enough electrical energy to provide power to 8-10 homes. Additionally, the biogas is used to heat process buildings, administration buildings, and the anaerobic digesters themselves.

Relative to the Boston operation, GLSD plans to expand the project in the future, as they have space at the facility for another 60,000 gallon EBS tank. Similarly, WM plans to expand the New York and Los Angeles facilities, and reach acceptance of 250 tons/day and 500 tons/day within 3 years of operation, respectively.

## On-Farm Digester Facilities

The location and a brief description of on-farm co-digestion facilities in New York are as follows:

- Boxler Dairy in Varysburg (Wyoming County)
  - Single-farm plug flow anaerobic digestion;
  - manure mixed with silage leachate and food wastes ;
  - biogas is used for on-site energy; and,
  - digestate is used for fertilization/bedding.

- Cayuga County Soil and Water Conservation District Community Digester in Auburn
  - 10,000 gallons/day of pre-consumer food waste (i.e. milk and cheese plants) and brown grease fats collected in a sanitation tank and then dosed into the digester tank; 20,000 gallons/day of manure from county farms are directly deposited.

- Lamb Farms, Inc. in Oakfield (Genesee County)
  - Single-farm plug flow anaerobic digestion;
  - manure mixed with food wastes;
  - biogas is used for on-site energy; and,
  - digestate is used for fertilization/bedding.

- Lawnhurst Farm in Stanley (Ontario County)
  - Accepts manufacturing waste from Siggi's Dairy Yogurt Plant and feeds this into manure and feed refusals from the farm;
  - digestate is used for fertilization/bedding; and,
  - Biogas is reused directly for electricity.

- Noblehurst Green Energy in Pavilion (Livingston County)
  - 500 tons of organic waste per month from local universities, schools, restaurants, and Wegmans Food Markets are collected by Natural Upcycling, a food scraps and organics recycling collection company, and delivered to the Noblehurst Green Energy facility.
  - This waste can include meat products, fruits and vegetables, dairy and egg products, wheat and coffee products, and smaller yard wastes.

- These wastes are then macerated and stored with whey and wastewater from the nearby Craig's Station Creamery milk plant, and combined with manure from the Noblehurst Farms dairy operations in the anaerobic digester.
- Biogas and recovered heat are used directly on-site.
- Effluent solids are used for bedding and liquids are applied as fertilizer.

- Patterson Farms, Inc. in Auburn (Cayuga County)
  - Accepts whey waste from a nearby cream cheese factory and introduces this waste into an anaerobic digester with on-site manure;
  - effluent for fertilization/bedding; and,
  - Biogas is used directly for electricity.

- Ridgeline Dairy Farm in Clymer (Chautauqua County)
  - Introduces 5,000-gallon loads of food waste into an anaerobic digester with on-site manure, including waste from grapes, milk/ice cream production, and salad dressing production.
  - The farm uses the biogas and effluent for on-site applications involving energy, bedding, and fertilizer, and sells excess energy production to National Grid and a nearby plastic molding company.

- SUNY at Morrisville in Morrisville (Chenango County)
  - Receives food waste from the SUNY campus and introduces it into the campus dairy farm waste in a plug flow digester.
  - Biogas for on-site electricity use.

- CH4/Synergy Biogas in Wyoming County
  - Accepts food waste from nearby schools, manure produced on-site and from another nearby farm, and cheese whey from dairy production;
  - anaerobically digests the mixture in a 120,000 gallon digester;
  - biogas for on-site operations and introduction of energy into the grid; and,
  - Effluent product for fertilizer/bedding.

- Zuber Farms in Byron (Genesee County)
  - On-site milk waste and manure is anaerobically digested.
  - Biogas and reusable effluent used for facility operations.

## WRRF Digester Facilities

WRRF co-digestion facilities in New York include the following:

- Gloversville-Johnstown Joint WWTF in Johnstown (Fulton County)
  - Yogurt-product wastewater is pumped directly from a nearby Fage plant into the WWTF, where the waste is concentrated with other pre-existing wastes and then anaerobically digested in the facility's usual processes.
  - The energy produced from this process allows the facility to export power to National Grid.

- Ithaca Area WWTF in Ithaca (Tompkins County)
  - The introduction of Cornell campus food scraps into the normal processes of the facility allows a greater production rate for biogas and helps to make the facility more effective and efficient.

- Rome Water Pollution Control Facility (Oneida County)
    - A proposal to implement grease and dairy wastes into the liquid sludge stream has been set in place, with potential to produce enough biogas to make the facility a net energy zero operation and export approximately 400kW back to the electric grid.

- Metropolitan Syracuse WWTP (Onondaga County)
    - Food waste is implemented into the typical wastewater treatment processes to increase the production of biogas.
    - At this facility, all bio-solids produced are processed into N-Viro soil; an agricultural lime used by farmers in 12 counties in New York.

## ANAEROBIC DIGESTION TECHNOLOGY SUMMARY

A summary of the pros and cons of the AD technologies is as follows:

- AD systems are "machines", in that they have a fixed capacity. Operation at 100 percent of capacity is typically needed to support the capital and operating costs.

- Pre-processing and material handling are key considerations in the design and operation of an AD system.

- Stand-alone digesters need a constant stream of similar strength waste.

- On-farm digesters typically are designed to handle animal manure as the primary feedstock. Co-digestion requires production and incorporation of a food waste slurry into the AD process.

- WRRF digesters are designed to handle biosolids as the primary feedstock. Co-digestion requires production and incorporation of a food waste slurry into the AD process.

# 11 GRANTS

Grants may be available to fund portions of the organics management program (e.g., pre-treatment systems) that the County may implement. The following entities have grant programs that are applicable to organics management:

- NYSDEC: Municipal Waste Reduction and Recycling Program (MWR&R)
- P2I: Administrator of NYSDEC Food Waste Recycling Grants
- United States Department of Agriculture (USDA) Rural Solid Waste Management Grants

## NYSDEC MUNICIPAL WASTE REDUCTION AND RECYCLING PROGRAM

NYSDEC is authorized to provide State assistance for projects that further the primary strategy of the State solid waste management hierarchy. A waste reduction/prevention project reduces the volume or toxicity of materials entering the MSW stream at the point of generation. These projects include:

- Educational efforts that prevent the generation of waste
- Materials reuse
- Promotion or use of refillable or reusable packaging
- Audits of procedures and practices, resulting in the elimination or reduction of materials disposed
- Increasing awareness of non-toxic household product substitutes
- Promotion of backyard or on-site composting
- Promotion of product stewardship initiatives.

NYSDEC is also authorized to provide State assistance for projects that enhance municipal recycling infrastructure through:

- Construction materials recycling facilities
- Construction of composting facilities
- Purchasing of recyclables processing equipment
- Purchasing of recycling containers, and
- Purchasing of new recyclables collection vehicles

Proposals for projects are accepted on an ongoing first-come-first-served basis. All applications must be submitted using the NYS Grants Gateway.

NYSDEC is also authorized to provide State assistance for Recycling Coordinator salaries and for public education programs conducted by municipalities. This funding helps expand local recycling programs and increase participation.

Eligible projects for state assistance under this program include planning, educational and promotional activities to increase public awareness of and participation in waste reduction and recycling. Municipalities may request funding toward costs for recycling coordination, publications, education and outreach for recycling and waste reduction.

Recycling Education, promotion or outreach includes:

- Recycling guides, mailers, brochures, and webpages
- Advertising on TV, radio, newspaper, internet, billboards, etc.
- Recycling signs and displays
- Give-a-way items, children's shows, county fair displays, America Recycles Day items

Recycling Coordination involves the following activities:

- Planning, monitoring and modifying the local recycling program
- Developing public education and promotion tools
- Implementing recycling outreach strategies
- Establishing, monitoring and improving recyclables marketing, tracking and reporting
- Fostering inter-governmental recycling coordination
- Developing enforcement strategies
- Managing finances of the municipal recycling program

Eligible costs for personal services are limited to the salary and verifiable fringe benefit costs of a Recycling Coordinator, who must be an employee of the applicant and assigned to the project for no less than 50 percent of their full-time work schedule.

## P2I NYSDEC FOOD WASTE RECYCLING GRANTS

Aimed at expanding the State's capacity to reduce and divert wasted food, the Food Waste Recycling Grant program is part of a larger effort to reduce New York's GHG emissions by 40 percent by 2030. The funding is provided by the State's Environmental Protection Fund (EPF) and is administered by Empire State Development (ESD). ESD has contracted with P2I to operate the funding program, which is partnered with RIT to form the Food Waste Reduction and Diversion Reimbursement Program. Eligible projects must:

- Divert food waste from landfill or incineration through the use of equipment or technologies; and,
- Be led by New York State businesses, municipalities, or not-for-profits producing greater than one ton of food waste per week.

Reimbursement will cover:

- The purchase and installation of eligible equipment and technologies
- Up to 44% of eligible project costs, for a maximum award of $100,000, upon proof of waste reduction goal achievement

## USDA RURAL SOLID WASTE MANAGEMENT GRANTS

USDA offers yearly grant funding to state and local governmental entities and other public bodies, Native American tribes, nonprofits, and academic institutions for rural development projects. Under the US Code of Federal Regulations (7 CFR 1775 Subpart D), these funds are to be allocated for the purpose of water pollution reduction and improvement of solid waste management and planning in eligible areas. It is a well-funded resource that gives special consideration to governmental entities serving areas with less than 10,000 residents, with special consideration given to low-income populations.

# 12 ENVIRONMENTAL ANALYSIS

We prepared an environmental analysis, which estimates methane emissions from wastes collected in the County and disposed in the Seneca Meadows Landfill starting in 2019, and net GHG emissions reduction that can be achieved by diverting organic materials to a composting facility starting in 2020. The environmental analysis focuses on an evaluation of landfill methane emissions and emissions reductions from avoiding landfill methane by diverting organics from disposal, with adjustments to account for composting facility emissions and indirect emissions reduction achieved by end product application to soils.

The environmental analysis requires defining the estimated future waste flows from the County to the Landfill, under a Baseline Scenario, and, to the Landfill and composting facility, under a Composting Scenario. Under the Baseline Scenario, approximately 44,000 tons of MSW is transported from the County and disposed in the Landfill in all future years, with no growth in disposal assumed. Under the Composting Scenario, 500 tons of food scraps disposed in the Baseline Scenario will be diverted to composting starting in 2020. The amount of food waste diverted will increase after 2022 according to the schedule listed below in **Table 10**.

Table 10. Implementation Schedule for Food Waste Diversion to Composting

| Start Year | End Year | Tons/Year |
|---|---|---|
| 2020 | 2022 | 500 |
| 2023 | 2024 | 1,000 |
| 2025 | 2026 | 1,500 |
| 2027 | 2029 | 2,000 |
| 2030 | 2032 | 2,500 |
| 2033 | 2035 | 3,000 |
| 2036 | 2038 | 3,500 |
| 2039 | 2040 | 4,000 |

## LANDFILL METHANE EMISSIONS

Since 2010, the Seneca Meadows Landfill has reported GHG emissions from the Landfill to the EPA under the GHG Reporting Program (40 CFR Part 98, Subpart HHH), and annual reports are available covering an 8-year period (2010-2017). The GHG emissions reports do not forecast future emissions but provide a standard method and model input assumptions that can be applied to develop a landfill methane emissions forecasting tool for Sullivan County wastes disposed at the Landfill.

Annual methane emissions from Sullivan County waste at the Landfill are estimated using methane generation projections calculated in a spreadsheet model, the estimated collection efficiency for methane recovery in the landfill gas collection system, the methane destruction efficiency for collected methane combusted in the flare or methane utilization facility, and an estimated percentage of methane oxidized in the cover soils, according to the following formula:

***Methane ($CH_4$) Emissions (Mg/year)*** = *[$CH_4$ Generation (Mg/year) X (1 – Collection Efficiency (%))] X (1 – Oxidation %) + [$CH_4$ Generation (Mg/year) X Collection Efficiency (%) X (1- $CH_4$ Destruction Efficiency)]*

Historical data is used to establish a set of baseline conditions, which are adjusted in the Composting Scenario. The methane emissions estimates do not account for indirect emissions reduction from methane collected at the landfill and utilized in the high-Btu plant, which are relatively small and will have insignificant changes under the Composting Scenario.

## Baseline Scenario

We used an Excel spreadsheet model, developed to calculate methane emissions using methods described under the GHG Reporting Program rules (Subpart HH—Municipal Solid Waste Landfills). The annual MSW disposal tonnages from Sullivan County (44,000) were applied, along with default input assumptions described in the GHG Reporting Program for bulk waste, to estimate landfill methane generation from Sullivan County wastes, starting in 2019. The landfill methane emissions model input assumptions were selected to match the values assigned in the 2017 annual GHG report, as defined below:

- Decay rate constant – Model "k" value (bulk waste): 0.057/year.
- Methane generation rate – Model "$L_0$" value (bulk waste):
  - 0.067 Metric tonnes (Mg) of methane per Mg of waste.
  - 100 cubic meters ($m^3$) methane per Mg waste.
- Collection efficiency of the LFG recovery system was estimated to be 85 percent in 2017.
- Destruction efficiency for collected methane: 99 percent.
- Methane oxidation rate: 10 percent.

If 85 percent of methane generated is collected and combusted achieving 99 percent destruction efficiency, non-fugitive emissions of landfill methane are about 0.85 percent of the total generated. Of the 15 percent of generated methane that is not collected, 10 percent is estimated to be oxidized, and the remaining 13.5 percent of the total is fugitive methane emissions. Thus, landfill methane emissions are estimated to be equal to 14.35 percent of total methane generated.

**Exhibit K-1** in **Appendix K** provides projected disposal rates for Sullivan County waste, methane generation rates, landfill gas system collection efficiency, methane recovery rates, and methane emissions, for 2019 through 2040 under the Baseline Scenario. Methane generation and recovery estimates are provided as flow rates in standard cubic feet per minute (scfm) and $m^3$ per hour, and as mass rates in Mg per year. Net methane emissions are converted to $CO_2$-equivalent ($CO_2e$) values using 25 for methane.

**Exhibit K-1** shows that methane emissions from future Sullivan County waste will exceed 2,000 Mg $CO_2e$ in 2024, and continue to increase over time to about 6,700 Mg in 2040 in the Baseline Scenario.

## Composting Scenario

Under the Composting Scenario, food scraps are diverted from disposal at the landfill, according to the schedule provided in Table 10. Our method for evaluating landfill methane emissions avoidance includes estimation of methane that would have been generated from the food wastes diverted from disposal, and subtraction of theoretical methane generation from the diverted wastes from the Baseline methane generation estimates. The same values for collection system efficiency (85%),

methane destruction efficiency (99%), and oxidation rate for uncollected methane (10%), as were used in the Baseline Scenario calculations, are applied to the discounted methane generation rates to estimate net landfill methane emissions.

Methods described under the GHG Reporting Program rules include default model input assumptions for specific waste materials, including food waste. These values were applied to calculate methane generation rates from the projected annual amounts of food waste diverted. Yard waste and other bulking agents, which will composted with the food scraps, are not included in the estimate of methane avoidance, since these materials are not landfilled. The landfill methane generation model input assumptions for food waste are as follows:

- Waste decay rate (k): 0.185/year.
- Methane generation potential ($L_0$): 76 $m^3$ $CH_4$/Mg.

Exhibit K-2 in Appendix K provides projected disposal rates for Sullivan County waste, methane generation rates, landfill gas system collection efficiency, methane recovery rates, and methane emissions, for 2019 through 2040 under the Composting Scenario, with an accounting for the effects of assumed food waste tonnage diversions from disposal starting in 2020. Methane generation and recovery estimates are listed along with net methane emissions and net emissions reduced from the Baseline Scenario.

Exhibit K-2 shows that landfill methane emissions under the Composting Scenario are lower than Baseline Scenario emissions by 1.5 percent in 2021, 2 percent in 2023, 4 percent in 2027, 6 percent in 2032, and 8 percent in 2040.

## GHG EMISSIONS AND EMISSIONS REDUCTION FROM COMPOSTING

In addition to landfill methane emissions, an accounting of net GHG emissions under a Composting Scenario should consider the following processes identified in the U.S. EPA's Waste Reduction Model (WARM v.14) documentation on management practices and organics materials[7]:

- Transport of materials (not evaluated in this study).
- Energy consumed in aerating and mechanical turning of the compost piles.
- Fugitive methane and nitrous-oxide emissions from composting.
- Storage of carbon after compost application to soils.

Transportation emissions are expected to be less under the Composting Scenario than under the Baseline Scenario, but were not evaluated in this study.

Emissions from the proposed organic waste composting operation are estimated using WARM model emissions factors for fuel use to turn compost piles and emissions reduction achieved by carbon storage following compost application, assuming that 50 percent of the composted food waste gets converted to compost and applied to the soil. WARM emissions factors for fugitive methane and nitrous oxide emissions combined are not applicable to the proposed composting facility, which is

[7] U.S. EPA, February 2016. "Documentation for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)" ("Management Practices Chapters" and "Organics Materials Chapters").

expected to have no methane emissions. A nitrous-oxide emission factor of 0.021 $MgCO_2e$ per ton of food waste composted was applied based on California Air Resources Board research.[8] .

Annual methane emissions from the Landfill minus the emissions reductions from composting equal net greenhouse gas emissions under the Composting Scenario. Estimated annual greenhouse gas emissions for the Baseline and Composting Scenarios are provided in Exhibit K-3. Emissions factors applied in the calculations, and net emissions reduction from the Baseline Scenario achieved annually under the Composting Scenario, also are shown in Exhibit K-3.

Net greenhouse gas emissions reductions, achieved under the Composting Scenario, are summarized in **Table 11**.

Table 11. Net Greenhouse Gas Emissions and Emissions Reduction

| | Baseline Scenario | Composting Scenario | | |
|---|---|---|---|---|
| Year | Emissions (Mg $CO_2e$) | Emissions (Mg $CO_2e$) | Emissions Reduction (Mg $CO_2e$) | Emissions Reduction (%) |
| 2020 | 532 | 488 | 44 | 8.2% |
| 2021 | 1,034 | 975 | 59 | 5.7% |
| 2022 | 1,508 | 1,437 | 71 | 4.7% |
| 2023 | 1,956 | 1,831 | 125 | 6.4% |
| 2024 | 2,379 | 2,230 | 149 | 6.3% |
| 2025 | 2,779 | 2,567 | 212 | 7.6% |
| 2026 | 3,157 | 2,913 | 244 | 7.7% |
| 2027 | 3,513 | 3,200 | 314 | 8.9% |
| 2028 | 3,850 | 3,499 | 351 | 9.1% |
| 2029 | 4,168 | 3,787 | 381 | 9.2% |
| 2030 | 4,469 | 4,019 | 451 | 10.1% |
| 2031 | 4,753 | 4,266 | 487 | 10.2% |
| 2032 | 5,021 | 4,504 | 517 | 10.3% |
| 2033 | 5,275 | 4,689 | 586 | 11.1% |
| 2034 | 5,514 | 4,892 | 622 | 11.3% |
| 2035 | 5,740 | 5,088 | 652 | 11.4% |
| 2036 | 5,954 | 5,234 | 720 | 12.1% |
| 2037 | 6,155 | 5,399 | 756 | 12.3% |
| 2038 | 6,346 | 5,560 | 786 | 12.4% |
| 2039 | 6,526 | 5,672 | 854 | 13.1% |
| 2040 | 6,696 | 5,902 | 794 | 11.9% |

[8] California Air Resources Board, 2017. Method for Estimating Greenhouse Gas Emission Reduction from Diversion of Organic Waste from Landfills to Compost Facilities (Table 4. Fugitive N2O emissions from composting).

Net emissions reduction under the Composting Scenario are about 5 to 8 percent of total emissions from 2020 through 2026, with the emissions reduction increasing to 9 percent in 2027, 10 percent in 2030, 12 percent in 2036, and 13 percent in 2039.

# 13 IMPLEMENTATION

The preceding sections present various components and options that the County could incorporate into an organics management program. The County needs to select the components for implementation (see options in **Exhibit 25**).For each component, there are costs for implementation and maintenance of that particular feature. Likewise, there are social, environmental and financial benefits for each component.

A component of the financial benefit is the cost savings that the County will realize upon diverting a ton of organic material from its transfer and disposal operation. The easiest portion to quantify is the cost for long-haul and disposal, which is about $79 per ton for 2019.

In this section, we present estimated diversion rates, costs, and cost savings. We also present a suggested schedule for implementation.

## DIVERSION FACTORS

Diversion factors are estimated in **Table 12**:

Table 12. Diversion Factors

| Item | Value | Units |
|---|---|---|
| Households (HH) | 27,679 | Each |
| Home Composting Diversion Rate | 0.14-0.5 | Tons/HH/Year |
| HH Participating and Requiring Home Compost Bins | 0.5-5 | Percent |
| Drop-off Diversion Rate | 0.21 | Tons/HH/Year |
| HH Participating in Drop-off Program | 25 | Percent |
| County Compost or AD Facility | 2,000 | Tons of Food Scraps/Year |

## COST FACTORS

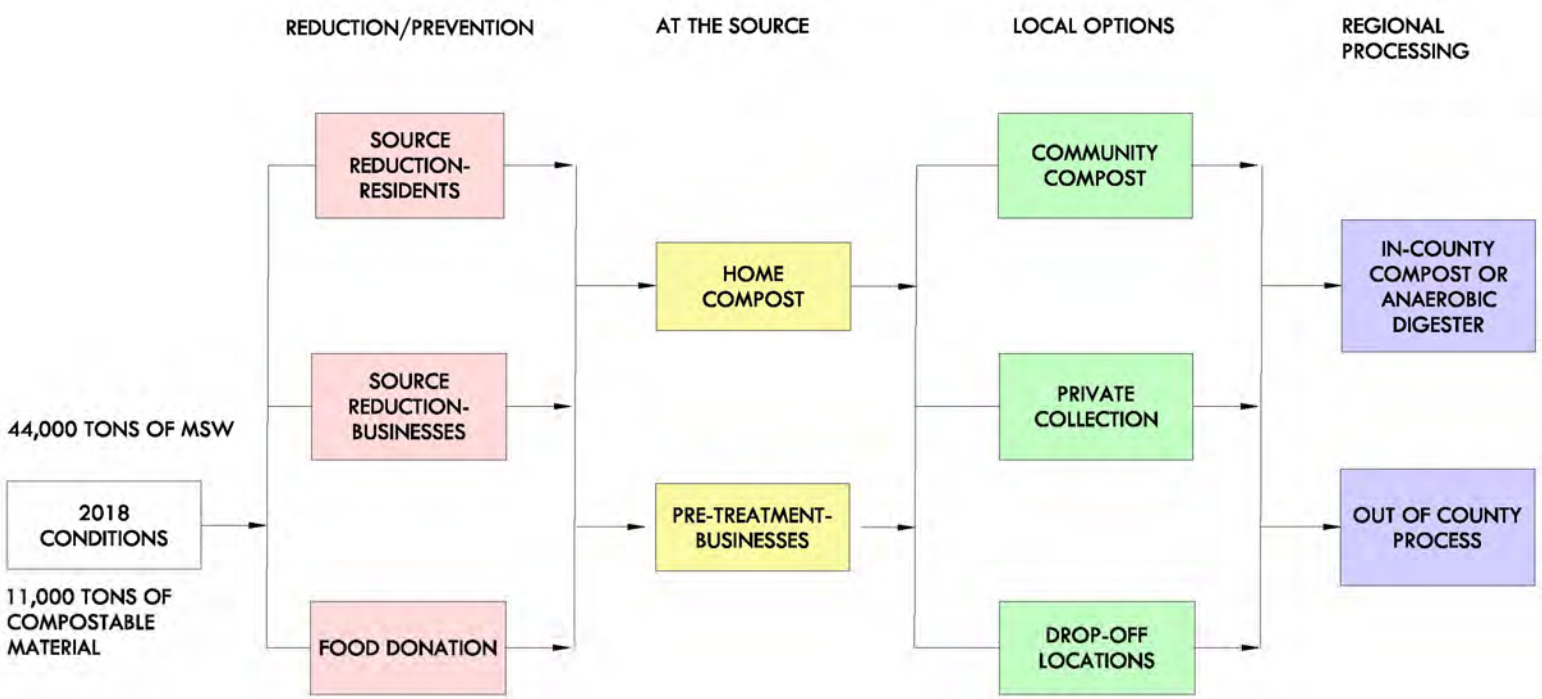
Cost factors are estimated in **Table 13**:

Table 13. Cost Factors

| Item | Value | Units |
|---|---|---|
| Enhanced Marketing | 20,000 | $/Year |
| Home composting Bins – County Subsidy Amount | 75 | $/HH |
| Business Pre-treatment – County Subsidy Amount | 0 | $/Business |
| Community Compost Bin System – County Subsidy Amount | 1,000 to 5,000 | $/Community |
| Compostable Organics Caster Cart - 64 Gallon | 125 | $/Each |

| Item | Value | Units |
|---|---|---|
| Drop-off Improvements: Fencing and Signage | 5,000 | $/Location |
| Private Haul from Drop-off | 500 | $/Month/Location |
| Cart Lifter | 6,600 | $/Each |
| Box Truck | 50,000 | $/Each |
| County Compost Facility, ASP Sized for 2,000 Tons of Food Scraps Per Year; Site Size for 4,000 tpy Food | 1,400,000 | $ for Construction and Equipment |
| County AD facility, Sized for 2,500 Tons of Food Scraps Per Year; Site Sized for 4,000 tpy Food | 5,100,000 | $ for Construction and Equipment |

Exhibit 25. Organics Management Options



# Appendix B-1

# Detailed Waste Composition Results

| Sullivan County | | | | | | | | | | | 2019-2028 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Density Population Distribution | | Rural | | | Suburban | | | Urban | | | MSW Materials Composition (%) |
| | | | 72.78% | | | 27.22% | | | 0.00% | | | |
| | | | Residential | Comm/Inst. | Combined | Residential | Comm/Inst. | Combined | Residential | Comm/Inst. | Combined | |
| | | | 58.00% | 42.00% | 100.00% | 55.00% | 45.00% | 100.00% | 58.00% | 42.00% | 100.00% | 100.00% |
| Material | Newspaper | | 5.20% | 1.90% | 3.81% | 5.00% | 1.90% | 3.61% | 6.60% | 2.00% | 4.67% | 3.76% |
| | Corrugated Cardboard | | 6.60% | 13.90% | 9.67% | 6.60% | 13.90% | 9.89% | 6.90% | 13.70% | 9.76% | 9.73% |
| | Other Recyclable Paper | Paperboard | 3.20% | 1.10% | 2.32% | 3.30% | 1.00% | 2.27% | 3.60% | 0.90% | 2.47% | 2.30% |
| | | Office Paper | 0.80% | 3.80% | 2.06% | 0.90% | 4.20% | 2.39% | 1.10% | 5.80% | 3.07% | 2.15% |
| | | Junk Mail | 3.00% | 0.70% | 2.03% | 3.20% | 0.70% | 2.08% | 3.50% | 0.70% | 2.32% | 2.05% |
| | | Other Commercial Printing | 1.70% | 2.30% | 1.95% | 1.70% | 2.40% | 2.02% | 2.30% | 2.60% | 2.43% | 1.97% |
| | | Magazines | 1.10% | 0.90% | 1.02% | 1.00% | 0.80% | 0.91% | 1.10% | 1.00% | 1.06% | 0.99% |
| | | Books | 0.50% | 0.30% | 0.42% | 0.50% | 0.30% | 0.41% | 0.60% | 0.40% | 0.52% | 0.41% |
| | | Paper Bags | 0.50% | 0.20% | 0.37% | 0.50% | 0.20% | 0.37% | 0.60% | 0.20% | 0.43% | 0.37% |
| | | Phone Books | 0.30% | 0.30% | 0.30% | 0.30% | 0.30% | 0.30% | 0.30% | 0.20% | 0.26% | 0.30% |
| | | Poly-Coated | 0.20% | 0.30% | 0.24% | 0.20% | 0.20% | 0.20% | 0.30% | 0.20% | 0.26% | 0.23% |
| | Other Recyclable Paper (Total) | | 11.30% | 9.90% | 10.71% | 11.60% | 10.10% | 10.93% | 13.40% | 12.00% | 12.81% | 10.77% |
| | Other Compostable Paper | | 6.80% | 6.80% | 6.80% | 6.40% | 6.40% | 6.40% | 6.80% | 6.80% | 6.80% | 6.69% |
| | *Total Paper* | | *29.90%* | *32.50%* | *30.99%* | *29.60%* | *32.30%* | *30.82%* | *33.70%* | *34.50%* | *34.04%* | *30.94%* |
| | Ferrous/Aluminum Containers | Ferrous Containers | 1.90% | 1.00% | 1.52% | 1.20% | 0.70% | 0.98% | 1.40% | 0.70% | 1.11% | 1.37% |
| | | Aluminum Containers | 0.70% | 0.40% | 0.57% | 0.60% | 0.30% | 0.47% | 0.50% | 0.40% | 0.46% | 0.54% |
| | Ferrous/Aluminum Containers (Total) | | 2.60% | 1.40% | 2.10% | 1.80% | 1.00% | 1.44% | 1.90% | 1.10% | 1.56% | 1.92% |
| | Other Ferrous Metals | | 5.20% | 5.40% | 5.28% | 5.00% | 5.80% | 5.36% | 3.30% | 3.70% | 3.47% | 5.30% |
| | Other Non-Ferrous Metals | Other aluminum | 0.20% | 0.30% | 0.24% | 0.20% | 0.30% | 0.25% | 0.20% | 0.30% | 0.24% | 0.24% |
| | | Automotive batteries | 0.80% | 0.50% | 0.67% | 0.70% | 0.40% | 0.57% | 0.20% | 0.20% | 0.20% | 0.64% |
| | | Other non-aluminum | 0.50% | 0.30% | 0.42% | 0.30% | 0.40% | 0.35% | 0.40% | 0.20% | 0.32% | 0.40% |
| | Other Non-Ferrous Metals (Total) | | 1.50% | 1.10% | 1.33% | 1.20% | 1.10% | 1.16% | 0.80% | 0.70% | 0.76% | 1.28% |
| | *Total Metals* | | *9.30%* | *7.90%* | *8.71%* | *8.00%* | *7.90%* | *7.96%* | *6.00%* | *5.50%* | *5.79%* | *8.51%* |
| | PET Containers | | 1.10% | 0.80% | 0.97% | 0.90% | 0.80% | 0.86% | 1.20% | 1.00% | 1.12% | 0.94% |
| | HDPE Containers | | 1.10% | 0.60% | 0.88% | 0.90% | 0.70% | 0.81% | 1.00% | 0.70% | 0.87% | 0.87% |
| | Other Plastic (3-7) Containers | | 0.20% | 0.10% | 0.16% | 0.20% | 0.20% | 0.20% | 0.20% | 0.20% | 0.20% | 0.17% |
| | Film Plastic | | 5.70% | 5.90% | 5.78% | 5.50% | 5.80% | 5.64% | 5.80% | 5.80% | 5.80% | 5.74% |
| | Other Plastic | Durables | 3.10% | 3.20% | 3.14% | 3.00% | 3.20% | 3.09% | 3.20% | 3.30% | 3.24% | 3.13% |
| | | Non-Durables | 1.60% | 1.80% | 1.68% | 1.60% | 1.80% | 1.69% | 1.80% | 1.90% | 1.84% | 1.69% |
| | | Packaging | 1.40% | 1.10% | 1.27% | 1.40% | 1.10% | 1.27% | 1.50% | 1.10% | 1.33% | 1.27% |
| | Other Plastic (Total) | | 6.10% | 6.10% | 6.10% | 6.00% | 6.10% | 6.05% | 6.50% | 6.30% | 6.42% | 6.09% |
| | *Total Plastics* | | *14.20%* | *13.50%* | *13.91%* | *13.50%* | *13.60%* | *13.55%* | *14.70%* | *14.00%* | *14.41%* | *13.81%* |
| | Glass Bottles, Jars and Containers | | 4.10% | 3.90% | 3.97% | 3.90% | 3.80% | 3.86% | 4.30% | 3.80% | 4.09% | 0.00% |
| | Other Glass (Flat glass, dishware, light bulbs, etc.) | | 0.50% | 0.40% | 0.46% | 0.30% | 0.40% | 0.35% | 0.40% | 0.40% | 0.40% | 4.34% |
| | *Total Glass* | | *4.60%* | *4.20%* | *4.43%* | *4.20%* | *4.20%* | *4.20%* | *4.70%* | *4.20%* | *4.49%* | *4.34%* |
| | Food Scraps | | 12.70% | 13.30% | 12.95% | 12.90% | 15.50% | 14.07% | 17.20% | 25.20% | 20.56% | 13.26% |
| | Leaves and Grass / Pruning and Trimmings | | 3.10% | 1.10% | 2.26% | 11.30% | 9.10% | 10.31% | 4.20% | 1.50% | 3.07% | 4.45% |
| | *Total Organics* | | *15.80%* | *14.40%* | *15.21%* | *24.20%* | *24.60%* | *24.38%* | *21.40%* | *26.70%* | *23.63%* | *17.71%* |
| | Clothing Footwear, Towels, Sheets | | 4.60% | 3.00% | 3.93% | 4.40% | 3.20% | 3.86% | 4.80% | 2.50% | 3.83% | 3.91% |
| | Carpet | | 1.40% | 1.30% | 1.36% | 1.70% | 1.40% | 1.57% | 1.70% | 0.90% | 1.36% | 1.41% |
| | *Total Textiles* | | *6.00%* | *4.30%* | *5.29%* | *6.10%* | *4.60%* | *5.43%* | *6.50%* | *3.40%* | *5.20%* | *5.32%* |
| | *Total Wood* (Pallets, crates, adulterated and non-adulterated wood) | | *4.10%* | *9.00%* | *6.16%* | *2.90%* | *4.10%* | *3.44%* | *2.00%* | *3.50%* | *2.63%* | *5.42%* |
| | DIY - Construction & Renovation Materials | | 8.00% | 7.60% | 7.83% | 3.80% | 2.70% | 3.31% | 4.40% | 3.80% | 4.15% | 6.60% |
| | Diapers | | 1.90% | 1.10% | 1.56% | 2.10% | 1.20% | 1.70% | 2.30% | 1.10% | 1.80% | 1.60% |
| | Electronics | | 1.30% | 1.40% | 1.34% | 1.60% | 1.70% | 1.65% | 1.30% | 1.30% | 1.30% | 1.42% |
| | Tires | | 1.80% | 1.80% | 1.80% | 1.70% | 1.40% | 1.57% | 0.50% | 0.40% | 0.46% | 1.74% |
| | HHW | | 0.60% | 0.00% | 0.35% | 0.60% | 0.00% | 0.33% | 0.50% | 0.00% | 0.29% | 0.34% |
| | Soils and Fines | | 0.60% | 0.60% | 0.60% | 0.10% | 0.20% | 0.15% | 0.10% | 0.10% | 0.10% | 0.48% |
| | Other Composite Materials - Durable and/or Inert | | 1.90% | 1.70% | 1.82% | 1.60% | 1.50% | 1.56% | 1.90% | 1.50% | 1.73% | 1.74% |
| | *Total Miscellaneous* | | *16.10%* | *14.20%* | *15.30%* | *11.50%* | *8.70%* | *10.24%* | *11.00%* | *8.20%* | *9.82%* | *13.92%* |
| | *Total* | | *100.00%* | *100.00%* | *100.00%* | *100.00%* | *100.00%* | *100.00%* | *100.00%* | *100.00%* | *100.00%* | *99.97%* |

# Appendix B-2

# Business Survey Summary

| Company Name | Street Address | City | State | Zip | Contact Name | Title | Phone | Extension | Email | No. of employees | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |
| Bethel Woods Center for the Arts | 200 Hurd Rd. | Bethel | NY | 12720 | Dan Melchick | Director of Facilities & Grounds | 845-583-2037 desk, 845-807-8840 cell | | dmelchick@bethelwoodslive.org | | |
| Callicoon Farmers Market | 8 Creamery Rd. | Callicoon | NY | 12723 | Alan Carroll | Manager | 914-262-8979 | | info@callicoonfarmersmarket.org | 1 / 20-30 participating vendors | Only year-round farmers market in Sullivan Co. |
| Catskill Regional Medical Center | 68 Harris-Bushville Rd. | Harris | NY | 12742 | Rossella Loguercio | Director of Environmental Facilities | 845-794-3300 | 2012 | rloguercio@ghvhs.org | 500 | |
| Catskills Food Hub | 92 Commerce Drive | Liberty | NY | 12754 | Cat Wilson | Executive Director | 845-807-3735 | | director@catskillsfoodhub.org | 1 | Opening January 2019. |
| CCE Sullivan | 64 Ferndale-Loomis Rd. | Liberty | NY | 12754 | Malinda Ware | | 845-292-6180 | 103 | sullivan@cornell.edu; mgw77@cornell.edu; cm638@cornell.edu | 22 | |
| Center for Discovery | 641 Old Rt. 17 (PO Box 840, Harris, NY 12742) | Monticello | NY | 12701 | Tom Burnham | | 845-707-8507 | | tburnham@tcfd.org | est. 1000 | Center for Discovery expressed interest in compost markets. |
| Ethelbert B. Crawford Public Library | 479 Broadway | Monticello | NY | 12701 | MaryPaige Lang-Clouse | | 845-794-4660 | 7 | langclouse@rcls.org | 12 | Demonstration compost bin in garden area at Library for staff plant materials / coffee grounds. |
| Federation for the Homeless | 9 Monticello Street | Monticello | NY | 12701 | Esther Tyler/Kathy Kreiter | | 845-794-2604 | 303 | scfh@hvc.rr.com | 3 | |
| Lackawaxen Food Hub | 1114 Beech Grove Rd. | Honesdale | PA | 18431 | Alan Carroll | Program Coordinator | 570-253-1308-w, 914-262-8979-cell | | warehouse@lackawaxenfoodhub.org | 7 | Food hub serves western part of Sullivan County as well as Wayne and Pike Cos. PA. |
| Liberty Central School District | 115 Buckley St. | Liberty | NY | 12754 | Georgia Gonzalez | | 845-292-6171 | | ggonzalez@libertyk12.org | est. 260 | |
| Livingston Manor Central School (Cafeteria) | 19 School Street | Livingston Manor | NY | 12758 | Art Hoag | | 845-439-4400 | | Arthur.Hoag@lmcs.us | est. 85 | |
| Moonrise Pond (Getaway at) | 532 Bernas Road | Cochecton | NY | 12726 | Julie Rozar | | 917-748-9205 | | moonrisepond@gmail.com | est. 2 | |
| New Hope Community | 5 New Hope Community Drive | Loch Sheldrake | NY | 12759 | Brian McPhillips | Facilities Manager | 845-434-8300 | | bmcphillips@newhopecommunity.org | | |
| SullivanARC | 162 East Broadway | Monticello | NY | 12701 | Terry Grafmuller | Production Manager | 845-796-1350 (or 845-866-6275-cell) | 5105 | tgrafmuller@sullivanarc.org or tgrafmuller@yahoo.com | est. 200 | Consolidating with Orange Co. ARC; sheltered workshop provides employment opportunities for persons with disabilities. Operates 20 group homes, 6 persons/home, desires organics recovery opportunities at group homes. |
| Sullivan County Community College | 112 College Road | Loch Sheldrake | NY | 12759 | Larry Reeger | Sustainability Director | 845-434-5750 | 4224 | lreeger@sunysullivan.edu | 250 | |

| Company Name | Question 1: Type and Amount of organic waste generated | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Liquid Waste | Fats, Oils, or Grease | Pre-consumer Food Waste | Post-Consumer Food waste | Waxed OCC | Other OCC | Biosolids | Other |
| | | | | | | | | |
| Bethel Woods Center for the Arts | | x | x | x | | x | x | |
| Callicoon Farmers Market | | | x | | | | | |
| Catskill Regional Medical Center | | x | x | x | x | x | | |
| Catskills Food Hub | | | | | | | | |
| CCE Sullivan | x | x | x | x | x | x | | |
| Center for Discovery | | | x | x | | | | |
| Ethelbert B. Crawford Public Library | | | | x | | | | |
| Federation for the Homeless | | | | | | | | |
| Lackawaxen Food Hub | | | x | | x | x | | |
| Liberty Central School District | x | x | x | | | | | |
| Livingston Manor Central School (Cafeteria) | x | x | x | x | x | x | | |
| Moonrise Pond (Getaway at) | | | | x | | x | | |
| New Hope Community | x | x | x | x | x | x | | |
| SullivanARC | | | x | x | | x | | |
| Sullivan County Community College | | x | x | x | x | x | | |

| Company Name | Question 2: Hauler | | | | | | | Food Donation |
|---|---|---|---|---|---|---|---|---|
| | MSW Hauler | Compost Company | Grease Hauler | 3rd Party Hauler | Land Application Company | Anaerobic Digester Company | Animal Feed Processor | |
| | | | | | | | | |
| Bethel Woods Center for the Arts | Thompson Sanitation - waste & recycling hauler | | x | staff person | | | | |
| Callicoon Farmers Market | | | | staff/Alan Carroll | | | | |
| Catskill Regional Medical Center | Thompson Sanitation | | x | | | | | |
| Catskills Food Hub | | | | | | | | |
| CCE Sullivan | na | | | staff person | | | | |
| Center for Discovery | Thompson Sanitation - waste & recycling hauler | | | staff person | | | | |
| Ethelbert B. Crawford Public Library | | | | staff person | | | | |
| Federation for the Homeless | | | | | | | | |
| Lackawaxen Food Hub | | | | staff/Alan Carroll & Sky Balentine | | | | |
| Liberty Central School District | | | | custodial staff | | | | |
| Livingston Manor Central School (Cafeteria) | | | | maintanence staff | | | | |
| Moonrise Pond (Getaway at) | na | | | | | | | |
| New Hope Community | x | | | | | | | |
| SullivanARC | Thompson Sanitation | | | | | | | |
| Sullivan County Community College | Thompson Sanitation | SCCC Community Garden area & Hope Farm | possibly Darling Int'l. | students/staff member | | | | |

| Company Name | Question 3: Variability of the waste material(s) generated | Question 4: Information on strength/content of waste stream | | | Question 5: Barriers that prevent diversion | | |
|---|---|---|---|---|---|---|---|
| | | No | Yes | Comment | No | Yes | Comment |
| | | | | | | | |
| Bethel Woods Center for the Arts | Seasonal; Summer concerts & events generate greatest waste/organic production 4 months/year | x | | | | x | Liability concerns |
| Callicoon Farmers Market | Fruit & vegetable scraps, more generated during growing season. | x | | | x | | |
| Catskill Regional Medical Center | Patient count, seasonal fluctuation with cleintel affect waste stream. | x | | | | x | Donation/diversion may require legal review and administative approval. |
| Catskills Food Hub | | | | | | | |
| CCE Sullivan | not sure; would need some TA on how to measure | x | | | | x | |
| Center for Discovery | Seasonal variation; summer farm to kitchen waste is greater, kitchen prep waste in winter is less. | x | | | x | | Unused prepared foods are highly processed (pureed, ground) specific to health needs of their client base; very difficult to locally donate this type of material to reuse. Aditionally, inclusion of medications with leftover food presents challenges to both recovery and reuse of pharmaceutically-mixed materials. |
| Ethelbert B. Crawford Public Library | coffee filters & grinds, fruit/vegetable remains; 2lbs./month | x | | | x | | |
| Federation for the Homeless | | | | | | | |
| Lackawaxen Food Hub | Greater quantities generated in Summer. | x | | | x | | Hub works with farmers to divert waste food to food banks & other charities; Salvation Army, Catholic Charities and victims intervention. |
| Liberty Central School District | food waste - six garbage bags daily and pre-consumer waste | x | | | | x | |
| Livingston Manor Central School (Cafeteria) | post-consumer = one 30 gal. bag/day; pre-consumer = 2 lbs. daily | x | | | x | | |
| Moonrise Pond (Getaway at) | mostly household organic food scraps | x | | just household food scraps | | | NA, its not much on a daily/weekly basis |
| New Hope Community | 6 CY mixed trash/organics container per week | x | | | | x | |
| SullivanARC | More organics produced during summer (more fresh produce utilized) | x | | | | x | Physical security needed; lock-up containers (residents with psychosocial needs may interact with food waste on site) |
| Sullivan County Community College | SCCC Culinary Program generates approx. 3,000 lbs. pre-consumer and Chartwells Food Service 6,000 lbs./year | x | | | | x | Storage, education, available labor |

| Company Name | Question 6: Process on-site waste | | | Question 7: Separate waste and divert from landfill | | Question 7: How is waste diverted | Question 7: Amount of waste diverted | | | Amount of Organic/Food Waste thrown away |
|---|---|---|---|---|---|---|---|---|---|---|
| | No | Yes | Method | No | Yes | Method | Pounds | Tons | Frequency | |
| | | | | | | | | | | |
| Bethel Woods Center for the Arts | | x | Groundskeeping materials are mulched/composted for later use at facility. No food products are accepted. | | x | Limited mulch/compost/reuse of landscaping materials onsite. | 300-400 lbs. concert food waste per show | | 20 shows/year | 4 tons/year |
| Callicoon Farmers Market | x | | | | x | All organics are kept separate from trash for composting. | 15 lbs. | | per week | zero |
| Catskill Regional Medical Center | x | | | x | | Organics are not presently separated, recyclables are. | | | | Unknown. |
| Catskills Food Hub | | | | | | | | | | |
| CCE Sullivan | | x | Small on-site compost demonstration area. | | x | composting | | | | |
| Center for Discovery | | x | Bulk pre-consumer is recovered on-farm and composted. Compost is applied to food crop production areas. | | x | Most pre-consumer is separated & recovered on farm; add'l pre-consumer from homes is separated for local composting at the homes. | 100 lbs. | | per day | consumer food mixed with medications is discarded as MSW and is not composted. |
| Ethelbert B. Crawford Public Library | x | | | | x | plant material is composted, meats/oils are discarded as trash | | | | |
| Federation for the Homeless | | | | | | | | | | |
| Lackawaxen Food Hub | x | | | | x | unusable organic residue is diverted for composting at Hub staff member gardens | 10-100lbs. | | per week | zero |
| Liberty Central School District | x | | | x | | | | | | |
| Livingston Manor Central School (Cafeteria) | x | | | x | | | | | | |
| Moonrise Pond (Getaway at) | x | | | x | | | | | | |
| New Hope Community | | x | recycling is separated | x | | | | | | |
| SullivanARC | x | | | x | | Possible, occaisional pre-consumer food waste diversion at group homes, with transfer to SC-ARC Heming Farm in Woodbourne rarely done. | trace | | "occaisionally" | "Several tons" per year |
| Sullivan County Community College | | x | Pre-consumer plant waste collected by students from Culinary Program and Chartwells (5 gal. pails hauled to compost areas). | | x | Student Compost Ambassadors collect pails of plant waste from prep areas and haul to SCCC Community Garden and Hope Farm compost area. | 6,000lbs. | | per year | est. 25 tons/year |

| Company Name | Question 8: Considered alternative disposal options | | | Question 9: Willing to use sustainable option | | Question 10: Primary driver for switch | Notes |
|---|---|---|---|---|---|---|---|
| | No | Yes | Type | No | Yes | | |
| | | | | | | | |
| Bethel Woods Center for the Arts | x | | | | x | Sustainability and image are key motivators. | Bethel Woods is a large and diverse performing arts venue hosting thousans of clients per year; groundskeeping, catering, concert food sales all generate organics materials for potential recovery. |
| Callicoon Farmers Market | | | | | | | |
| Catskill Regional Medical Center | | x | Preliminary discussion at hospital about composting pre-consumer food waste on-site for community garden. | | x | Cost, environmental impact and staff efficiency would be considerations. | |
| Catskills Food Hub | | | | | | | |
| CCE Sullivan | x | | | | x | cost and impact | Colleen Monaghan, Director |
| Center for Discovery | | x | Improve recycling & organics recovery; minimize waste. | | x | Both enviormental responsibility and cost are motivating factors. | TCFD operates over 500 acres of farm/agricultural/recreational property; could possibly be a market for very clean, assayed finished compost. |
| Ethelbert B. Crawford Public Library | x | | staff take-home composting of plant matter has been working; low volume | | x | cost and impact; staff time, storage & duration | |
| Federation for the Homeless | | | | | | | |
| Lackawaxen Food Hub | | x | | | x | Environmental impact; improved sustainability | |
| Liberty Central School District | | x | | | x | cost (and time associated with cost) | |
| Livingston Manor Central School (Cafeteria) | x | | | | x | | John Evans, Superintendent, LMCS |
| Moonrise Pond (Getaway at) | x | | | | x | environmental impact and personal desire | |
| New Hope Community | x | | | | x | cost, time and labor needed to separate this waste fom common daily household waste. Storage requirements, hauling costs and regulations put on this practice. | |
| SullivanARC | x | | | | x | Primary-cost. Secondary-stewardship @ SullivanARC | |
| Sullivan County Community College | | x | Open to larger-scale organics recovery options | | x | Cost | College has identified pre-consumer plant waste for initial on-campus recovery. Post-consumer requires additional study and containerized collection may be needed. |

# Appendix B-3

# Source Reduction Tip Sheets

# Reduce Wasted Food!

## Tip Sheet for Vermont Residents

Hang me on your fridge

### Everyday

- **Use clear storage containers for leftovers.** This will allow them to be easily seen and more likely to be eaten first.
- **Designate and label an "Eat First" space in your fridge,** so everyone can easily identify the foods that need to be consumed first.
- **Learn to use the humidity settings in the fridge crispers** (see next page) to prolong the life of fruits and vegetables.
- **Take restaurant leftovers home** and place in Eat First space in your fridge.
- **Incorporate leftovers from one meal to make a new meal**.
- **Freeze foods you know you will not be able to eat soon.** You can extend the life of many vegetables, meat, and some fruit by freezing them.

### Weekly

- **Make a menu for the week.**
- **Check to see what you have in the fridge and cabinets before shopping.**
- **Make a shopping list**. Only buy the items on your list. If you tend to forget the shopping list, try using a shopping list app on your phone.
- **Buy imperfect fruits and vegetables.** They taste the same as the perfect ones and usually cost less.

### Other

- **Cook, bake, or freeze soft fruits to extend their life.**
- **Wilted vegetables may be used** for making stir-fries, soups, casseroles, smoothies, etc.
- **Learn how to can and preserve food to use up summer and fall's bounty.**

***Developed by*** NERC NORTHEAST RECYCLING COUNCIL [www.nerc.org](http://www.nerc.org), **08/16**

*Funded by a United States Department of Agriculture grant*

# Use Your Fridge to Reduce Wasted Food



**Top & Middle Shelves = Most Consistent Temperatures** – store milk and other perishables

**Bottom Shelf = Coldest Area** – store defrosted or fresh meat and eggs

**Door = Warmest Area** – store non-perishables

Photo from Flickr

Hang me on your fridge

## Crisper Settings Make a Difference

Crispers are the two bottom drawers of your fridge. Crisper settings can be used to increase the life of vegetables and fruits.

The **High-Humidity** setting is for vegetables and fruits that need moisture, such as:

| | |
|---|---|
| Broccoli | Carrots |
| Cauliflower | Cucumbers |
| Eggplant | Green beans |
| Herbs | Leafy greens |
| Peas | Peppers |
| Summer squash | Zucchini |







The **Low Humidity** setting is for fruits and vegetables that aren't sensitive to moisture and for those that produce ethylene gas (ripening gas), such as:

| | |
|---|---|
| Apples | Avocados |
| Kiwi | Mangoes |
| Melons | Pears |

Summer fruit (nectarines, peaches and plums)

**Freeze vegetables and fruits (bananas and berries) you know you can't consume.**

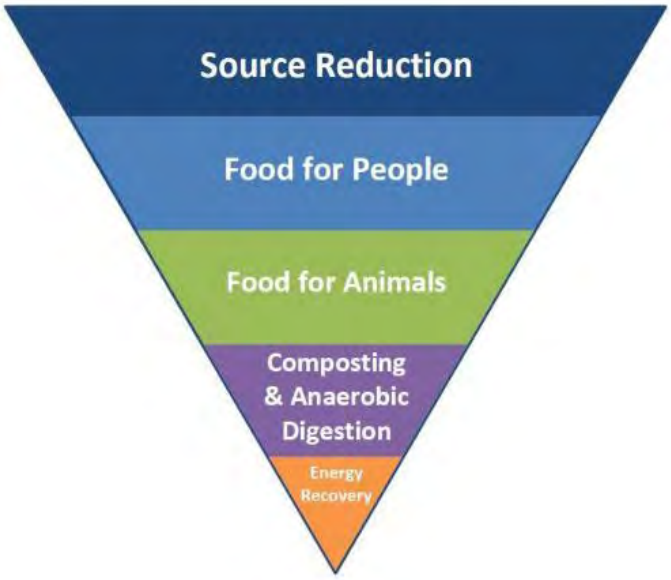
## Compost spoiled and rotten foods.

Go to VT Districts, Alliances & Towns (http://dec.vermont.gov/waste-management/solid/local-districts) to find your town's contact for composting.

*Developed by* NERC Northeast Recycling Council www.nerc.org, 08/16

## Vermont Food Recovery Hierarchy

Vermont's Universal Recycling (Act 148) includes the following hierarchy of the preferred ways to manage food scraps and food residuals. At the top of the pyramid is source reduction, which means each of us taking action to reduce our food waste.




## Food Facts

- Did you know that 13% of Vermont households don't have enough food to meet their basic needs?
- Between 30 - 40% of food produced in the U.S. each year is wasted, and households account for about 47% of that waste.
- The average American family throws out around a quarter of their food purchases, amounting to about $1,600 each year. And in Vermont, food and leaf and yard debris from residents makes up 18% of the trash.
- An estimated 13% of carbon pollution emissions in the U.S. are related to the growing, manufacturing, transporting, and disposal of food.
- Reducing wasted food helps families save money.

## Links to Some Recipes & Apps

- Canning & Preserving Recipes http://allrecipes.com/recipes/15930/side-dish/sauces-and-condiments/canning-and-preserving/
- Recipes for Foods You Have in Your Fridge http://www.supercook.com/#/recipes
- USDA Foodkeepers' App https://itunes.apple.com/us/app/usda-foodkeeper/id978186100?mt=8
- A Good Opportunity App https://play.google.com/store/apps/details?id=it.ubo.android&hl=en
- Canning 101: Food Preservation Tips & Tutorial App https://itunes.apple.com/us/app/canning-101-food-preserving/id1104863492?mt=8
- Food Fermentation & Pickling Recipes App http://food-fermentation-pickling-rec.appstor.io/

***Developed by*** NERC NORTHEAST RECYCLING COUNCIL ***www.nerc.org*****, 08/16**

# Food Loss Prevention Options for Grocery Stores

**Below is a list of ideas and activities that grocery stores may consider implementing to help prevent food loss and waste.** Contact your local EPA representative for log sheets, signs, and other tools.

- ☐ **Perform a food waste audit**. See what's being thrown out and why. Pick a day and be there at the waste bin with volunteers, buckets, a log sheet, a table, and a weight scale. Record the following:
  - What is being thrown out,
  - Weight or number of items,
  - The reason the food is being disposed (if known),
  - The expiration date of the product when applicable,
  - Whether the food was still wholesome/edible before being thrown out, and
  - Identify the most wasted to least wasted items.

  Based on the results, consider changing procedures to minimize loss (e.g., reduce order quantities of low sold or otherwise tossed items).
- ☐ **Clarify date labelling and date encoding to reduce confusion to customers.** Work with your supply chain to clearly label or define the difference between safety-based and quality-based dates. Some options might include:
  - Make "sell by" dates invisible to the consumer,
  - Use more "freeze by" dates where applicable so the customer knows they have that option,
  - Remove "best before" or other quality dates from shelf-stable, non-perishable foods for which safety is not a concern, or
  - Make sure all printed dates on products have descriptive language, not just a date.
- ☐ **Call a meeting to discuss food waste prevention strategies with staff.** Get their thoughts and ideas.
- ☐ **Share practices with others** outside your business to improve waste reduction industry-wide.

***Purchasing Tips***

- ☐ **Take an accurate inventory first** and base orders on what you currently have.
- ☐ **Buy surplus or odd shaped produce** from farms or wholesalers that would otherwise be wasted and sell them at a discount.
- ☐ **Send order estimates more frequently** to suppliers to better align production planning with order timings.
- ☐ **Start or increase regular communication with suppliers** to reduce food waste.
- ☐ **Revise your supply contracts** to require the supplier to have a food waste reduction or food donation program.
- ☐ **Change contracts** to include methods or techniques to prevent food loss (e.g., use innovative packaging such as vacuum sealed meat).

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**United States Environmental Protection Agency (5305P)**
**Washington, DC 20460**
**EPA-530-F-16-019-E**
**August 2016**

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**https://www.epa.gov/foodrecovery**

# Food Loss Prevention Options for Grocery Stores

- ☐ **Make food waste reduction a key performance indicator** in operations, supply chain and employee performance.

***Prep and Storage Tips***

- ☐ **Use leftovers from the day before.** Steak one day can be used for beef stew the next day.
- ☐ **Train staff on knife skills to make more efficient knife cuts** to use more of the food being prepared.
- ☐ **Use as much of the food as possible.** Cook up carrot greens and don't peel cucumbers or potatoes.
- ☐ **Reconstitute stalky vegetables that have wilted** by immersing them in warm water (100˚F) for 15 minutes.
- ☐ **Marinate meats** to extend their shelf life for a few more days.
- ☐ **Different foods like different storage conditions.** Refresh staff on storage techniques for different foods (e.g., don't store tomatoes and lettuce in the same container or near each other).
- ☐ **Use see-through storage containers.** Easily see what is available and keep an eye on freshness.
- ☐ **Cook, freeze, juice, or otherwise process foods** that are approaching the end of their peak freshness to prolong their useful life.

***Store Set Up and Display Tips***

- ☐ **Set up a discount shelf for ripe, near-to-expire, discontinued, or slightly damaged food.** Provide clear communication about this reduced price section.
- ☐ **Redesign product displays with less excess.** For example, instead of a pile of produce, have a back support that makes it look like a pile to keep produce fresher.
- ☐ **Allow prepared foods to run out near store closing.** Track these items and only make as much as you can sell.

***Engaging with Customers Tips***

- ☐ **Provide taste samples.** Train staff to remind customers that they can try a sample to see if they like a product before they buy it.
- ☐ **Have best storage practices information available** in appropriate departments for certain foods, including how long food should last when stored properly.
- ☐ **Offer various options to your customers on produce** (e.g., whole, sliced, and mixed fruit). This will assist them in eliminating food loss in their own homes.

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# Food Loss Prevention Options for Universities

**Below is a list of ideas and activities that university food services may consider implementing to help prevent food loss and waste.** Contact your local EPA representative for log sheets, signs, and other tools.

- ☐ **Perform a food waste audit.** See what's being thrown out and why.
  - o Pick a day and be there at the dish return line with a few volunteers, buckets, log sheet and a weight scale. Record what is being thrown out, how much is being discarded and the reason the food is being disposed (ask students for detailed reasons why they didn't finish their food).
  - o In the kitchen, have only one food waste trash can and provide each staff member a small container to fill with food waste at their station. Before they empty their container, have staff weigh it and record the amount, type and reason the waste is being discarded on a log sheet located near the trash can.
  - o Use this information to adjust menus, purchasing and portion size.

- ☐ **Call a meeting to discuss food waste prevention strategies with kitchen staff and/or interested student groups.** Get their thoughts and ideas.

***Prep and Storage Tips***

- ☐ **Reduce batch sizes**. Batch cooking is preparing meals ahead of time and storing them for future use.
- ☐ **Provide cook-to-order instead of bulk-cooking** either all day or toward the end of the day.
- ☐ **Replace a buffet line with a cook-to-order line.** This allows you to prepare only what is ordered to minimize leftovers.
- ☐ **Use smaller serving containers** toward the end of the day for the remaining portions of prepared foods.
- ☐ **Use leftovers from the day before.** Steak one day can be used for beef stew the next day.
- ☐ **Train staff on knife skills** to make more efficient knife cuts to use more of the food being prepared.
- ☐ **Use as much of the food as possible.** Cook up carrot greens and don't peel cucumbers or potatoes.
- ☐ **Reconstitute stalky vegetables that have wilted** by immersing them in warm water (100˚F) for 15 minutes.
- ☐ **Freeze surplus and near-to-spoil fresh fruits and veggies** instead of throwing them away.
- ☐ **Finish preparation at the line.** Do not finish the food item until it's ready to go on the line so you can more easily use leftover ingredients in different recipes later on.
- ☐ **Different foods like different storage conditions.** Refresh staff on storage techniques for different foods (e.g., don't store tomatoes and lettuce in the same container or near each other).
- ☐ **Use see-through storage containers** to allow staff to see what is available and to keep an eye on freshness.

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# Food Loss Prevention Options for Universities

***Purchasing Tips***

- ☐ **Use reusable bottles** instead of single use condiment packets.
- ☐ **Buy bruised or odd shaped/sized produce at a discount.**
- ☐ **Ask for your suppliers' policies for food waste.** Simply inquiring will show suppliers it's a priority.
- ☐ **Buy local foods** to reduce environmental impacts and storage time.

***Serving Tips***

- ☐ **Go trayless**. Removing trays can reduce wasted food by limiting students to take only what can fit on their plate and to make a conscious decision to get up and go back for more.
- ☐ **Use a "pay-per-item" system instead of an "all-you-can-eat" system.**
- ☐ **Use smaller plates, bowls and serving scoops** to discourage over-plating and food waste.
- ☐ **Offer different meal sizes and portions.** Do not limit small portions to just children.
- ☐ **Eliminate automatic sides.** Ask students if they want a side.
- ☐ **Position the oldest products in the front of the refrigerator** so they are used up first and don't spoil. Have staff periodically check the refrigerator to ensure oldest items get put at the front of the line.

***Engaging with Students Tips***

- ☐ **Advertise current university waste reduction already taking place behind the scenes.** Include the social, environmental and economic benefits of these efforts.
- ☐ **Educate students on how to minimize food waste and why they should care.** Use wall graphics, table top displays, hanging signs, glass clings and/or videos to remind students to be conscious about food waste.
- ☐ **Ask students to take a pledge to reduce food waste.** Engage students on campus and/or waiting in the food line.
- ☐ **Display food waste in the cafeteria to encourage students to waste less.**
- ☐ **When students move out, collect unwanted, non-perishable foods from student housing.**
- ☐ **Invite students to weigh their food waste,** so they can see how much they waste and how much they improve over time.
- ☐ **Provide taste samples.** Allow students to try the food before they make a serving selection.

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# Food Loss Prevention Options for Restaurants

**Below is a list of ideas and activities that restaurants may consider implementing to help prevent food loss and waste.** Contact your local EPA representative for log sheets, signs, and other tools.

- ☐ **Perform a food waste audit.** See what's being thrown out and why.
  - Pick a day and gather a few extra staff members, buckets, log sheet and a weight scale. Stand at the trash can(s) and record what is being thrown out, how much is being discarded and the reason the food is being disposed (ask your customers why they threw out food!).
  - In the kitchen, have only one food waste trash can and provide each staff member a small container to fill with food waste at their station. Before they empty their container, have staff weigh it and record the amount, type and reason the waste is being discarded on a log sheet located near the trash can.
  - Use this information to adjust menus, purchasing and portion size.

- ☐ **Call a meeting to discuss food waste prevention strategies with kitchen staff.** Get their thoughts and ideas.

***Prep and Storage Tips***

- ☐ **Reduce batch sizes**. Batch cooking is preparing meals ahead of time and storing them for future use.
- ☐ **Use cook-to-order instead of bulk-cooking** either all day or toward the end of the day.
- ☐ **Incorporate leftovers from the day before.** Steak one day can be used for beef stew the next day.
- ☐ **Train staff on knife skills** to make more efficient knife cuts to use more of the food being prepared.
- ☐ **Use as much of the food as possible.** Cook up carrot greens and don't peel cucumbers or potatoes.
- ☐ **Reconstitute stalky vegetables that have wilted** by immersing them in warm water (100˚F) for 15 minutes.
- ☐ **Freeze surplus and fresh fruits and veggies** near the end of peak freshness for later use instead of throwing them away.
- ☐ **Marinate meats** to extend their shelf life for a few more days.
- ☐ **Finish preparation at the line.** Do not finish the food item until it's ready to go on the line so you can more easily use leftover ingredients in different recipes later.
- ☐ **Different foods like different storage conditions.** Refresh staff on storage techniques for different foods (e.g., don't store tomatoes and lettuce in the same container or near each other).
- ☐ **Use see-through storage containers** to allow staff to see what is available and to keep an eye on freshness.
- ☐ **Eliminate garnishes that typically don't get eaten.**

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# Food Loss Prevention Options for Restaurants

***Purchasing Tips***

- ☐ **Use reusable bottles** instead of single use condiment packets.
- ☐ **Buy bruised or odd shaped/sized produce at a discount.**
- ☐ **Ask for your suppliers' policies for food waste.** Simply inquiring will show suppliers it's a priority.
- ☐ **Reach out to other businesses** to exchange ideas for source reduction techniques to reduce wasted food.
- ☐ **Do regular inventory checks** or consider increasing the frequency to reduce spoilage.
- ☐ **Buy local foods** to minimize environmental impacts through reduced storage time and transportation.

***Serving Tips***

- ☐ **If you're a buffet restaurant, go trayless**. Removing trays can reduce wasted food by limiting customers to take only what can fit on their plate and to make a conscious decision to go back for more.
- ☐ **If you're a buffet restaurant, consider a "pay-per-item" system instead of "all-you-can-eat" system.**
- ☐ **Use smaller plates, bowls and serving scoops** to discourage over-plating and unnecessary waste.
- ☐ **Offer different meal sizes and portions.** Don't limit small portions to just children.
- ☐ **Don't automatically put bread or chips and salsa on the table when customers sit down.** Ask them if they would like these items.
- ☐ **Ask if a customer wants a side item,** instead of automatically providing sides.

***Engaging with Customers Tips***

- ☐ **Provide taste samples.** Allow customers to try foods before they buy them.
- ☐ **Educate customers** on how to minimize food waste and why they should care.
- ☐ **Offer to-go containers** and encourage customers to take their leftover food with them.

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# Food Loss Prevention Options for Manufacturers

**Below is a list of ideas and activities that manufacturers may consider implementing to help prevent food loss and waste.** Contact your local EPA representative for log sheets, signs, and other tools.

☐ **Perform a food waste audit**. See what's being thrown out and why. Pick a day and be there at the waste bin with a few volunteers, buckets, a log sheet, and a weight scale. Record the following:

- What is being thrown out,
- Weight or number of items,
- The reason the food is being disposed (if known),
- The expiration date of the product (when applicable),
- Whether the food was still wholesome/edible before being thrown out, and
- The most-wasted and least-wasted items.

Based on the results, consider changing procedures to minimize loss (e.g., reduce order quantities of low sold or otherwise tossed items).

☐ **Clarify date labelling and date encoding to reduce confusion to customers.** Some options might include:

- Improve readability of labels (e.g., color, font),
- Clearly label or define the difference between safety-based and quality-based dates,
- Make "sell by" dates invisible to the consumer,
- Use more "freeze by" dates where applicable so the customer knows they have that option,
- Remove "best before" or other quality dates from shelf-stable, non-perishable foods for which safety is not a concern, and
- Make sure all printed dates on products have descriptive language, not just a date.

☐ **Promote short supply chains.** Look for more local customers, thus reducing the distance and time the food has to travel. This can both increase the freshness of food and also reduce the greenhouse gases generated.

☐ **Increase regular communication with retailers and suppliers to reduce food waste** (e.g., schedule a meeting specifically to discuss reducing food waste; discuss minimum order quantities and/or large case sizes that may be causing unnecessary waste and talk through alternative options).

☐ **Evaluate size requirements** and other strictly cosmetic standards to determine any flexibility that may reduce waste.

☐ **Send order estimates more frequently** to better align production planning with order timings.

☐ **Send cuts, ends or other unused product back to the supplier.** This can encourage redesign or reuse.

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# Food Loss Prevention Options for Manufacturers

- ☐ **Redesign processing machines** to minimize trim and other cut offs. Design filters to capture more product to rework back into the process.
- ☐ **Build ramps for large liquid dispenser containers/tanks,** so the liquid drains toward the tap outlet to reduce product left in the container.
- ☐ **Ask for feedback from staff and retailers on how to reduce food waste.**
- ☐ **Make food waste reduction a key indicator** in operations, supply chain and employee performance.
- ☐ **Periodically search for secondary markets** for byproducts, trimmings and peels (e.g., fish waste to create omega rich fish chips).
- ☐ **Consider producing a product from foods that would otherwise be sent for disposal** (e.g., chutney, salsa, compote).

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# Food Loss Prevention Options for Grade Schools

**Below is a list of ideas and activities that grade schools may consider implementing to help prevent food loss and waste.** Contact your local EPA representative for log sheets, signs, and other tools.

- ☐ **Perform a food waste audit.** See what's being thrown out and why.
  - Get the students involved. Be there at the dish return line with a few volunteers, buckets, a log sheet and a weight scale. Record what and how much is being thrown out and why. Be sure to ask students for reasons why they didn't finish their food.
  - In the kitchen, have only one food waste trash can and provide each staff member a small container to fill with food waste at their station. Before they empty their container, have staff weigh it and record the amount, type and reason the waste is being discarded on a log sheet located near the trash can.
  - *Audit Tip: Volunteering can be part of the core curriculum or count toward community service hours for many student organizations.*
- ☐ **Set up a share table.** Check with your local health department and school board to find out if donating and sharing is allowed. If so, set up a share table, a place students can return whole items that they choose not to eat so that they are available for others who may want additional helpings.
- ☐ **Employ "Offer versus Serve."** Offer versus Serve is a provision in the U.S. Department of Agriculture's (USDA) National School Lunch Program and their School Breakfast Program that allows students to decline some of the food offered that they do not intend to eat to help reduce food waste.
- ☐ **Schedule recess before lunch.** This strategy shows a reduction of plate waste and an increase in food and nutrient consumption.
- ☐ **Provide children another choice of beverage** in the food service line that is low cost for the school (e.g., water).
- ☐ **Extend lunch periods from 20 to 30 minutes** to reduce plate waste by nearly one-third.
- ☐ **Minimize waste from mandatory fruit and vegetable servings.** Many schools are required to offer or serve a fruit/vegetable serving to students. Below are tips to reduce waste associated with this requirement:
  - **Slice the fruit**: Cutting fruit into bite-sized pieces is easier to eat and encourages students to eat what is on their trays.
  - **Give fruits and vegetables catchy names that appeal to children**: Younger kids like fun names like "X-ray Vision Carrots" and "Super Strength Spinach" while older children prefer more descriptive names like "Succulent Summer Corn" and "Crisp Celery and Carrots."
  - **Put healthy foods within reach**: Moving salad bars and fruit closer to students' reach increases both sales and consumption.

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# Appendix B-4

# Food Rescue Fact Sheets

# Legal Fact Sheet

## New York Food Donation: Tax Incentives

Created by the Harvard Law School Food Law and Policy Clinic, September 2018

Federal tax incentives provide important financial incentives that make food donation more cost-effective and economically beneficial. These tax incentives have been extraordinarily successful in motivating food donation. In the past, federal tax incentives for food donations were limited to C- corporations.[1] After the incentives were temporarily expanded to cover more businesses in 2005, food donations across the country rose by 137% in 2006.[2] Following a series of temporary extensions, Congress subsequently made the expansion permanent in 2015,[3] providing all businesses with added incentive to increase food donations and prevent food waste. At the federal level, tax incentives are available in the form of general or enhanced deductions, each of which are discussed in this fact sheet.

In addition to the federal tax incentives, some states have enacted state-level tax incentives as well. As of January 2018, New York State provides a state-level tax incentive in the form of a tax credit for farmers that donate food. Some New York farmers are therefore eligible for both federal and state-level tax incentives.[4]

---

### Federal Tax Incentives

**How are the tax incentives calculated?**

**General (non-enhanced) tax deduction:** Businesses that donate inventory may claim a tax deduction in the amount of the property's basis,[5] which is usually the value of the property's cost to the business, and is often lower than the fair market value (the value at which goods can be sold). Businesses other than C-corporations— including S-corporations,[6] sole proprietorships,[7] and some LLCs[8] — cannot deduct more than either 30% or 50% of the business' total taxable income each year, depending on the type of organization to which the business is donating.[9] C-corporations generally cannot deduct more than 10% of their taxable income each year.[10]

**Enhanced tax deduction:** The enhanced tax deduction provides an extra incentive for donation by allowing the donating business to deduct the lesser of (a) twice the basis value of the donated food or (b) the basis value of the donated food plus one-half of the food's expected profit margin (if the food were to be sold at fair market value).[11] Under the enhanced deduction, all businesses may deduct up to 15% of their taxable income for food donations.[12]

> *Example: A grocery store donates potatoes with a fair market value of $100. The basis value of these potatoes was $30. The expected profit margin is the fair market value minus the basis value ($100 - $30), which is $70. Under the enhanced deduction, the grocery store is eligible to deduct the smaller of:*
>
> *(a) Basis Value x 2 = $30 x 2 = $60, or (b) Basis Value + (expected profit margin / 2) = $30 + ($70 / 2) = $65*
>
> *The enhanced deduction would be $60, which is substantially higher than the general deduction (the $30 basis value).*

Businesses that do not account for inventories and are not required to capitalize indirect costs[13] will have the option to calculate the basis value at 25% of the products' fair market value.[14] Businesses also have the option to calculate the fair market value of certain products—i.e., those that cannot be sold because of failure to meet internal standards, lack of a

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This material is based upon work supported under a grant by the Rural Utilities Service, United States Department of Agriculture. USDA is an equal opportunity provider, employer and lender.

market, or similar reasons—by using the price of the same or substantially similar, saleable food items.[15]

**How can a donating business know if they are eligible for a tax deduction?**

**General tax deduction requirements:** In order for a charitable contribution to qualify for a federal tax deduction, the donation must be used for charitable purposes and given to a qualified organization as laid out under section 170 of the Internal Revenue Code (IRC).[16]

**Enhanced tax deduction requirements:** In order to qualify for the enhanced tax deduction, a business must donate to a recipient organization that meets several criteria. First, the recipient must be a qualified 501(c)(3) not-for- profit as defined by the IRC.[17] Additionally, the donor and recipient must meet the following requirements:[18]

> (A) The recipient must use the donated food in a manner consistent with the purpose constituting that organization's exempt status under IRC 501(c)(3), which means that the donated food must be used exclusively for charitable purposes;
>
> (B) The food must be used for the care of the ill, needy, or infants;
>
> (C) The food may not be transferred by the recipient organization in exchange for money, other property, or services; however, the recipient organization may charge another organization a nominal amount for "administrative, warehousing, or other similar costs."[19]
>
> *Example: If a business donates food to a food bank (the recipient organization), the food bank may not charge a soup kitchen for the donated food, and the soup kitchen may not charge the individuals eating at the soup kitchen. The food bank can, however, charge the soup kitchen a nominal fee for reimbursement of the costs of storing the food in a warehouse;*[20]
>
> (D) The donating business must receive a written statement from the recipient organization.[21] The statement must describe the contributed property and represent that the property will be used in compliance with the requirements outlined above;[22] and
>
> (E) The donated property must satisfy the requirements of the Federal Food, Drug, and Cosmetic Act (FDCA) at the time of donation and for the preceding 180 days.[23] For food that did not exist for 180 days prior to donation, this requirement is satisfied if the food was in compliance with the FDCA for the period of its existence and at donation, and any similar property held by the donor during the 180 days prior to donation was also held in compliance with the FDCA.[24]

The 2018 Tax Cuts and Jobs Act maintains the enhanced tax deduction and does not alter how this deduction is calculated. However, any taxable income remaining after deductions are taken will be subject to the new corporate rate of 21%, rather than the prior corporate rate of 35%.[25]

## State Tax Incentives

Beginning in 2018, New York provides a tax credit to farmers who donate qualifying food to a food pantry, food bank, or other emergency program operating in the state of New York.[26] In contrast to a tax deduction, which reduces a taxpayer's taxable income, a tax credit is a direct reduction in the amount of taxes owed.

Farmers can claim a tax credit in the amount of 25% of the fair market value of the food donated, capped at $5,000 per year.[27]







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*Example: A farmer donates apples with a fair market value of $1,200 to an eligible food bank. The farmer can claim a tax credit of 25% x $1,200 = $300.*

Qualifying foods must be grown or produced in the state of New York. Furthermore, they must be apparently wholesome and meet all quality and labeling standards, even though the food may not be readily marketable due to appearance, age, freshness, grade, size, surplus, or other conditions.[28]

Farmers are eligible for the tax credit if they are New York resident taxpayers and farming within the state is their primary source of income.[29] In order to receive the credit, farmers must present a receipt, letter, or other communication from the eligible donation site showing: the name of the pantry, the date and location of the donation, and a reasonably detailed description of the donation.[30]

Eligible donation sites are food banks, food pantries, or other emergency programs operating in New York State that qualify as IRC § 501(c)(3) tax-exempt organizations.[31] Farmers can also make donations to eligible sites through a third party entity, such as a nonprofit food aggregator or agricultural cooperative, so long as the third party is also a tax-exempt organization that can provide the eligible farmer with a receipt for the donation.[32]

## Conclusion

In sum, businesses in the state of New York may claim the general or enhanced federal tax deductions for food donations. Furthermore, eligible farmers in the state of New York may also claim a state tax credit.

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[1] *See* I.R.C. §170(e)(3)(C) (2017), https://www.law.cornell.edu/uscode/text/26/170
[2] *Feeding America Urges Swift Vote On Expired Tax Provisions*, FEEDING AM. (June 8, 2012), http://www.feedingamerica.org/about-us/press-room/feeding-america-urges-swift-vote-on-expired-tax-provisions.html.
[3] *See* I.R.C. §170(e)(3)(C) (2017).
[4] Note that farmers who allow gleaning organizations to harvest and donate surplus crops are eligible to benefit from applicable tax incentives provided they meet all other eligibility criteria.
[5] *See id.* § 170(e)(1); *Charitable Contributions: For Use in Preparing 2017 Tax Returns*, I.R.S., DEP'T OF THE TREASURY, Jan. 24, 2018, at 11, http://www.irs.gov/pub/irs-pdf/p526.pdf (noting the amount of the deduction is the fair market value minus the amount of income gained had the product been sold at fair market value).
[6] I.R.C. §170(b)(1)(B)(i); I.R.C. §1363(b).
[7] I.R.C. §170(b)(1)(B)(i); *Sole Proprietorships*, I.R.S., https://www.irs.gov/Businesses/Small-Businesses-&-Self-Employed/Sole-Proprietorships (last visited Jan. 31, 2018).
[8] I.R.C. §170(b)(1)(B)(i); Single Member Limited Liability Companies, I.R.S., https://www.irs.gov/businesses/small-businesses-self-employed/single-member-limited-liability-companies (last visited Jan. 31, 2018). Whether an LLC will be treated as an individual for tax purposes—and hence be subject to the 30% total charitable contribution cap—depends on the number of members in the LLC. *Id.*
[9] I.R.C. §170(b)(1)(A).
[10] *Id.* §170(b)(2)(A).
[11] *See id.* §170(e)(3)(B); 26 C.F.R. § 1.170A-4A(b)(4) (2017).
[12] *See id.* §170(e)(3)(C)(ii).
[13] *See id.* §170(e)(3)(C)(iv)(I), (II).
[14] *See id.* § 170(e)(3)(C)(iv).
[15] *See id.* §170(e)(3)(C)(v).
[16] *See id.* § 170(b),(c), (e)(3)(c).
[17] *See id.* §170(e)(3).
[18] 26 C.F.R. § 1.170A-4A(b).
[19] *Id.* § 1.170A-4A(b)(3).
[20] *Id.*
[21] I.R.C. § 170(e)(3)(iii).
[22] *Id.*
[23] *Id.* §170(e)(3)(iv).

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[24] 26 C.F.R. § 1.170A-4A(b)(5).
[25] *See* H.R.1, An Act to Provide for Reconciliation Pursuant to Titles II and V of the Concurrent Resolution on the Budget for Fiscal Year 2018, 115th Congress (2017-2018).
[26] NY CLS TAX §210-B(52)(a), (d).
[27] NY CLS TAX §210-B(52)(a). Fair market value is determined by the standards set forth under section 170(e)(3)(C)(v) of the internal revenue code. NY CLS TAX §210-B(52)(a). Fair market value is determined by taking into account the price at which the same or substantially the same food items (as to both type and quality) are sold by the taxpayer at the time of the contribution (or, if not so sold at such time, in the recent past). I.R.C. 170(e)(3)(C)(v).
[28] *See* NY CLS TAX §210-B(52)(c); *Farm Donations to Food Pantry Credits*, N.Y. STATE DEP'T OF TAXATION AND FINANCE (last updated Jan. 24, 2018), https://www.tax.ny.gov/bus/farm-donations-credit.htm.
[29] *See* NY CLS TAX §210-B(52)(b); *Farm Donations to Food Pantry Credits*, N.Y. STATE DEP'T OF TAXATION AND FINANCE (last updated Jan. 24, 2018), https://www.tax.ny.gov/bus/farm-donations-credit.htm.The statute specifies that an eligible farmer is a taxpayer whose federal gross income from farming is at least two thirds of excess federal gross income, with excess federal gross income defined as federal gross income above $30,000. NY CLS TAX §210-B(52)(b). The New York Department of Taxation and Finance has interpreted this to refer to farmers whose "income is primarily attributed to farming activity in the State…" *See Farm Donations to Food Pantry Credits*, N.Y. STATE DEP'T OF TAXATION AND FINANCE, https://www.tax.ny.gov/bus/farm-donations-credit.htm ((last updated Jan. 24, 2018).
[30] *See* NY CLS TAX §210-B(52)(f).
[31] *See* NY CLS TAX §210-B(52)(d).
[32] *Farm Donations to Food Pantry Credits*, N.Y. STATE DEP'T OF TAXATION AND FINANCE, https://www.tax.ny.gov/bus/farm-donations-credit.htm (last updated Jan. 24, 2018).

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# Legal Fact Sheet

## New York Food Donation: Liability Protections

Created by the Harvard Food Law and Policy Clinic, September 2018

Federal and state laws provide strong liability protections for businesses (including farms) and nonprofits that provide or receive donated food. The federal Bill Emerson Good Samaritan Food Donation Act provides liability protection for food donors and recipients, and New York's Good Samaritan law provides additional liability protection to businesses in the state.

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### The Bill Emerson Good Samaritan Act

The Bill Emerson Good Samaritan Food Donation Act (the Emerson Act) provides a federal baseline of protection for food donors.[1] The Emerson Act covers individuals, businesses, non-profit organizations, and the officers of businesses and non-profit organizations. It also covers gleaners—individuals that harvest donated agricultural crops to give to a nonprofit organization that distributes to the needy.[2] These individuals and businesses are protected so long as they donate qualifying types of food in good faith.

- **Qualifying Food**: The donated food must be "apparently wholesome" or an "apparently fit grocery product" and meet "all quality and labeling standards imposed by Federal, State, and local laws and regulations," even if it is not "readily marketable due to appearance, age, freshness, grade, size, surplus, or other conditions."[3]
- **Exception for Reconditioned Food**: Even if a food does not meet all applicable standards, the donor can still be protected by the Emerson Act as long as (s)he follows all of the Act's reconditioning procedures,[4] which include:
  1) The donor informs the nonprofit of the nonconforming nature of the product;
  2) The nonprofit agrees to recondition the item so that it is compliant; and
  3) The nonprofit knows the standards for reconditioning the item.[5]

The Emerson Act protects most but not all donations of qualifying food. In order to get protection, the donation must be structured such that:

1) The donor donates to a non-profit organization.[6]
2) This nonprofit organization that receives the donated food distributes it to needy populations.[7] Direct donations from the donor to needy individuals are not explicitly protected by the Act.[8]
3) The ultimate recipients do not pay for this donated food.[9] However, if one nonprofit donates food to another nonprofit for distribution, the Act allows the first nonprofit to charge the distributing nonprofit a nominal fee to cover handling and processing costs.[10]

So long as these criteria are met, the Emerson Act is quite protective of donors, and does not hold a donor liable unless the donor acts with gross negligence or intentional misconduct.[11]

- **Gross Negligence** involves "voluntary and conscious conduct (including a failure to act)" by a person or organization that knew when the donation was made that the donated food was likely to have harmful health impacts.[12]
- **Intentional Misconduct** is when a person or organization donates "with knowledge . . . that the conduct is harmful to the health or well-being of another person."[13]

In other words, one should not donate or facilitate the distribution of donated food that one knows is likely to be harmful or dangerous. Unfortunately, the Act gives little guidance on what activities qualify as gross negligence or intentional misconduct. However, the House of Representatives Report associated with the Emerson Act has indicated that each case must be analyzed individually, and that, for example, donating food past the sell-by date generally will not impact liability protections because such labeling is not federally required and generally does not correspond to food safety.[14] The lack of court cases interpreting the

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Emerson Act suggests how protective the Act is of donors; research does not turn up a single case related to food donation liability.[15]

### Liability Protection for Food Donation in New York

In addition to the Emerson Act, New York state law is relevant to liability protection for food donations in several ways.

- **The Emerson Act**: The Emerson Act indicates that donated food must meet all applicable state and local food quality and labeling standards in addition to federal requirements.[16] This means that state laws regarding food labeling and safety must be followed for a food donor to receive protection under the federal Emerson Act.
- **State Authority**: States are free to enact laws that are the same or more protective of donors than the federal Emerson Act, which sets a floor on liability protection.[17] New York has passed such legislation.

New York law provides protection from civil and criminal liability to good-faith donors who donate any canned or perishable food, farm product, game or wild game to a charitable or nonprofit organization for free distribution.[18] Good-faith donors include, but are not limited to, public food service establishments, meaning places where food is prepared, sold, or served for immediate consumption; ordered or taken out by customers; or prepared for delivery and consumption elsewhere.[19] The donor must inspect the food at the time of donation and find that it is apparently fit for human consumption.[20] Foods may be fit for human consumption even if not readily marketable due to appearance, freshness, grade, surplus, or other conditions.[21]

New York state law does not provide liability protection when the donor has actual or constructive knowledge that the donated food is adulterated, tainted, contaminated or harmful to health.[22]

## Conclusion

Federal law and New York state law provide ample liability protections for food donors and nonprofit recipients. The fact that research does not turn up any cases related to liability for food donation demonstrates the strength of liability protections under the Emerson Act. Liability protections for food donors and nonprofit recipients exist so long as the donated food is in compliance with federal and state safety and labeling rules, and it is donated to a nonprofit organization in good faith and without the donor acting with gross negligence or intentional misconduct.

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[1] 42 U.S.C.A. §1791 (West 2018).
[2] *Id.* §1791(b)(5).
[3] There is an exception for mislabeled food products that are "not readily marketable," which can also be protected so long as the donor explains the mislabeling to the donee, and the donee has sufficient knowledge to and does recondition the product to meet applicable standards. *Id.* §1791(b)(1-2).
[4] *Legal Guide to Food Recovery*, U. ARK. L.L.M. DEP'T OF AGRIC. & FOOD LAW 10 (2013), http://law.uark.edu/documents/2013/06/Legal-Guide-To-Food-Recovery.pdf.
[5] *Id.*
[6] The Act defines a non-profit as an incorporated or unincorporated entity that satisfies these requirements: (1) operates "for religious, charitable, or educational purposes" and (2) "does not provide net earnings to, or operate in any other manner for the benefit of any officer, employee, or shareholder." 42 U.S.C.A. §1791(b)(9) (West 2018).
[7] *Id.* §1791(c).
[8] *See id.*
[9] *Id.* §1791(b)(3).
[10] *Id.*
[11] *Id.* §1791(c)(3).
[12] *Id.* §1791(b)(7).
[13] *Id.* §1791(b)(8).
[14] *Legal Guide to Food Recovery*, *supra* note 4, at 10.
[15] *Id.*
[16] 42 U.S.C.A. §1791(b)(1-2) (West 2018).
[17] *Legal Guide to Food Recovery*, *supra* note 4, at 10.
[18] N.Y. AGRIC. & MKTS. LAW §71-z.

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[19] *Id.*

[20] *Id.*

[21] *Id.* Like the federal Emerson Act, the New York state liability protection law does not explicitly state that past-date food donations will be protected from liability, although as noted above, date labeling generally does not correspond to food safety and past-date food is generally safe for human consumption, so past-date donated food likely would receive liability protection.

[22] *Id.*

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# Appendix B-5

# Food Pantry List

| Organization | Location | Hours of Operation | Type of Food Accepted | Quantity of Food Accepted | Quantity of Food Disposed | Contact info | Date Contacted |
|---|---|---|---|---|---|---|---|
| The Sullivan County Federation for the Homeless | 9 Monticello Street, Monticello, NY 12701 | Monday-Friday 8am-4pm | Canned food, cereal, juice, pasta and other staples. Meats and Produce as well | No limit. Current donations from Walmart are substantial. | Less than a garbage bag every two weeks. Refrigeration on site. Composting and garden during non winter months | Kathy Kreiter, Program Administrator,(845) 794-2604, scfh@hvc.rr.com | 1/3/19, Luis Rodriguez |
| Bread of Life Food Pantry | 263 Main St., Hurleyville, NY 12747 | 2nd and 5th Thursdays of the month (4:30-5:30 pm) | | | | 845-434-5097 | 1/3/2018, Machine off message |
| Community Church of Wurtsboro Food Pantry | 134 Sullivan St., Wurtsboro, NY 12790 | W 10:00 am -12:00 pm Th 4:00 pm - 6:00 pm | | | | 845-888-5626 | 1/3/2019, message left |
| First Presbyterian Church of Jeffersonville Food Pantry | 4907 State Route 52, Jeffersonville, NY 12748 | Open the 3rd Saturday of the month ( 9-11 am) | Non-Perishables during the winter. Some produce during the summer. | Small donations. 90% of donations come from government agencies. Serves 20-30 pl/mo | Less than 1 garbage bag per month. Very little perishables | 845-482-5549, 845-482-3651 | 1/3/19, Pearl Gain |
| New Hope Manor | 35 Hillside Rd, Barryville, NY 12719 | | | | | (845) 557-8353 | 1/3/19, message left |
| Our Lady of the Assumption Food Pantry | 17 High St., Bloomingburg, NY 12721 | Saturday 8:00 -10:00 AM | | | | 845-733-1477 | 1/3/19, message left |
| Pond Eddy UMC Food Pantry | 122 Berme Church Rd., Pond Eddy, NY 12770 | No longer offer pantry service | No longer offer pantry service | No longer offer pantry service | No longer offer pantry service | 845-856-1129 | 1/6/2019 |
| Roscoe Shepherd's Pantry | 2 Church St., Roscoe, NY 12776 | Wednesday 2:00-4:00 pm | All perishable and non perishable foods | No limit. Also receives grant money to buy food. | Less than a garbage bag per month. Refrigeration on Site. | 607-498-5153 | 1/3/19, Pastor Dora |
| St. Andrew's Mission Food Pantry | 5277 Main St., South Fallsburg, NY 12779 | Open 2nd and 4th Friday of the month, Friday 5:00 -7:00 pm | Non-perishable items only | Smaller operation. 1-2 grocery bags per donor. | Less than a garbage bag per month. Smaller operation. No need for composting. | 845-436-7539 | contact on 1/3/19 |
| St. John's Caring Hands Food Pantry | 15 St. John Street Monticello, NY 12701 | Open every Tuesday except the 5th Tuesday of the month, 3:30 -6:00 PM | | | | 845-887-3201 | 1/3/19, message left |
| The Blessing Food Pantry | 9290 Route 97 Callicoon, NY 12723 | Open 2nd and 4th Wednesday of the month, 1:00 -3:00 pm | | | | 845-887-5112 | 1/3/19, message left |
| The Shepherd's Pantry | 6 Mattison Rd. White Lake, NY 12786 | Open 2nd Thursday of the month 11:00am-2:00pm, and 4th Thursday of the month 4:00pm-6:00pm | All perishable and non perishable foods | No limit. Serves 200 families. | Less than a garbage bag per service day. | 845-583-5885 | 1/3/2019 |

| Organization | Location | Hours of Operation | Type of Food Accepted | Quantity of Food Accepted | Quantity of Food Disposed | Contact info | Date Contacted |
|---|---|---|---|---|---|---|---|
| Christian Corner Fellowship | 343 E Broadway Ste 2, Monticello, NY 12701 | | | | | (845) 647-5607 | 1/4/19, message left |
| United Way | 33 Lakewood Ave, Monticello, NY 12701 | Open Monday through Friday 8:30 am- to 5:00 pm | All perishable and non perishable foods | No limit ( average donations a few grocery bags). Take donations from the public and private donors. | 0-3 garbage bags a months | (845)-794-1771 | 2/5/2019, Julian Dawson |
| Samsonville/ Olivebridge United Methodist Church Food Pantry | 5179 Route 213, Olivebridge, NY 12461 | 24 hours / 7 days a week | Non-Persishable Foods | | | (845)-657-6484 | 2/5/2019, Left message |
| United Methodist Church of Liberty | 170 N Main St, Liberty, NY 12754 | | | | | (845) 292-6243 | 2/5/2019, Left message |
| St Peter's Roman Catholic Church | 262 N Main Street , Liberty NY 12754 | Wednesday 10am-1pm, Saturdays 10am-12pm | Perishable and non-perishable foods | No limit. Shop Rite major donator. | Less than 1 garbage bag per 6 months | (845) 292-4525 | 2/5/2019, Spoke to Christy ( Secretary) , Deb Burke ( Food Pantry Manager) |
| Lighthouse Ministries | 23 Triangle Road, Liberty NY 12754 | Every 3rd Thrusday of the Month 11 am - 2pm | | | | (845) 985-7026 | 2/5/2019, message machine only has outgoing message, no mailbox |
| Holy Cross Church | 9719 State Route 97, Callicoon, NY 12723 | Call for appointment | | | | (845) 887-5450 | 2/5/2019, spoke to individual who said to call back on Feb 15th for information |
| Claryville Reformed Church | 946 Claryville Road, Claryville, New York | Tuesday and Thursdays 10am-7pm. | Perishable and non-perishable foods | Smaller rural operation. Serves around 40 people a month. | Less than 1 garbage bag per 6 months | (845) 985-2041 | 2/5/2019, Margaret |
| Grahamsville United Methodist Church | 356 Main St, Grahamsville, NY 12740 | Anytime by appointment | | | | (845) 985-2283 | 2/5/2019, left message |
| White Sulphur Springs UMC | 3318 State Route 52, White Sulphur Springs, NY 12787 | Anytime by appointment | | | | (845) 292-8269 | 2/5/2019, left message |
| St Josephs Church | 180 Sullivan Street, Wurtsboro, NY 12790 | Wednesdays 11:30 am to 3pm | | | | (845) 888-5626 | 2/5/2019, told to call back on 2/6 for food pantry representative |

# Appendix B-6

# Home Composting Bins and Equipment

# Low-Cost Composting Equipment

**The NYC Compost Project sells at-cost compost bins and equipment suitable for urban composting to NYC residents. Items must be picked up (all fit easily into a vehicle); delivery is not available.**



## GARDEN GOURMET COMPOST BIN

**Height:** 36"
**Width:** 24"
**Depth:** 24"
**Weight:** 29 lbs
**Capacity:** 11 cubic feet
**Cost:** $65 (tax included)



## STAINLESS STEEL COMPOST CRANK

**Length:** 45" long
**Shaft:** 3/8" diameter
**Weight:** 2 lbs
**Handles:** 100% recycled black nylon
**Cost:** $35 (tax included)

### How to purchase:

Contact any of the following
**NYC Compost Project host sites:**

**The New York Botanical Garden**:
compost@nybg.org • (718) 817-8543

**Brooklyn Botanic Garden**:
compost@bbg.org • (718) 623-7290

**Lower East Side Ecology Center**:
info@lesecologycenter.org • (212) 477-3155

**Snug Harbor Cultural Center & Botanical Garden**:
compost@snug-harbor.org • (718) 425-3558

**Queens Botanical Garden**:
compost@queensbotanical.org • (718) 539-5296
(Compost Crank only)



## EARTH MACHINE COMPOST BIN

**Height:** 33"
**Diameter at Top:** 23.5"
**Diameter at Base:** 33"
**Weight:** 15 lbs
**Capacity:** 10.5 cubic feet
**Cost:** $65 for bin;
$20 for rodent screen
(tax included)

### How to purchase:

Contact the **NYC Compost Project**
**Hosted by Queens Botanical Garden**:
compost@queensbotanical.org • (718) 539-5296



## METAL CAN COMPOST BIN

**Height:** 23"
**Diameter of Lid:** 17"
**Diameter at Base:** 15.25"
**Weight:** 7.3 lbs
**Capacity:** 3 cubic feet
**Cost:** $23 (tax included)



## WORM BIN AND RED WIGGLER WORMS

**Height:** 16"
**Width:** 19"
**Depth:** 12"
**Weight:** 1 lb
**Capacity:** 3 lbs food scraps/week; indoor use
**Cost:** $55 (tax included),
includes 1 lb red wiggler worms

### How to purchase:

Contact the **NYC Compost Project**
**Hosted by Lower East Side Ecology Center:**
info@lesecologycenter.org • (212) 477-3155

# Backyard Composting Sale

*Make fertilizer and reduce trash by composting yard and food waste!*




$55 $125 Value each

**Earth Machine Backyard Compost Bin**
*Converts grass, leaves and table scraps into an abundant supply of rich garden soil. Large 80 gallon capacity.*



$8.50 each

**Kitchen Pail**
*Collect food scraps for easy transfer to your compost bin.*




$70 each

**The Rain Barrell**
*55 gallon capacity, collect rain water for your garden.*



$45 each

**The Compost Cart**
*40 Liter wheeled cart for storing food scraps. Perfect for Transfer Station composting programs.*

**REOTEMP Backyard Compost Thermometer**
*Designed with a 20 inch stem this device is perfect for monitoring the interior temperature of your compost.*




$22 each




$20 each

**The Wingdigger**
*Use this handy tool to turn your compost.*

**Brooks Mill Lobster Trap Composter**
*Available in both a 3 and 4 foot size. Ideal for grass clippings, leaves, garden and food scraps. Comes with hog ring pliers and rings to assemble. MAINE MADE!*



$75.00 3 foot model each

$85.00 4 foot model each

## (Your Organization Here)

| Contact Info. | | |
|---|---|---|
| Name | | |
| Town | | |
| Phone | | |
| Address | | |
| Address 2 | | |
| City | St | Zip |
| Email | | |

**Make Checks payable to: (Your Organization or MRRA)**

| Item | Qty. | Price | Amount |
|---|---|---|---|
| Lobster Trap Composter 3 foot | | 75.00 ea | |
| Lobster Trap Composter 4 foot | | 85.00 ea | |
| Rain Barrel | | 70.00 ea | |
| Earth Machine Compost Bin | | 55.00 ea | |
| Compost Cart | | 35.00 ea | |
| Thermometer | | 22.00 ea | |
| Wingdigger | | 20.00 ea | |
| Kitchen Pail | | 8.50 ea | |
| Hog Ring Pliers | | 11.00 ea | |
| | | Total Enclosed | |

**For More Information, Please Contact (your Contact info here).**

# Appendix B-7

# Pre-treatment Technology Vendors

**Overview of listed on-site systems for food waste diversion**

*(Listed alphabetically by company name)*

| Page | Company Name | Model Name | Output Material | Capacity | Volume/Weight Reduction (%) | Energy Use | Price Range (USD) |
|---|---|---|---|---|---|---|---|
| 9 | BIOFerm Energy Systems | COCCUS | Digestate for direct land application or further processing | 15-30 tons/day | 30-60% | ~15-17%/kW | $450,000 - $850,000 |
| 10 | BIOFerm Energy Systems | Dry Fermentation | Digestate for direct land application or further processing | 43,000 – 380,500 lbs/day | Typical 40% volume | ~8-10%/kW | $400,000 - $1,200,000 |
| 11 | BIOFerm Energy Systems | EUCOlino | Digestate for direct land application or further processing | 15,000-30,000 lbs/day | 30-60% reduction | ~20%/kW | $250,000 - $850,000 |
| 12 | BioHItech America | Eco-safe Digester 400 | Effluent with discharge to sanitary sewer | 800 lbs/day | 100% | 100-200 kWh/ month | $26,000.00 |
| 13 | BioHItech America | Eco-safe Digester 800 | Effluent with discharge to sanitary sewer | 1,600 lbs/day | 100% | 150-250 kWh/ month | $39,475.00 |
| 14 | BioHItech America | Eco-safe Digester 1200 | Effluent with discharge to sanitary sewer | 2,400 lbs/day | 100% | 300-400 kWh/ month | $43,975.00 |
| 15 | BioHItech America | Revolution Series Seed™ | Effluent with discharge to sanitary sewer | 500 lbs/day | 100% | 75-150 kWh/month | $445.00/month |
| 16 | BioHItech America | Revolution Series Sprout™ | Effluent with discharge to sanitary sewer | 650 lbs/day | 100% | 75-150 kWh/month | $545.00/month |
| 17 | DariTech Inc dba TR Environmental | EnviroDrum Model 6-20 | Meets PFRP for in-vessel compost | Up to 6 cu yd/day | 20-80% | 30-100 kWh/day | $140,000 - $200,000 |
| 18 | DariTech Inc dba TR Environmental | EnviroDrum Model 6-32 | Meets PFRP for in-vessel compost | Up to 10 cu yd/day | 20-80% | 50-150 kWh/day | $200,000 - $250,000 |
| 19 | DariTech Inc dba TR Environmental | EnviroDrum Model 8-40 | Meets PFRP for in-vessel compost | Up to 25 cu yd/day | 20-80% | 150-400 kWh/day | $275,000 - $350,000 |
| 20 | DariTech Inc dba TR Environmental | EnviroDrum Model 5-14 | Meets PFRP for in-vessel compost | Up to 3 cu yd/day | 20-80% | 25-75 kWh/day | $90,000 - $130,000 |
| 21 | EC ALL Ltd | BigHanna T60 | Ready compost | 44-77 lbs/day | 90% | 1.11 kWh/day (indoor) | $45,000 |
| 22 | EC ALL Ltd | BigHanna T120 | Ready compost | 88-154 lbs/day | 90% | 1.11 kWh/day (indoor) | $55,000 |
| 23 | EC ALL Ltd | Big Hanna T240 | Ready compost | 187-374 lbs/day | 90% | 1.53 kWh/day (indoor( | $84,000 |
| 24 | EC ALL Ltd | BigHanna T480 | Ready compost | 251-750 lbs/day | 90% | 2.35 kWh/day (indoor) | $154,000 |



Source: RecyclingWorks - Massachusetts, December 2018

| Page | Company Name | Model Name | Output Material | Capacity | Volume/Weight Reduction (%) | Energy Use | Price Range (USD) |
|---|---|---|---|---|---|---|---|
| 25 | Envac US | Micro Vac | Sealed container contains organic waste with water extracted | 180 liters/hour | 1/3 volume reduction | 90 kWh | $500,000 - $1,500,000 |
| 26 | EnviroPure Systems | EPW | Treated grey water. Re-uses that water in the machine. Small amount of effluent. | 120-14,000 lbs/day | Reduced to treated greywater | .32 kWh | Starting at $15,000 |
| 27 | FOR Solutions | Model 500 | Compost - no curing required unless packaging for resale. | 500 lbs/day (based on 5 loading days/week) | 25% | 23 kWh/day | $135,000 |
| 28 | FOR Solutions | Model 1000 | Compost - no curing required unless packaging for resale. | 1,000 lbs/day (based on 5 loading days/week) | 25% | 31 kWh/day | $187,500 |
| 29 | FOR Solutions | Model 2000 | Compost - no curing required unless packaging for resale. | 2,000 lbs/day (based on 5 loading days/week) | 25% | 42 kWh/day | $235,000 |
| 30 | FOR Solutions | Model 4000 | Compost - no curing required unless packaging for resale. | 4,000 lbs/day (based on 5 loading days/week) | 25% | 42 kWh/day | $375,000 |
| 31 | FOR Solutions | Model 8000 | Compost - no curing required unless packaging for resale. | 8,000 lbs/day (based on 5 loading days/week) | 25% | 57 kWh/day | $410,000 |
| 32 | Global Enviro Inc. | Global Enviro 110T | Dry, stable, soil amendment | 600 lb/24 hours | 90% | 60 kWh/24hr | $107,000 |
| 33 | Global Enviro Inc. | Global Enviro 275T | Dry, stable, soil amendment | 1,500 lb/24hours | 90% | 75 kWh/24hr | $142,000 |
| 34 | Global Enviro Inc. | Global Enviro 550T | Dry, stable, soil amendment | 3,000 lb/24hours | 90% | 90 kWh/24hr | $176,000 |
| 35 | Green Good Composter | GG-CMO 30 | Compost | 200 lbs/day | 80-95% | 1050-1200 kWh/month | $21,750.00 |
| 36 | Green Good Composter | GG-CMO 50 | Compost | 300 lbs/day | 80-95% | 1100-1700 kWh/month | $28,500.00 |
| 37 | Green Good Composter | GG-CMO 100 | Compost | 600 lbs/day | 80-95% | 2300-3500 kWh/month | $43,250.00 |
| 38 | Green Good Composter | GG-CMO 300 | Compost | 1800 lbs/day | 80-95% | 6000-9000 kWh/month | $125,500.00 |
| 39 | Green Good Composter | GG-CMO 500 | Compost | 3000 lbs/day | 80-95% | 8000-12000 kWh/month | $185,000.00 |
| 40 | Green Mountain Technologies, Inc. | Earth Tub System | Compost, curing compost in 14 days, finished compost in 30 days | 100 lbs/day | 40-60% | 3 kWh/day | $12,000 - $35,000 |

| Page | Company Name | Model Name | Output Material | Capacity | Volume/Weight Reduction (%) | Energy Use | Price Range (USD) |
|---|---|---|---|---|---|---|---|
| 41 | Green Mountain Technologies, Inc. | Earth Flow System | Compost, curing compost in 14 days, finished compost in 30 days | 600-6,000 lbs/day | 40-60% | 7-20 kWh/day | $60,000 and up |
| 42 | Impact Bioenergy | AD 25 HORSE | Liquid fertilizer and biogas | 25 tons per year | 10% | Self sustaining after startup | $36,500 |
| 43 | Impact Bioenergy | AD 185 NAUTILUS | Liquid fertilizer and biogas | 185-925 tons per year | 10% | Self sustaining after startup | $350,500-$600,000 |
| 44 | InSinkErator | Grind2Energy | Renewable energy & fertilizer | 1 ton/hour | Significant volume reduction | | Based on customer need |
| 45 | Integrated Veterans Services | EcoVim Eco-250 (66, 650 & 1100 available) | Biomass out - fertilizer enhancement, compost additive, vermiculture | 250 lbs/day | Up to 93% | 3.0kWh | $20,000 - $75,000 |
| 46 | Mechline | Mechline Waste2GO bio-digester/ W20.400 | Grey wastewater | 400 lbs/day | 100% | 3.8 kWh/day max | $21,876 |
| 47 | NATh Sustainable Solutions, LLC | Gaia GC-1200 | Sterile biomass - dry food waste (not compost) and clean water | 2,640 lbs/day | 90% | 960 kW | $31,500 - $353,000 |
| 48 | NATh Sustainable Solutions, LLC | Gaia GC-2000 | Sterile biomass - dry food waste (not compost) and clean water | 4,400 lbs/day | 90% | 1,600 kW | $31,500 - $353,000 |
| 49 | NATh Sustainable Solutions, LLC | Gaia GP-3H | Sterile biomass - dry food waste (not compost) and clean water | 6,600 lbs/day | 58-95% | Gas 290Nm3 | $31,500 - $353,000 |
| 50 | NATh Sustainable Solutions, LLC | HotRot 1206 | Compost - no curing required unless packaging for resale. | 0.3-0.4 tons/day | 50-70% volume reduction | 20-35kWh/ton | $150,000 |
| 51 | NATh Sustainable Solutions, LLC | HotRot 1811 | Compost - no curing required unless packaging for resale. | 2.1 tons/day | 50-70% volume reduction | 20-35 kWh/ton | $350,000 - $450,000 |
| 52 | NATh Sustainable Solutions, LLC | HotRot 3518 | Compost - no curing required unless packaging for resale. | 9.5-11.5 tons/day | 50-70% volume reduction | 20-35 kWh/ton | $1,200,000 and up |
| 53 | NATh Sustainable Solutions, LLC | Rocket A500 | Compost (additional 2 weeks of curing required) | 57 lbs/day (171 lbs/day with pretreatment) | 50% volume reduction | 12 kWh/week | $20,500 - $100,000 |
| 54 | NATh Sustainable Solutions, LLC | Rocket A700 | Compost (additional 2 weeks of curing required) | 125 lbs/day (375 lbs/day with pretreatment) | 50% volume reduction | 26 kWh/week | $20,500 - $100,000 |

| Page | Company Name | Model Name | Output Material | Capacity | Volume/Weight Reduction (%) | Energy Use | Price Range (USD) |
|---|---|---|---|---|---|---|---|
| 55 | NATh Sustainable Solutions, LLC | Rocket A900 | Compost (additional 2 weeks of curing required) | 325 lbs/day (975 lbs/day with pretreatment) | 50% volume reduction | 30 kWh/week | $20,500 - $100,000 |
| 56 | NATh Sustainable Solutions, LLC | Rocket A1200 | Compost (additional 2 weeks of curing required) | 660 lbs/day (1980 lbs/day with pretreatment) | 50% volume reduction | 32 kWh/week | $20,500 - $100,000 |
| 57 | NATh Sustainable Solutions, LLC | Somat HD-100w | Sterile biomass - dry food waste (not compost) and clean water | 110-220 lbs/day | up to 93% | 3.0 kWh | $31,500 - $353,000 |
| 58 | NATh Sustainable Solutions, LLC | Waste to Water BIO-EZ Mini | Liquid output, connected to drain | 350 lbs/day | 99% | 1 kWh/hour | $37,000 - $54,000 |
| 59 | NATh Sustainable Solutions, LLC | Waste to Water BIO-EZ | Liquid output, connected to drain | 1,000 lbs/day | 99% | 4.5 kWh | $37,000 - $54,000 |
| 60 | NATh Sustainable Solutions, LLC | Waste to Water BIO-EZ + Shredder | Liquid output, connected to drain | 1,500 lbs/day | 99% | 4.5 kWh | $37,000 - $54,000 |
| 61 | NATh Sustainable Solutions, LLC | Waste to Water BIO-EZ XL | Liquid output, connected to drain | 1,500 lbs/day | 99% | 4.7 kWh | $37,000 - $54,000 |
| 62 | NATh Sustainable Solutions, LLC | Waste to Water BIO-EZ XL + Shredder | Liquid output, connected to drain | 2,000 lbs/day | 99% | 4.7 kWh | $37,000 - $54,000 |
| 63 | OnSite Waste Solutions | GAIA GC-20 Electric | Highly concentrated organics (HCO) & water | 40 lbs/day | 85-90% | 25 kWh/day | $21,000 |
| 64 | OnSite Waste Solutions | GAIA GC-30 Electric | Highly concentrated organics (HCO) & water | 60 lbs/day | 85-90% | 35 kWh/day | $23,000 |
| 65 | OnSite Waste Solutions | GAIA GC-50 Electric | Highly concentrated organics (HCO) & water | 100 lbs/day | 85-90% | 50 kWh/day | $28,000 |
| 66 | OnSite Waste Solutions | GAIA GC-100 Electric | Highly concentrated organics (HCO) & water | 220 lbs/day | 85-90% | 80 kWh/day | $32,000 |
| 67 | OnSite Waste Solutions | GAIA GC-150 Electric | Highly concentrated organics (HCO) & water | 330 lbs/day | 85-90% | 120 kWh/day | $45,000 |
| 68 | OnSite Waste Solutions | GAIA GC-200 Electric | Highly concentrated organics (HCO) & water | 440 lbs/day | 85-90% | 160 kWh/day | $60,000 |
| 69 | OnSite Waste Solutions | GAIA GC-300 Electric | Highly concentrated organics (HCO) & water | 660 lbs/day | 85-90% | 240 kWh/day | $75,000 |
| 70 | OnSite Waste Solutions | GAIA GC-400 Electric | Highly concentrated organics (HCO) & water | 880 lbs/day | 85-90% | 320 kWh/day | $100,000 |

| Page | Company Name | Model Name | Output Material | Capacity | Volume/Weight Reduction (%) | Energy Use | Price Range (USD) |
|---|---|---|---|---|---|---|---|
| 71 | OnSite Waste Solutions | GAIA GC-600 Electric | Highly concentrated organics (HCO) & water | 1,320 lbs/day | 85-90% | 450 kWh/day | $130,000 |
| 72 | OnSite Waste Solutions | GAIA GC-1000 Electric | Highly concentrated organics (HCO) & water | 2,200 lbs/day | 85-90% | 750 kWh/day | $175,000 |
| 73 | OnSite Waste Solutions | GAIA GC-1200 Electric | Highly concentrated organics (HCO) & water | 2,640 lbs/day | 85-90% | 900 kWh/day | $200,000 |
| 74 | OnSite Waste Solutions | GAIA GC-2000 Electric | Highly concentrated organics (HCO) & water | 4,400 lbs/day | 85-90% | 1,400 kWh/day | $350,000 |
| 75 | OnSite Waste Solutions | GAIA GC-Plus Electric | Highly concentrated organics (HCO) & water | Custom | 85-90% | Custom | Depends on tons/day |
| 76 | OnSite Waste Solutions | GAIA GG-150H Gas | Highly concentrated organics (HCO) & water | 330 lbs/day | 85-90% | 19 kWh/day \| 15 $NM^3$/day | $45,000+ |
| 77 | OnSite Waste Solutions | GAIA GG-200H Gas | Highly concentrated organics (HCO) & water | 440 lbs/day | 85-90% | 20 kWh/day \| 20 $NM^3$/day | $60,000+ |
| 78 | OnSite Waste Solutions | GAIA GG-300H Gas | Highly concentrated organics (HCO) & water | 660 lbs/day | 85-90% | 20 kWh/day \| 30 $NM^3$/day | $75,000+ |
| 79 | OnSite Waste Solutions | GAIA GG-400H Gas | Highly concentrated organics (HCO) & water | 880 lbs/day | 85-90% | 28 kWh/day \| 38 $NM^3$/day | $100,000+ |
| 80 | OnSite Waste Solutions | GAIA GG 600H Gas | Highly concentrated organics (HCO) & water | 1,320 lbs/day | 85-90% | 48 kWh/day \| 56 $NM^3$/day | $130,000+ |
| 81 | OnSite Waste Solutions | GAIA GG-1200H Gas | Highly concentrated organics (HCO) & water | 2,640 lbs/day | 85-90% | 65 kWh/day \| 110 $NM^3$/day | $200,000+ |
| 82 | Power Knot LLC | LFC-50 | Liquid output, connected to drain | 110-200 lbs/day | 99% | 4.7 kWh/day | $16,000 - $250,000 |
| 83 | Power Knot LLC | LFC-70 | Liquid output, connected to drain | 150-280 lbs/day | 99% | 5.8 kWh/day | $16,000 - $250,000 |
| 84 | Power Knot LLC | LFC-100 | Liquid output, connected to drain | 220-400 lbs/day | 99% | 8.1 kWh/day | $16,000 - $250,000 |
| 85 | Power Knot LLC | LFC-200 | Liquid output, connected to drain | 480-800 lbs/day | 99% | 8.1 kWh/day | $16,000 - $250,000 |
| 86 | Power Knot LLC | LFC-300 | Liquid output, connected to drain | 600-1,200 lbs/day | 99% | 13 kWh/day | $16,000 - $250,000 |
| 87 | Power Knot LLC | LFC-500 | Liquid output, connected to drain | 1,100-2,000 lbs/day | 99% | 17 kWh/day | $16,000 - $250,000 |
| 88 | Power Knot LLC | LFC-1000 | Liquid output, connected to drain | 2,200-4,000 lbs/day | 99% | 24 kWh/day | $16,000 - $250,000 |
| 89 | Rendisk BV | Rendisk FlexWaste Disp | Organic waste can be reused for biogas, composting or digesting | 1,500 lbs/hr | 80% | 1.25 times connection value | Starting at $103,500 |
| 90 | Rendisk BV | Rendisk Solus Eco | Organic waste can be reused for biogas, composting or digesting | 1,500 lbs/hr | 80% | 1.25 times connection value | $29,000 |

| Page | Company Name | Model Name | Output Material | Capacity | Volume/Weight Reduction (%) | Energy Use | Price Range (USD) |
|---|---|---|---|---|---|---|---|
| 91 | SEaB Energy Limited | FB24 | Liquid and solid fertilizer | 1,320 lbs/day | 90-95% | 0.35 kW | $210,500 |
| 92 | SEaB Energy Limited | FB48 | Liquid and solid fertilizer | 2,650 lbs/day | 90-95% | 0.46 kW | $342,000 |
| 93 | SEaB Energy Limited | FB72 | Liquid and solid fertilizer | 3,950 lbs/day | 90-95% | 0.57 kW | $486,000 |
| 94 | SEaB Energy Limited | FB96 | Liquid and solid fertilizer | 5,290 lbs/day | 90-95% | 0.67 kW | $644,500 |
| 95 | SEaB Energy Limited | FB120 | Liquid and solid fertilizer | 6,600 lbs/day | 90-95% | 0.77 kW | $760,500 |
| 96 | Somat Company | DH-100w Dehydrator | Compostable mulch and water | 220 lbs/day | 93% | 47 kWh/day | $35,000 |
| 97 | Somat Company | SPC-60S Close Coupled Pulper | Semi-dry pulp and water | 1000 lbs/hour | 87.50% | 16.75 kWh/hour | $53,000-$56,000 |
| 98 | Somat Company | SPC-75S Close Coupled Pulper | Semi-dry pulp and water | 1250 lbs/hour | 87.50% | 16.75 kWh/hour | $55,000-$59,000 |
| 99 | The Salvajor Company | Food Waste Disposer Model 200 | Slurry pumped into drain | 250 lbs/day | 100% | 2.75 kW | $4,000 |
| 100 | The Salvajor Company | Food Waste Disposer Model 500 | Slurry pumped into drain | 500 lbs/day | 100% | 5 kW | $6,000 |
| 101 | The Salvajor Company | Collector Model S914 | Food waste solids to be disposed of or further processing (composting, etc) | 500 lbs/day | 50% | 1.25 kW | $12,000 |
| 102 | The Salvajor Company | ScrapMaster Model SM 500 | Slurry pumped into drain | 750 lbs/day | 100% | 6.5 kW | $17,000 |
| 103 | Totally Green | OG25 | Grey water, that can be discharged into a sanitary drain | 600 lbs/day | 100% | 16.8 kWh/day | $950/month |
| 104 | Totally Green | OG50 | Grey water, that can be discharged into a sanitary drain | 1,200 lbs/day | 100% | 16.8 kWh/day | $1,350/month |
| 105 | Totally Green | OG100 | Grey water, that can be discharged into a sanitary drain | 2,400 lbs/day | 100% | 28.8 kWh/day | $1,800/month |
| 106 | Vertal U.S. Inc. | CITYPOD "S" | Ready to use compost | 107 lbs/day | 85-90% | 1.2 kWh/day | $35,000 |
| 107 | Vertal U.S. Inc. | CITYPOD "M" | Ready to use compost | 220 lbs/day | 85-90% | 1.3 kWh/day | $46,500 |
| 108 | Vertal U.S. Inc. | CITYPOD "L" | Ready to use compost | 495 lbs/day | 85-90% | 1.5 kWh/day | $69,000 |

| Page | Company Name | Model Name | Output Material | Capacity | Volume/Weight Reduction (%) | Energy Use | Price Range (USD) |
|---|---|---|---|---|---|---|---|
| 109 | Vertal U.S. Inc. | CITYPOD "XL" | Ready to use compost | 836 lbs/day | 85-90% | 4.5 kWh/day | $119,000 |

# Appendix B-8

# New York SSO Compost Facility Lists

# NYSDEC List February 2019

| Facility Name | City | County | Region | Owner Name | Activity Desc | Waste Types | Regulatory Status |
|---|---|---|---|---|---|---|---|
| Organix Green Industries | Seneca Castle | Ontario | 8 | OGI; LLC | Composting - source separated organic waste - registration | | Registration |
| Added value | Brooklyn | Kings | 2 | NYC Compost Project Brooklyn Botanic Garden | Composting - source separated organic waste - registration | Food Scraps;Yard Waste | Registration |
| OCRRA - Amboy Site | Camillus | Onondaga | 7 | OCRRA | Composting - source separated organic waste - permit | | Permit |
| Cayuga Compost | Trumansburg | Tompkins | 7 | William & Mary Proctor | Composting - source separated organic waste - permit | | Permit |
| Waste Management - High Acres Compost Facility | Fairport | Monroe | 8 | Waste Management of New York LLC | Composting - source separated organic waste - permit | Yard Waste;Wood (Chips);Source Separated Organic Waste (SSOW) | Permit |
| RED HOOK COMMUNITY FARM COMPOST FACILITY | BROOKLYN | Kings | 2 | | Composting - source separated organic waste - permit | | |
| McEnroe Organic Farm | Millerton | Dutchess | 3 | Ray McEnroe | Composting - source separated organic waste - permit | Manure;Food Scraps | Permit |
| UCRRA Ulster Transfer Station | Kingston | Ulster | 3 | Ulster CountyResource Recovery Agency | Composting - source separated organic waste - permit | | Permit |
| Marine Park Golf Course | Brooklyn | Kings | 2 | Michael Giordano | Composting - source separated organic waste - registration | | Registration |
| Community Compost/Glynwood Incubator Farm | New Paltz | Ulster | 3 | Open Space Institute | Composting - source separated organic waste - registration | | Registration |
| Hurds Farm Compost | Clintondale | Ulster | 3 | Hurds Orcahrds LLC | Composting - source separated organic waste - registration | | Registration |
| Twin Star Orchards Organic Waste Composting | New Paltz | Ulster | 3 | Peter Yi | Composting - source separated organic waste - registration | | Registration |
| Bethlehem (T) Food Scraps Composting | Selkirk | Albany | 4 | Town of Bethlehem | Composting - source separated organic waste - registration | Source Separated Organic Waste (SSOW) | Registration |
| Watervliet SSOW Composting | Watervliet | Albany | 4 | City of Watervliet | Composting - source separated organic waste - registration | | Registration |
| Gro Max | Hudson | Columbia | 4 | Clifford Weigelt | Composting - source separated organic waste - registration | | Registration |
| Mohican Farm/Clark Foundation | Cooperstown | Otsego | 4 | Clark Foundation | Composting - source separated organic waste - registration | | Registration |
| Seward Sand and Gravel Composting | Oneonta | Otsego | 4 | Seward Sand and Gravel; Inc. | Composting - source separated organic waste - registration | Non-recognizable Food Processing Waste | Registration |
| D&D Meats Composting Facility | West Chazy | Clinton | 5 | Adrien Dutil | Composting - source separated organic waste - registration | Food Scraps | Registration |
| Pleasant Valley Compost | Argyle | Washington | 5 | Bruce White | Composting - source separated organic waste - registration | Food Scraps | Registration |
| Ed Crane Farm | Clinton | Oneida | 6 | Ed Crane | Composting - source separated organic waste - registration | Food Scraps;Wood (Chips);Manure;Yard Waste | Registration |
| Mohawk Valley Materials Inc. | Rome | Oneida | 6 | Joseph Rutkowski | Composting - source separated organic waste - registration | | Registration |
| High Acres Food Waste Composting | Fairport | Monroe | 8 | Waste Management of New York LLC | Composting - source separated organic waste - registration | Non-recognizable Food Processing Waste;Food Scraps | Registration |
| Lorric Development Corp of NY | Spencerport | Monroe | 8 | Lorrie Jackson | Composting - source separated organic waste - registration | Non-recognizable Food Processing Waste;Yard Waste | Registration |
| Vermi-Green | Shortsville | Ontario | 8 | James Heberle | Composting - source separated organic waste - registration | | Registration |
| Vermi-Green LLC (Formerly Empire Recycling RJH Inc) | Palmyra | Ontario | 8 | Ryan Heberle | Composting - source separated organic waste - registration | Yard Waste | Registration |
| Half Hollow Nursery Inc. (2120 Main Rd.) | Laurel | Suffolk | 1 | Sarah Rasweiler | Composting - yard waste - registration | Yard Waste | Registration |
| Good Earth Organics Corp | Lancaster | Erie | 9 | Guenter H. Burkhardt | Composting - source separated organic waste - registration | | Registration |
| Lardon Construction - Blasdell | Blasdell | Erie | 9 | Jonathan G. Palmer | Composting - source separated organic waste - registration | | Registration |
| Modern Landfill | Youngstown | Niagara | 9 | Modern Corporation | Composting - source separated organic waste - registration | | Registration |
| Community Compost/Arrowhead Farm | Kerhonkson | Ulster | 3 | Arrowhead Farm Agricultural Center | Composting - SSO - registration | Food Scraps | Registration |
| New Paltz Food Waste Compost | New Paltz | Ulster | 3 | Town of New Paltz | Composting - SSO - registration | Food Scraps;Yard Waste | Registration |
| Raimondo Brothers; Inc. | Kirkville | Onondaga | 7 | Gary Raimondo | Composting - SSO - registration | Non-recognizable Food Processing Waste | Registration |
| TGS Organic Reclamation | Apalachin | Tioga | 7 | Robert Taylor | Composting - SSO - registration | Yard Waste;Food Scraps | Registration |
| The Van Lare Compost Facility | Rochester | Monroe | 8 | Monroe County Dept. of Environmental Services | Composting - SSO - registration | Food Scraps | Registration |
| FLX Scraps to Gardens | Rock Stream | Yates | 8 | Heather Gilbert | Composting - SSO - registration | Source Separated Organic Waste (SSOW) | |
| Buffalo River Compost | Buffalo | Erie | 9 | Buffalo River Compost LLC | Composting - SSO - registration | Source Separated Organic Waste (SSOW) | Registration |
| Ecoverde Organics LLC | East Aurora | Erie | 9 | Warren Emblidge; Jr | Composting - SSO - registration | | Registration |
| PUSH Buffalo | Buffalo | Erie | 9 | 710 Ohio Street LLC | Composting - SSO - registration | Food Scraps | Registration |
| Briermere Farms | Riverhead | Suffolk | 1 | McCombe Holdings LLC | Composting - yard trimmings - registration | Yard Waste;Food Scraps | Registration |

# P2I List August 2018

| Facility_Name | City | County | Type |
|---|---|---|---|
| Buffalo River Compost | Buffalo | Erie | source separated organics & yard waste |
| Ecoverde Organics LLC | East Aurora | Erie | source separated organics |
| Marine Park Golf Courses | NEW YORK | Kings | source separated organics & yard waste |
| RED HOOK COMMUNITY FARM COMPOST | BROOKLYN | Kings | source separated organics |
| STATAN ISLAND COMPOSTING FACILITY | RICHMOND | Richmond | source separated organics |
| Added value | Brooklyn | Kings | source separated organics |
| Almstead Nursery | Ghent | Columbia | source separated organics & yard waste |
| Bethlehem (T) Food Scraps Composting | Selkirk | Albany | source separated organics |
| Big Reuse | New York | Queens | source separated organics |
| Cayuga Compost | Trumansburg | Tompkins | source separated organics |
| Community Compost/Glynwood Incubator | New Paltz | Ulster | source separated organics |
| Community Enterprises LLC | Ulster Park | Ulster | source separated organics |
| D&D Meats Composting Facility | West Chazy | Clinton | source separated organics |
| Earth Matter NY Inc | New York | New York | source separated organics |
| Ed Crane Farm | Clinton | Oneida | source separated organics |
| Empire Recycling RJH Inc | Palmyra | Ontario | source separated organics |
| Farmer Pirates Cooperative Inc | Buffalo | Erie | source separated organics & yard waste |
| Good Earth Organics Corp | Lancaster | Erie | source separated organics & yard waste |
| Gro Max | Hudson | Columbia | source separated organics & yard waste |
| High Acres Food Waste Composting | Fairport | Monroe | source separated organics |
| Homestead Organics | Glen | Montgomery | source separated organics |
| Hurds Farm Compost | Clintondale | Ulster | source separated organics & yard waste |
| Lardon Construction - Blasdell | Blasdell | Erie | source separated organics & yard waste |
| Lorric Development Corp of NY | Spencerport | Monroe | source separated organics |
| Marine Park Golf Course | Brooklyn | Kings | source separated organics |
| McEnroe Organic Farm | Millerton | Dutchess | source separated organics |
| Modern Landfill | Youngstown | Niagara | source separated organics |
| Mohawk Valley Mulch Inc. | Rome | Oneida | source separated organics |
| Mohican Farm/Clark Foundation | Cooperstown | Otsego | source separated organics |
| New Paltz | New Paltz | Ulster | source separated organics |
| Noah Richardson Compost | Sterling | Cayuga | source separated organics |
| NYCDEP Mortality Compost | Marbletown | Ulster | source separated organics |
| OCRRA - Amboy Site | Camillus | Onondaga | source separated organics |
| OCRRA - Jamesville | Jamesville | Onondaga | source separated organics |
| Oneida Herkimer Food Compost Facility | Utica | Oneida | source separated organics |
| Organic Renewal LLC | Goshen | Orange | source separated organics & yard waste |
| Organix Green Industries | Seneca Castle | Ontario | source separated organics & yard waste |
| Outstanding Renewal Enterprises (LowerE | New York | New York | source separated organics |
| Pleasant Valley Compost | Argyle | Washington | source separated organics |
| PUSH Buffalo | Buffalo | Erie | source separated organics |
| Raimondo Brothers; Inc. | Kirkville | Onondaga | source separated organics |
| Rikers Island Compost Facility ( DSNY) | New York | Queens | source separated organics |
| Rock Terrace LLC | Brewster | Putnam | source separated organics |
| Seward Sand and Gravel Composting | Oneonta | Otsego | source separated organics & yard waste |
| SRG of Buffalo | Buffalo | Erie | source separated organics |
| TGS Organic Reclamation | Apalachin | Tioga | source separated organics |
| The Van Lare Compost Facility | Rochester | Monroe | source separated organics & yard waste |
| Twin Star Orchards Organic Waste Compos | New Paltz | Ulster | source separated organics |
| UCRRA Ulster Transfer Station | Kingston | Ulster | source separated organics |
| Vermi-Green | Shortsville | Ontario | source separated organics |
| Waste Management - High Acres Compost | Fairport | Wayne | source separated organics |
| Watervliet SSOW Composting | Watervliet | Albany | source separated organics |

# Appendix B-9

# Small-Scale AD Vendors

**Table 1. Small-Scale Organics-to-Energy Technologies**

| Technology | System Type | Size Range | Accepted Feedstock | Operating Type | Structure |
|---|---|---|---|---|---|
| Agrilab Technologies, LLC's Isobar Heat Recovery Unit | Batch vessel, static pile, or windrow composting | 1.6 tons/day* or greater | Manure, food waste, organic matter, yard waste, agricultural biomass | Batch or Continuous | Modular |
| Avatar Energy's Mixed Plug-Flow Digester** | Plug-flow mesophilic anaerobic digestion | 2.6 to 92 tons/day* | Manure, food waste, organic matter, yard waste, fats, oils and greases | Continuous | Modular |
| BIOFerm Energy System's COCCUS** | Complete mix anaerobic digestion | 30 tons/day | Manure, food waste, organic matter, yard waste, other organic wastes | Continuous | Constructed onsite |
| BIOFerm Energy System's EUCOlino** | Plug-flow mesophilic anaerobic digestion | 7.5 to 15 tons/day | Manure, food waste, organic matter, yard waste, other organic wastes | Continuous | Modular |
| CH Four Biogas's Mixed-Substrate Anaerobic Digestion** | Mixed mesophilic anaerobic digestion | 10 to 150 tons/day | Manure, food waste, septage | Continuous | Constructed onsite |
| Organic Waste System's DRANCO and DRANCO-FARM | Vertical plug-flow, thermophilic anaerobic digestion with partial recycle | Up to 180 tons/day | Manure, food waste, organic matter, yard waste, other organic waste like crop residues, soiled paper, cardboard and ICI sludges | Continuous | Modular or constructed onsite |
| powerQUBE | Mixed mesophilic anaerobic digestion | Varies by feedstock, smallest system accepts 3.99 tons of food/day or 0.13 tons of fats and oils/day | Manure, food waste, organic matter, yard waste, other organic wastes | Continuous | Modular |
| SEaB Energy's Muckbuster** | Mixed mesophilic anaerobic digestion | 0.55 to 11 tons/day | Manure, food waste, organic matter, yard waste, chipped wood | Continuous | Modular |
| Spectrum BioEnergy's BioBeetle | Mixed mesophilic anaerobic digestion | 0.5 to 5 tons/day | Manure, food waste, organic matter | Continuous | Modular |
| Zero Waste Energy's SmartFerm | Mixed mesophilic and thermophilic anaerobic digestion | 11 to 55 tons/day | Manure, food waste, organic matter, yard waste, other organic wastes | Batch | Modular |

Out of business

Out of business

* Calculated from vendor data assuming a waste density of 60 lbs/ft$^3$

** Vendor data are included in the Small-Scale AD Economic Feasibility Screening Tool.

# Appendix B-10

# Commercial AD Vendors

## Appendix A:
## List of AD Technology Vendors and Vendor-Processors

| Company | Website |
|---|---|
| *Vendors* | |
| AAT Biogas | www.aat-biogas.at/en |
| ADI Systems, Inc. | www.adi.ca |
| Aikan North America, Inc. (Solum A/S) | http://www.aikantechnology.com/home.html<br>www.solum.com |
| Anaerobic Technologies, LLC | www.anaerobictechnologies.com |
| Andigen Ag LLC | http://andigenag.com |
| BDI Bioenergy | www.bdi-bioenergy.com/index.php |
| Biogas Energy, Inc. | www.biogas-energy.com/site/ |
| Biogas Nord/Biogas Direct, LLC | www.biogas-direct.com/<br>www.biogas.de |
| BioFerm Energy Systems (Viessmann Group) | www.biofermenergy.com |
| Bio-Methatech | www.bio-methatech.com |
| Biothane (Veolia Water) | www.biothane.com/en |
| Blue Electron (GBU Germany) | http://blue-electron.com/index.html |
| CAMBI™ | www.cambi.no/wip4 |
| Clean World Partners | www.cleanworld.com |
| Clear Horizons, LLC | www.clearhorizonsllc.com/html/index.htm |
| CST Wastewater | www.cstwastewater.com |
| DariTech, Inc. | www.daritech.com |
| DVO, Inc. | www.dvoinc.net |
| Eisenmann Corporation | www.eisenmann.us.com |
| Entec Biogas USA | www.entec-biogas.com/en |
| EnviTec Biogas | www.envitec-biogas.com/en/home.html |
| FEED Resource Recovery, Inc. | www.feedresourcerecovery.com |
| Global Water Engineering | www.globalwaterengineering.com/asp/asp/home.Asp |



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## Appendix A (continued): List of AD Technology Vendors and Vendor-Processors

| Company | Website |
|---|---|
| HiMark Biogas | www.himarkbiogas.com |
| HydroThane | www.hydrothane-stp.com |
| ICM, Inc. | http://icminc.com/index.php |
| Northern Biogas | http://northernbiogas.com |
| Organic Waste Systems, Inc. (OWS) | www.ows.be |
| RCM International | www.rcmdigesters.com |
| SEaB Energy | http://seabenergy.com |
| UEM Group | http://uemgroup.com |
| Xergi | www.xergi.com/en/homepage.html |
| Yield | www.yieldenergy.com |
| *Vendor-Processors* | |
| Anaergia | www.anaergia.com |
| Bio-En Power | www.bio-enpower.com |
| CH4 Biogas, LLC (Bigadan A/S) | http://ch4biogas.com<br>www.bigadan.dk/eng |
| Colony Energy Partners | www.colonyenergypartners.com |
| EcoCorp | http://ecocorp.com/index.htm |
| Eggersmann Group | www.f-e.de |
| Meridian Bioenergy | www.meridianbioenergy.com |
| Microgy (Environmental Power Corporation) | www.iconics.com/IconicsWebsite/media/Documents/RenewDownloads/ss-pem-microgy.pdf |
| NOVI Energy | www.novienergy.com |
| Orbit Energy, Inc. | http://orbitenergyinc.com |
| Revolution Energy Solutions | www.revolutionenergysolutions.com/index.html |
| Swedish Biogas International | www.swedishbiogas.com/index.php/en |
| Zero Waste Energy | www.zerowasteenergy.com |
| EcoCorp | http://ecocorp.com/index.htm |
| Eggersmann Group | www.f-e.de |
| Meridian Bioenergy | www.meridianbioenergy.com |



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# Appendix B-11

# GHG Emissions

**EXHIBIT K-1. METHANE GENERATION AND EMISSIONS FROM DISPOSED WASTE UNDER BASELINE SCENARIO: SULLIVAN COUNTY, NEW YORK**

| | Disposal Rate | Methane Generation | | | Collection Efficiency | Methane Recovery | | Methane Emissions (= Generation - Recovery x CH4 Destroyed - Oxidation) | |
|---|---|---|---|---|---|---|---|---|---|
| Year | (tons/yr) | (scfm) | (m3/hour) | (Mg/yr) | (%) | (scfm) | (Mg/yr) | CH4 emissions (CO2e Mg/yr) | CH4 Flow (scfm) |
| 2019 | 44,000 | 0 | 0 | 0 | 85% | 0 | 0 | **0** | 0 |
| 2020 | 44,000 | 15 | 25 | 148 | 85% | 13 | 126 | **532** | 2 |
| 2021 | 44,000 | 29 | 49 | 288 | 85% | 25 | 245 | **1,034** | 4 |
| 2022 | 44,000 | 42 | 72 | 420 | 85% | 36 | 357 | **1,508** | 6 |
| 2023 | 44,000 | 55 | 93 | 545 | 85% | 46 | 463 | **1,956** | 8 |
| 2024 | 44,000 | 67 | 113 | 663 | 85% | 57 | 564 | **2,379** | 10 |
| 2025 | 44,000 | 78 | 132 | 775 | 85% | 66 | 658 | **2,779** | 11 |
| 2026 | 44,000 | 88 | 150 | 880 | 85% | 75 | 748 | **3,157** | 13 |
| 2027 | 44,000 | 98 | 167 | 979 | 85% | 83 | 832 | **3,513** | 14 |
| 2028 | 44,000 | 108 | 183 | 1,073 | 85% | 91 | 912 | **3,850** | 15 |
| 2029 | 44,000 | 117 | 198 | 1,162 | 85% | 99 | 988 | **4,168** | 17 |
| 2030 | 44,000 | 125 | 212 | 1,246 | 85% | 106 | 1,059 | **4,469** | 18 |
| 2031 | 44,000 | 133 | 226 | 1,325 | 85% | 113 | 1,126 | **4,753** | 19 |
| 2032 | 44,000 | 140 | 238 | 1,400 | 85% | 119 | 1,190 | **5,021** | 20 |
| 2033 | 44,000 | 147 | 251 | 1,470 | 85% | 125 | 1,250 | **5,275** | 21 |
| 2034 | 44,000 | 154 | 262 | 1,537 | 85% | 131 | 1,306 | **5,514** | 22 |
| 2035 | 44,000 | 160 | 273 | 1,600 | 85% | 136 | 1,360 | **5,740** | 23 |
| 2036 | 44,000 | 166 | 283 | 1,660 | 85% | 141 | 1,411 | **5,954** | 24 |
| 2037 | 44,000 | 172 | 292 | 1,716 | 85% | 146 | 1,458 | **6,155** | 25 |
| 2038 | 44,000 | 177 | 301 | 1,769 | 85% | 151 | 1,504 | **6,346** | 25 |
| 2039 | 44,000 | 182 | 310 | 1,819 | 85% | 155 | 1,546 | **6,526** | 26 |
| 2040 | 44,000 | 187 | 318 | 1,866 | 85% | 159 | 1,586 | **6,696** | 27 |

## EXHIBIT K-2. METHANE GENERATION AND EMISSIONS FROM DISPOSED WASTE WITH EXPANDED FOOD WASTE COMPOSTING: SULLIVAN COUNTY, NEW YORK

| | Disposal Rate | Methane Generation | | | Collection Efficiency | Methane Recovery | | Methane Emissions (= Generation - Recovery x CH4 Destroyed - Oxidation) | | Methane Emissions Reduction from Baseline | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | (tons/yr) | (scfm) | (m3/hour) | (Mg/yr) | (%) | (scfm) | (Mg/yr) | CH4 emissions (CO2e Mg/yr) | CH4 Flow (scfm) | CH4 emissions (CO2e Mg/yr) | CH4 Flow (scfm) |
| 2019 | 44,000 | 0 | 0 | 0 | 85% | 0 | 0 | **0** | 0 | **0** | 32.9 |
| 2020 | 44,000 | 15 | 25 | 148 | 85% | 13 | 126 | **532** | 2 | **0** | 31.1 |
| 2021 | 43,450 | 29 | 48 | 284 | 85% | 24 | 241 | **1,019** | 4 | **15** | 29.4 |
| 2022 | 43,450 | 41 | 70 | 413 | 85% | 35 | 351 | **1,480** | 6 | **28** | 27.9 |
| 2023 | 42,900 | 54 | 91 | 535 | 85% | 46 | 454 | **1,918** | 8 | **38** | 26.4 |
| 2024 | 42,900 | 65 | 110 | 646 | 85% | 55 | 549 | **2,317** | 9 | **62** | 25.0 |
| 2025 | 42,350 | 76 | 128 | 752 | 85% | 64 | 639 | **2,697** | 11 | **82** | 23.7 |
| 2026 | 42,350 | 85 | 145 | 848 | 85% | 73 | 721 | **3,043** | 12 | **113** | 22.5 |
| 2027 | 41,800 | 95 | 161 | 940 | 85% | 80 | 799 | **3,374** | 14 | **140** | 21.4 |
| 2028 | 41,800 | 103 | 175 | 1,024 | 85% | 88 | 870 | **3,673** | 15 | **177** | 20.4 |
| 2029 | 41,800 | 111 | 189 | 1,104 | 85% | 95 | 938 | **3,961** | 16 | **207** | 19.4 |
| 2030 | 41,250 | 119 | 202 | 1,181 | 85% | 101 | 1,004 | **4,236** | 17 | **233** | 18.4 |
| 2031 | 41,250 | 126 | 214 | 1,250 | 85% | 107 | 1,062 | **4,484** | 18 | **269** | 17.6 |
| 2032 | 41,250 | 133 | 226 | 1,316 | 85% | 113 | 1,119 | **4,722** | 19 | **300** | 16.8 |
| 2033 | 40,700 | 139 | 237 | 1,380 | 85% | 118 | 1,173 | **4,950** | 20 | **325** | 16.0 |
| 2034 | 40,700 | 145 | 246 | 1,436 | 85% | 123 | 1,221 | **5,153** | 21 | **361** | 15.3 |
| 2035 | 40,700 | 151 | 256 | 1,491 | 85% | 128 | 1,267 | **5,349** | 22 | **391** | 14.7 |
| 2036 | 40,150 | 156 | 265 | 1,544 | 85% | 133 | 1,312 | **5,538** | 22 | **416** | 14.0 |
| 2037 | 40,150 | 161 | 273 | 1,590 | 85% | 137 | 1,351 | **5,704** | 23 | **451** | 13.5 |
| 2038 | 40,150 | 165 | 281 | 1,635 | 85% | 140 | 1,390 | **5,865** | 24 | **481** | 12.9 |
| 2039 | 39,600 | 170 | 288 | 1,678 | 85% | 144 | 1,426 | **6,020** | 24 | **506** | 12.4 |
| 2040 | 39,600 | 173 | 295 | 1,715 | 85% | 147 | 1,458 | **6,154** | 25 | **542** | 11.9 |

**EXHIBIT K-3. GREENHOUSE GAS EMISSIONS ESTIMATES BY SCENARIO**
**SULLIVAN COUNTY, NEW YORK**

**Emissions Factors:**

| | | |
|---|---|---|
| Methane density (Mg/m3) | 0.00067 | density of methane at 60oF and 1 atm pressure |
| CO2 equivalent (CO2e) factor for methane | 25 | |
| Fossil fuel emissions from compost pile turning (Mg CO2/ton) | 0.012 | CO2e emissions for 0.22 million Btu (2.2 therms)/ton organic waste from WARM model v. 14 documentation - Organics Materials Chapters (Exhibit 1-44) |
| Fugitive CH4 and N2O emissions for food waste (Mg CO2/ton) | 0.045 | WARM model v. 14 documentation - Management Practices Chapters (Exhibit 4-5) |
| Fraction of organic waste converted to compost and applied to soil | 50% | Assumed to include mass reduction from converting from 60% to 40% moisture |
| Emissions reduction from compost use (Mg CO2/ton compost) | 0.24 | WARM model v. 14 documentation - Organic Materials Chapters (Exhibit 1-43). |

| | BASELINE | | COMPOSTING | | | | |
|---|---|---|---|---|---|---|---|
| Year | Landfill Methane (Mg/yr) | TOTAL (Mg/yr) | Landfill Methane (Mg/yr) | Food Waste Composting (Mg/yr) | TOTAL (Mg/yr) | Net Emissions Reduction (Mg/yr) | Net Emissions Reduction (%) |
| 2020 | 532 | 532 | 532 | -32 | 500 | 32 | 5.9% |
| 2021 | 1,034 | 1,034 | 1,019 | -32 | 987 | 47 | 4.5% |
| 2022 | 1,508 | 1,508 | 1,480 | -32 | 1,449 | 59 | 3.9% |
| 2023 | 1,956 | 1,956 | 1,918 | -63 | 1,855 | 101 | 5.2% |
| 2024 | 2,379 | 2,379 | 2,317 | -63 | 2,254 | 125 | 5.3% |
| 2025 | 2,779 | 2,779 | 2,697 | -95 | 2,603 | 176 | 6.3% |
| 2026 | 3,157 | 3,157 | 3,043 | -95 | 2,949 | 208 | 6.6% |
| 2027 | 3,513 | 3,513 | 3,374 | -126 | 3,248 | 266 | 7.6% |
| 2028 | 3,850 | 3,850 | 3,673 | -126 | 3,547 | 303 | 7.9% |
| 2029 | 4,168 | 4,168 | 3,961 | -126 | 3,835 | 333 | 8.0% |
| 2030 | 4,469 | 4,469 | 4,236 | -158 | 4,079 | 391 | 8.7% |
| 2031 | 4,753 | 4,753 | 4,484 | -158 | 4,326 | 427 | 9.0% |
| 2032 | 5,021 | 5,021 | 4,722 | -158 | 4,564 | 457 | 9.1% |
| 2033 | 5,275 | 5,275 | 4,950 | -189 | 4,761 | 514 | 9.7% |
| 2034 | 5,514 | 5,514 | 5,153 | -189 | 4,964 | 550 | 10.0% |
| 2035 | 5,740 | 5,740 | 5,349 | -189 | 5,160 | 580 | 10.1% |
| 2036 | 5,954 | 5,954 | 5,538 | -221 | 5,318 | 636 | 10.7% |
| 2037 | 6,155 | 6,155 | 5,704 | -221 | 5,483 | 672 | 10.9% |
| 2038 | 6,346 | 6,346 | 5,865 | -221 | 5,644 | 702 | 11.1% |
| 2039 | 6,526 | 6,526 | 6,020 | -252 | 5,768 | 758 | 11.6% |
| 2040 | 6,696 | 6,696 | 6,154 | -252 | 5,902 | 794 | 11.9% |

# Appendix C

# Proposed Site

January 13, 2020
File No. 13203021.09

Subject: Yard Waste and Source-Separated Organics Composting Assessment
Village of Monticello Landfill, Monticello, New York

SCS Engineers of New York, PC (SCS) prepared this letter to assess the potential for operating a yard waste and source-separated organics (SSO) compost facility on the closed Village of Monticello Landfill (Landfill), which is owned by the Sullivan County Department of Solid Waste and Recycling (County), at 91 Landfill Drive in Monticello, New York. This letter is organized as follows:

- Project Background
- Regulatory Review
- Final Cover System Protection
- Conceptual Composting System Layout
- Recommendations

## PROJECT BACKGROUND

The County is considering installation and operation of a yard waste and SSO compost facility on the former Village of Monticello (VOM) Landfill parcel. Proposed site is adjacent to the existing County Solid Waste & Recycling offices and scale house. However, as part of these considerations, the County needs to understand regulations governing such facilities, measures that would be required to protect the existing Landfill final cover system, and how such a facility would be laid out over the closed Landfill.

The former VOM Landfill historically accepted municipal solid waste (MSW). The final cover system over the Landfill was installed in 2000 as a soil cap system utilizing low permeability soils. The final cover system includes, from top to bottom, 6 inches of topsoil, 24 inches of barrier protection soil, and 18 inches of low permeability soil. The final cover system also includes a leachate collection toe-drain and a landfill gas (LFG) collection system. Two stormwater detention ponds were constructed for sediment and erosion control during the construction of the final cover system and now serve as stormwater collection ponds for the final cover system. The ponds were lined with 40 mil HDPE geomembrane. Construction of the final cover system was certified in a report submitted to NYSDEC and dated May 2001. The Landfill is relatively flat, which is conducive to post-closure utilization as a compost facility.

## REGULATORY REVIEW

We reviewed regulations under 6 NYCRR Part 361-3, which regulates yard waste, SSO and sludge composting facilities to confirm whether these regulations would permit a yard waste and SSO

composting operation at the former VOM Landfill/Sullivan County site. Some regulatory requirements that would apply include the following:

- **Facility siting:** The minimum horizontal separation distance as measured from the facility to the nearest residence, place of business or public contact area (except turf farms and plant nurseries) is 200 feet for yard trimmings or SSO.
  - Yard trimmings composting facilities without a pad and leachate collection system must maintain a minimum separation of 200 feet to a potable water well or surface water body and 25 feet to a drainage swale.

- **Stormwater control:** Stormwater must be diverted away from the composting area. Drainage must be controlled to prevent run-off from the facility and organic matter from entering surface water or groundwater. For uncovered facilities, the design of the facility must be adequate to handle the quantity of liquid generated at the facility based on a rainfall intensity of 1-hour duration and a 10-year return period.

- **Leachate control:** All leachate must be collected and disposed in a manner approved by the department. For uncovered composting facilities, the leachate collection and treatment system must be adequate to manage the quantity of leachate generated at the facility based on a rainfall intensity of 1-hour duration and a 10-year return period.

- **Facility surfaces:** The waste storage area, composting area, leachate storage and product storage area at the facility must be located on surfaces that minimize leachate release into the groundwater under the facility and the surrounding land surface, such as asphalt (except for leachate storage), concrete, or drying beds that have underdrains for leachate collection.
  - If low permeability soils are used, the liner must be a minimum of two feet of compacted soil having a maximum remolded coefficient of permeability of $1 \times 10^{-7}$ centimeters per second (cm/s). The soil material particles must be able to pass through a one-inch screen.

- **Enclosures:** All unloading, storage and composting areas, except those handling yard trimmings alone, at facilities that have an average capacity of 100 wet tons per day or greater must be enclosed. For SSO composting facilities, the incoming SSO must be under cover regardless of quantity accepted.

Regarding each of the regulation categories above, our comments are as follows:

- **Facility siting:** The Landfill is more than 200 feet from the nearest residence, place of business, public contact area and surface water body. The system can be designed to maintain at least 25 feet buffer to drainage swales surrounding the Landfill. It would need to be confirmed that the nearest potable water well is at least 200 feet away, but based on a review of the surrounding area via aerial photography, this seems likely.

- **Stormwater control:** The Landfill is already graded to drain stormwater to the stormwater detention basins. The composting system could be centered at the grade peak along the south side of the Landfill so that stormwater drains around the system.

The capacity of the stormwater detention basins would need to be reviewed to confirm that they can handle a rainfall intensity of 1-hour duration and a 10-year return period. Since it is likely that the ponds were designed for 24-hour, 25-year storm events, it is likely that the existing stormwater detention basins satisfy the capacity requirements for uncovered composting facilities.

- **Leachate control:** Leachate would need to be collected separately from stormwater, but could be drained into the existing leachate collection system for the Landfill. The capacity of the leachate collection system would need to be confirmed that it can handle the additional leachate from the composting system based on a rainfall intensity of 1-hour duration and a 10-year return period.

- **Facility surfaces:** The Landfill already has 18 inches of low permeability soil as part of its existing final cover system. Existing vegetation and topsoil could be removed, and an additional 6 inches of low permeability soil could be placed, if necessary, over the footprint of the composting system to comply with the minimum 2-foot low permeability soil surface requirement. The final closure certification report for the Landfill indicated that the permeability of the existing low permeability soil cover ranged between $1 \times 10^{-7}$ and $9.29 \times 10^{-8}$ cm/s, which meets the regulatory permeability requirements.

- **Enclosures:** Incoming SSO, prior to mixing and placement in the composting system (e.g., aerated static pile, windrows) must be kept enclosed. A fabric structure could be used for receipt and mixing of SSO. Material delivery is expected to be less than 100 tons per day; i.e., avoids the requirement to enclose the entire composting system.

## FINAL COVER SYSTEM PROTECTION

Site preparation would include removal of existing vegetation and topsoil within the compost facility footprint. A 6- to 12-inch compacted stone layer would be installed in all areas. The barrier protection soil would remain in place to protect the low permeability soil surface. In the Phase 1 ASP area, leachate could be collected using slotted tubes wrapped in filter fabric.

Another portion of the Landfill requiring protection is the perimeter stormwater drainage ditch. At locations where vehicles must enter and leave the Landfill, a pipe culvert would be installed to allow stormwater flow.

The existing LFG collection system will also require protection. There are five (5) LFG wells and isolation valves (with stem extension risers and gear operators) at the former VOM Landfill site. We recommend that the LFG well casings be cut off below grade, and connected directly to the lateral, which extends to the perimeter LFG header. A valve could be installed at the connection location to allow isolation of the well, if deemed necessary. The existing valves within the Landfill would be removed. Moving the LFG infrastructure below grade would prevent damage to this infrastructure associated with operation of a composting system.

The County should discuss all proposed final cover system modifications with NYSDEC to confirm acceptability.

## CONCEPTUAL COMPOSTING SYSTEM LAYOUT

A conceptual composting system layout is included in Attachment 1, and is based on the following criteria:

- Yard waste and SSO receipt is adjacent to the access roadway to minimize disturbance within the Landfill/composting facility, and to expedite vehicular turnaround.

- The flow of materials is as follows, so corresponding areas are located adjacent to each other to minimize materials handling:
  - Yard waste/leaf/bulking materials and SSO receipt
  - Mixing of yard waste/leaf materials, SSO and bulking materials
  - Phase I composting in ASP
  - Phase II composting in windrows
  - Compost screening
  - Compost curing
  - Finished compost stockpiling

- The only electrical requirement for the system is the Phase I composting in ASP, which is located nearest to the existing scalehouse for electrical availability.

- The compost facility is located on the east and the south side of the Landfill, which is the grade peak, to optimize stormwater flow around the system, and to maintain a buffer of 25 feet to the perimeter drainage ditch, in accordance with regulations.

The layout in Attachment 1 is sized to manage 2,000 tons of food scraps per year plus 3,000 tons of leaves/wood chips. There is additional space available on the VOM landfill site for future expansion.

## RECOMMENDATIONS

Based on the discussion above, we recommend the following:

- Confirm that the nearest potable water well is at least 200 feet away from the Landfill.

- Confirm that the existing stormwater detention basins can handle a rainfall intensity of 1-hour duration and a 10-year return period.

- Confirm that the existing leachate collection system can handle the additional leachate from the composting system based on a rainfall intensity of 1 hour duration and a 10-year return period.

- Limit total material acceptance at the proposed composting system to less than 100 tons per day.

- Discuss with NYSDEC modifications to the existing final cover system needed for the proposed composting system to confirm acceptability.

Please call with any questions.

Sincerely,

Marcus Scrimgeour, PE
Project Manager
SCS Engineers

Gregory P. McCarron, PE
Project Director
SCS Engineers

mms/GPM

cc: M. Witkowski

Encl.

# Appendix D

# Conceptual Commercial Compost Facility




**PRELIMINARY 12/4/2019**

| NO. | REVISION | DATE |
|---|---|---|
| 1 | ISSUED FOR CLIENT REVIEW | 12/04/19 |

SHEET TITLE
**CONCEPTUAL AERIAL SITE PLAN**

PROJECT TITLE
**SULLIVAN COUNTY ORGANICS MANAGEMENT FEASIBILITY STUDY**

CLIENT
**SULLIVAN COUNTY DEPARTMENT OF SOLID WASTE AND RECYCLING**
P.O. BOX 5012
100 NORTH STREET, MONTICELLO, NY 12701

**SCS ENGINEERS**
STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS, INC.
4 EXECUTIVE BLVD, SUITE 201, SUFFERN, NY 10901
PH. (845) 357-1510 FAX. (845) 357-1049

PROJ. NO. 13203021.09 | DWN. BY: PSC | D/A RVW. BY: CPM
DSN. BY: GPM | CHK. BY: GPM | APP. BY: GPM

CADD FILE: Concept Site Plan PSC

DATE: 12/4/2019

SCALE: AS SHOWN

DRAWING NO. **1** of **1**

I:\PROJECTS\13203021.09\DRAWINGS\CONCEPT SITE PLAN PSC.DWG layout: AERIAL plotted on: 12/4/2019 8:56 AM Cottoneo, Peter

# Appendix E

# Marketing Plan

**May 28, 2020**

**TO:** SCS Engineers & Sullivan County

**FROM:** Naturcycle, LLC

**RE:** Sullivan County Organics Management - Task 4 Marketing Plan

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After a comprehensive analysis of organics management options for Sullivan County, the best available opportunity was determined to be the construction of a hybrid compost facility. This type of facility would utilize a covered system of positively aerated static piles for the bulk of the composting process, along with turned windrows as a finishing step to produce a final product. SCS Engineers expects that approximately 6,500 (sixty-five hundred) cubic yards of finished compost could be produced annually based on receipt of 2,000 tons of food scraps per year. The ideal feedstock blend for this option would include food scraps, leaves and wood chips. In order to better understand the implications, benefits and options available, Naturcycle is presenting a thorough marketing study, as well as a detailed sales plans for further consideration.

**Executive Summary**

1. Compost is the superior organics management option.
2. There are many different potential markets for compost. Sullivan County is best served by pursuing compost suitable for use as a soil amendment, NYS DOT projects, and topdressing applications.
3. Testing programs can add value to a potential compost program. Sullivan County should enroll in the STA program once a compost facility is built and is operating.
4. Some states and municipalities have instituted regulations requiring the use of compost for certain building projects. We recommend that Sullivan County work in partnership with its various departments to consider a similar requirement.
5. Initially, we recommend that Sullivan County use a broker to facilitate compost sales.
6. Next steps to verify potential market conditions and opportunities are as follows:
    a. Meet with Sullivan County Department of Planning, Community Development and Real Property.
    b. Meet with and review existing specifications used by the Sullivan County Department of Public Works.
    c. Meet with the Sullivan County Department of Parks, Recreation and Beautification.
    d. Meet with Resorts World.
    e. Survey golf courses in Sullivan County.
    f. Meet with Bethel Woods.

**Introduction**

It is important to appreciate what compost is in order to understand the important role it plays in a potential organics management program. The American Association of Plant Food Control Officials (AAPFCO) registers and regulates the distribution of fertilizer, soil amendments and liming agents. Its membership includes state regulators from across the country, including representatives from the New York State Department of Agriculture & Markets. The AAPFCO definition of compost has been adopted by many state regulatory agencies, while others use similar variations. According to the AAPFCO, compost is:

> **the product manufactured through the controlled aerobic, biological decomposition of biodegradable materials.** The product has undergone mesophilic and thermophilic temperatures, which significantly reduces the viability of pathogens and weed seeds, and stabilizes the carbon such that it is beneficial to plant growth. Compost is typically used as a soil amendment but may also contribute plant nutrients.[1]

Compost is the superior organic management option for three key reasons.

- Compost production and application are well-researched and understood, with measurable standards based on independent analysis.
- Compost manufacturing is supported by an abundance of trade groups, related industries, specialized equipment and modern technologies.
- Compost is an established product with a variety of existing markets.

There is a wide range of commercial and university research into compost production and end uses. For decades, the Cornell Solid Waste Management Institute has researched compost production, along with compost applications such as roadside vegetation improvements with compost application[2]. Many colleges and universities, including Ohio State University and Pennsylvania State University, offer programs and courses of study dedicated to composting and compost uses. There are dedicated classes and compost training programs in place across the county, like the well-known University of Maine Compost School. An example of recent compost research is *Effectiveness of Compost Blanket Specifications* by Corey Poland, MS, from the University of Wisconsin. Academics and compost users continue to explore potential opportunities for additional applications where compost use may prove effective.

The composting industry is represented by important trade groups such as the United States Composting Council[3] and the Organics Council of the New York State Association for Reduction, Reuse and Recycling[4]. From the website of the United States Composting Council (USCC):

> The US Composting Council was formed in 1990 by compost makers and corporate sponsors. The USCC held its first conference the next year, and has grown since to about 850 members, about 600 of whom are manufacturers of compost, with the remainder in compost research and soil science; consulting; marketing; allied products and compostable products, as well as a group of individuals and enthusiasts. About a third of the membership is local, state and federal government employees, many of whom are in the business of compost manufacturing or organics recycling.

The Council's mission is focused primarily on large-scale compost manufacturing and marketing, and includes training and education of compost facility operators, certification programs for quality compost, and lobbying and advocacy campaigns at the state and federal level.

Specialized equipment and technologies have been developed specifically to service this industry, including Komptech windrow turners, a variety of Doppstadt screeners, associated tools like Ecolawn spreaders for soil topdressing, and blower trucks that are used to apply compost in bulk. There continues to be sustained growth in the many related industries that support the use of compost as an organics management solution

The most compelling reason to select composting as an organic management technique is the existing market demand for compost, particularly in the Sullivan County region. As with any other commodity, a variety of market forces drive product pricing. Basic supply and demand in compost markets provide the best opportunity for both immediate revenue and long-term success. Compost products and comparable alternatives already exist in the marketplace, so evaluating the strengths and weaknesses of a municipal composting operation is vital to success, as well as researching current compost prices in the region, customer opinions of existing products, and additional applications that may be underutilized. An important component of any market research for a potential compost program in Sullivan County is a Strength, Weakness, Opportunities & Threat (SWOT) Analysis, which can be found in Appendix A of this report.

It is also important to note that there are significant drawbacks to other potential organic management options. Anaerobic digestion produces a digestate that is neither compost nor fertilizer and does not have the same wide range of potential applications. Dehydration of organic waste produces residuals that require further management. Most organics management options simply do not have the network of resources available to them that the compost industry is able to support. Compost alternatives also suffer from the lack of trade groups and commercial demand.

Rod Tyler, an early compost industry innovator, wrote a book titled *Winning the Organics Game* in 1996. He observed that "thinking of a compost facility as a manufacturing plant identifies critical components of a successful operation." This concept leads to our next key steps in evaluating compost markets. In the Sullivan County and Catskill region of New York State there are a number of ways compost is used, marketed and sold.

**Potential Compost Markets**

*Compost as a Soil Amendment*

The most common use of compost in the Northeastern United States is as a soil amendment. Compost is mixed with poor quality existing soils at a construction site or landscaping project in order to promote plant growth. Compost can also be delivered to landscape or contractor supply yards, where it is blended and stored for later use. As a result, compost for use as a soil amendment can come in the form of a commercial commodity or a retail product. Commercial contractors, large and small landscaping companies, and homeowners are the primary market segments for this particular use.

In New York State, the Department of Agriculture & Markets regulates the commercial distribution of compost[5]. This is a straightforward standardized process. Any facility that produces compost is required to create a label outlining the recommended use and the physical and chemical parameters of the

product. Testing at a qualified laboratory and professional involvement is required to develop an acceptable label prior to any bulk distribution. Additional regulations apply to any bagged product sold and will be addressed later in this report.

Types of compost used in these applications can vary widely. Compost used as a soil amendment can be either unscreened or screened, with a wide variety of sizing and feedstock requirements. Compost used as a soil amendment often has the widest cost variability due to factors like product quality, sales methods, regional demand and general market forces.

*NYS Department of Transportation*

In many states, the Department of Transportation is the largest user of compost. States like California and Texas use millions of cubic yards annually. The New York State Department of Transportation is also a large compost consumer. The New York State DOT compost specifications were most recently updated in 2012 and identified specific compost types for specific applications:

| | |
|---|---|
| Type A | Compost for Turf Establishment, Sodding, and Planting |
| Type B | Compost for Erosion/Sediment Control Filter Berms |
| Type C | Compost for Erosion/Sediment Control Compost Blankets |
| Type D | Leaf Compost |
| Type E | Well-Rotted Manure |

The NYS DOT specifications also state that:

> compost supplied or manufactured by participants in the US Composting Council's Seal of Testing Assurance Program (STA) will be accepted on the basis of the Program's Compost Technical Data Sheets. The data shall represent a minimum of one year of testing results and the most recent test shall have been conducted with ninety days of material acceptance.

A major factor that drives compost sales for NYS DOT projects is the need for compost to amend existing soils. Contractors are often required to submit an "Amendment Plan" if the existing topsoil at a project site fails to meet the necessary specifications. This is becoming a more common practice, so the growth potential is this market is worth noting. Local highway departments often follow the New York State guidelines closely. With some additional education and training, more of these agencies can be encouraged to include compost in their project plans. A thorough review of planning guidance and coordination with the local Soil & Water Conservation District can lead to increased compost use. This application has the potential to be a large volume sales market with a low to moderate price point.

*Nursery Production*

Plants are traditionally germinated in a fine organic material like coconut coir or peat moss. During the early stages of growth, a starter media using lightweight materials like Perlite and fertilizers are often used. A mature growing media is typically a soil without silt or clay. Historically, poor quality compost products contributed to nursery failures and as a result, the industry has been slow to embrace the higher quality compost products that are available today. Regional market demand for nursery production therefore is low and highly specialized. By volume, compost may only make up 10-20% of nursery soil blends, often as a substitute for traditional fertilizers. While it may appear to be an enticing market, most plant nurseries simply do not produce much demand for large volumes of compost products.

Compost is better suited as a soil amendment rather than a growing medium. The best potential nursery application in the region is field plant production. After starting in a pot, larger trees and shrubs will be transferred to outdoor rows. Amending the existing soils prior to planting may be a viable compost market for nurseries in the Sullivan County area. Figure 1, shown below, is as example of this type of arrangement, where an existing field was amended with compost prior to planting. Quality and consistency are critical factors in these planting soils as they are necessary to support these higher value nursery products. A moderately priced, highly quality compost product can command large volume sales in this particular market segment.



*Figure 1: Naturcycle provided compost as a soil amendment to this tree nursery near Albany, NY*

*Turf Topdressing*

**Business Insider** reports that grass is the largest irrigated crop in the United States. About 2% of the US landmass is actively maintained turf grass and supports a market of roughly $30 billion dollars in lawn products annually[6]. Turf applications represent a major opportunity for any compost program.

Topdressing with compost is the process of spreading compost over an established turf, such as a lawn or athletic field. The compost is applied at a low rate, in a thin layer on top of the existing soil. The compost does not directly feed turf like a fertilizer, but it does improve the overall soil health by providing organic nutrients, organic matter and other benefits. Topdressing is typically performed by institutional and commercial compost customers. Golf courses and schools with athletic fields are large potential users of topdressing compost. Commercial landscape services such as Andre & Sons in Montrose, Pennsylvania specialize in these kinds of management practices. With sufficient education and supply, this is a market that has the potential for further development. Topdressing requires a premium, mature compost that is screened to the appropriate size and is free of weed seeds. Though topdressing is likely a low volume market, it can command one of the highest price points. In the region, these materials are roughly a $20 to $40 per cubic yard picked up, based on Naturcycle sales.



*Figure 2: Compost applied as a topdressing on an athletic field*

*Erosion Control*

Erosion control is another important potential compost market to consider. There are several stormwater management methods that utilize compost for erosion control: compost blankets, berms and filter socks. Compost berms and filter socks are uncommon in the Northeast. Compost blankets are far more commonly used than other erosion control methods involving compost both nationwide and regionally. California and Texas commonly use hundreds of thousands of yards of compost annually in this application alone due to their extensive highway networks and large overall land area.

Compost blankets buffer rainfall on a slope, limiting runoff and erosion while providing a medium for plant establishment. Different characteristics are required for erosion control composts compared to composts used for soil amendment and topdressing. For this type of application, the compost needs to be coarser, appearing more like a mulch product. It should have lower nutrient content and higher stability in order to sustain plant seeding and growth, which increases the integrity of the slope and prevents erosion. This application has the potential to be a high-volume market with a moderate price point.

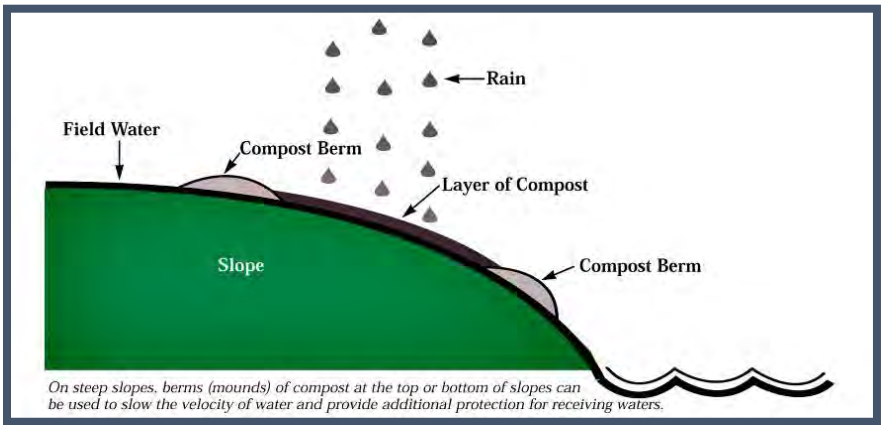



*Figure 3: Cross-section view of a typical compost blanket application*

**Recommended Market Focus**

Based on over a decade of earned knowledge and experience in the industry, Naturcycle recommends focusing on three key compost markets for inclusion in any organics management plan adopted by Sullivan County:

*Compost as a Soil Amendment*

Since most compost is ultimately used as a soil amendment, producing a compost product specifically designed for this use would serve a key target market. A screened product would create additional added value, as low demand for unscreened compost results in a low price point or free compost giveaways by municipalities as growing stockpiles take up additional operating space. Naturcycle has assisted compost operators like the Morris County Municipal Utilities Authority in New Jersey transition away from the outdated municipal model toward a more modern robust approach to compost production and marketing. Stable, finished material is also an important factor, so testing and facility design are important to success in this market.

*NYS Department of Transportation*

NYS DOT compost and soil specifications (included with this report) require specific parameters that many compost suppliers in the region are unable to meet. Based on our experience working with NYS DOT on a regular basis, compost materials available locally are typically outside of acceptable ranges for pH, soluble salts, and or moisture content. In the past, Naturcycle has arranged for deliveries of compost more than one hundred miles from their source due to lack of local supply that can meet NYS DOT specifications. The lack of local compost products that meet their specifications, makes this is a critical market to pursue. Of particular need is a 'Compost A' product, used to support plant growth. Implementing a managed process that can consistently produce a quality product that meets the 'Compost A' standard would secure important access to large highway jobs and other related projects. The price point for this material can vary from $10 to $20 per cubic yard FOB. An added benefit is that NYS DOT bids are often made a year in advance, allowing for needed volumes to be built into a production schedule.




*Figure 4: NYS DOT Region 9 includes Broome, Chenango, Delaware, Otsego, Schoharie, Sullivan, and Tioga Counties*

During an interview with a potential customer, McCarey Landscaping, a large site work contractor in Middletown, NY, the demand for NYS DOT compliant compost became clear. This company is currently sourcing compost from multiple locations for a NYS DOT job, resulting in problems with submittal approval by the regional Landscape Architect. There are currently a number of large projects in the region, an example of which is Gilboa Dam, which calls for 3,000 – 4,000 cubic yards of 'Compost A," as well as a future need for 'Compost C' for erosion control. McCarey does commercial work on large projects like LEGO Land but their primary focus is on highway construction where large amounts of compost may be

used. There are several similar potential consumers in the region that would benefit from a local supply of quality compost for NYS DOT projects.

*Turf Topdressing*

Naturcycle believes that topdressing is an excellent niche market that will soon be underserved. Compost used for topdressing is a mature, stable material with high organic content and low soluble salt concentration, screened to produce a finer product for application. One of the largest suppliers of this specialized compost in the region is the biosolids facility operated by the Village of Endicott. After transitioning to an industrial dryer system in 2021, this facility will no longer be producing compost. It is worth exploring a plan to produce this sort of premium, high-quality material in their absence. There are many outlets for this type of product in the area, like schools and golf courses, that would support continued demand. Of particular interest are school districts in the region. In 2011 New York State instituted the "Child Safe Playing Field Act." This DEC regulation forbids the use of chemical pesticides and severely limits the use of fertilizer on any areas, like athletic fields where children play. This detailed act promotes alternative options like compost and "Integrated Pest Management." Some districts do not currently use many alternatives due to lack of availability of natural options. When faced with a local supply and potential program support, there is an opportunity for regular compost sales with this market. Turf top dressing can be done in early Winter, Fall or Spring. Some programs even consider purchasing a piece of equipment like an "Eco-Lawn" applicator to rent or loan to compost users to expand sales. This could be a way to drive demand in Sullivan County with School Districts. Prices for compost topdressing currently range from $25 to $40 per cubic yard FOB in the region. Appropriate screening size and testing would be important components in any plan to pursue this market.

**Additional Considerations**

In addition to market demands driving higher revenue, certain programs can also create new opportunities. Several are worth considering.

*The United States Composting Council Seal of Testing Assurance Program*

In the late 1990's, the industry trade group utilized a group of scientists and experts to create the *Technical Manual for Evaluation of Compost & Composting (TMECC)*. The TMECC is the basis of design for the Seal of Testing Assurance (STA) Program. The STA program is a testing and disclosure program designed to provide consumers information about the compost produced. The site is required to disclose what is in the compost, provide compost use guidance and test the compost at an approved laboratory on a regular basis. Implementing quality control measures is a critical component to the success of a facility. The STA program provides a basic testing and analysis standard. In New York State, a number of compost producers are enrolled in the program and promoting their STA certified compost, including the Onondaga County Resources Recovery Agency, the Ulster County Resource Recovery Agency and more than a dozen manufacturers statewide. A compost manufacturer can enroll in this program through the US Composting Council. The amount of compost produced annually determines how often the testing is required. In the Northeast, the Pennsylvania State University Analytical Agricultural Laboratories is a program participant. There are a dozen other participating labs nationwide. An example test report is enclosed in Appendix B

**The NYS DOT compost specifications require compost products to be enrolled in the STA program.** Many landscape design and engineering firms are adopting these standards as well. The 'Compost Technical Data Sheet' produced upon testing provides compost producers and users with the ability to directly

compare compost parameters as the same standards are used nationwide. One can compare compost test results from Maine to Texas. This is a huge benefit from a marketing and sales perspective, as well as certification adds value to the compost product.

*OMRI & NOFA Certification*

Products deemed 'organic' are increasingly popular for consumers seeking options for natural and local materials. While certain groups have dominated the use and definition of the term, as defined by Merriam-Webster, the word 'organic' means "related to, or derived from living organisms." There are a few options for compost facilities to enroll their products in a 'certified organic program.'

A compost producer can submit a list of feedstocks and operational practices to the Organic Materials Research Institute and, upon paying annual fees, be listed as participating in a 'certified organic program.' While there are similar regional programs like the Northeast Organic Farmers Association and the Michigan Organic Farmers Association, OMRI operates the only nationwide organic certification program.

It is important to note that most certified organic programs forbid the use of compostable products to make the compost. Therefore, if Sullivan County were to pursue enrollment in one of these programs, operational guidelines would need to disallow accepting compostable serviceware and similar items. There are benefits to participating in these programs relating to pricing and public perception, but they impose limits on operational choices. However, there is increasing demand for participating compost and price points can vary from $30-50 per cubic yard in the Northeast. While certified compost programs can demand high prices, orders of this type are typically low volume.

*Compost Use Ordinances*

Some states and municipalities have instituted regulations requiring the use of compost for certain building projects. In 2003, Denver, Colorado amended their municipal code with an ordinance that "requires building permit holders to incorporate soil amendments into at least 6 inches of soil in any turfed or landscaped area, at a minimum rate of 3 cubic yards per 1,000 square feet of area to be planted.[7]" This was done for water savings potential in new construction. Even smaller municipalities, including villages, have sought to expand compost uses. We recommend that Sullivan County work with its Planning Department to consider a similar requirement.

*Compost Use Partnerships*

Naturcycle conducted several phone interviews with potential compost users in the area, including the Sullivan County Soil & Water Conservation District and the Rondout Neversink Stream Program. On April 9, we spoke to Brenden Wagner of the Rondout program. He had interesting feedback about their current compost uses. The program is funded by New York City Department of Environmental Protection and they currently use about 400-500 yards of compost annually for soil amendment and compost blanket applications. They have had issues sourcing consistent, quality materials. They have specific parameters that they like to see in a finished compost, but they were not able to provide the requested specifications in time for the drafting of this document. It would be worth evaluating at a future time.

Many agencies and other groups ranging from the NYS Department of Environmental Conservation to community gardens and other local organizations provide opportunities to explore potential compost use partnerships. Cornell Cooperative Extension has an office in Sullivan County and utilizing their agricultural

experts for demonstrations or material evaluations is a way to further build a program and encourage local demand for compost products. They could perform a side-by-side comparison of soil amended with your compost or assist in drafting educational materials for homeowners, landscapers or contractors.

*Stormwater Management*

One critical use for compost is as a stormwater management tool. Amending soil to increase water holding capacity or installing compost blankets to stabilize slopes and limit erosion are techniques frequently used to reduce stormwater runoff. That is the goal of programs like the Rondout Neversink stream program. Local ordinances and other regulatory practices can expand compost use with stormwater management in mind. The NYS DEC has extensive guidance relating to these approaches. Local adoption and training programs could be considered as a part of your program expansion as many municipalities and group are increasingly focused on water quality and management.

*Bagged Compost*

Some facilities look at expanding compost sales by bagging compost for sale. Bagged products have certain benefits and challenges. Materials can be bagged at times when bulk sales are slow. Along with extending the shelf life of finished compost, bagged products often travel much farther for sale. Regional production facilities sometimes distribute product in excess of 150 miles to a network of partners and retailers, whereas typical bulk compost sales are almost always limited to 50-100 miles from the source.

However, there are many challenges associated with bagging:

1) Labeling: Once an item is placed in a bag for retail sale, that bag is a 'guarantee' and a virtual contract. This means that you are providing a guaranteed weight or volume, nutrients and other parameters that require a complex label meeting all NYS Department of Agriculture & Markets requirements. The process of developing a bag and appropriate labeling that meets those standards can be expensive, require special consultants and take a long time for final state approval. Also, the plastic film that is used to create the bags is often requires large minimum orders and printing plates that increase in cost with custom colors or graphics. New York State is lucky to have a bag manufacturer in Albany called Clear View Bag Co that is a great resource if more information on the actual manufacture of a bag is needed.

2) Equipment: Hand bagging may be an option for very small amounts of material, but the labor required to fill and seal small bags is time-consuming physical work. Mechanical bagging equipment can be a large capital purchase depending on the scale of the endeavor. A bagging program requires additional storage conditions and a palletized system for distribution, as well as shrink wrap for shipping and forklifts for loading.

3) Material Storage: The compost bagging process often requires carefully managing the moisture content of the product. Covered storage is often needed to achieve the desired moisture for small-scale bagging machines, along with the space required for finished bagged compost. Once bagged and palletized, a large indoor area may need to be dedicated to material storage. Outdoor storage limits the shelf life of the plastic used in the bags.

Not to totally discount bagged products, OCRRA and the Schenectady Soil Water Conservation District have had success in bagged compost sales. OCRRA sells its bagged compost at over thirty local retailers[8].

The New York City Department of Sanitation (DSNY) had contracted with a commercial bagging company for many years to produce a bagged product for distribution. DSNY ships finished product and gets palletized bagged compost in return. This may be an option to consider for a more limited program to expand demand and ease of use for homeowners.

**How Compost Sales Work**

Included with this report is an extensive list of potential compost customers in Sullivan County and neighboring areas, compiled by Naturcycle staff. Potential customers are categorized into distinct groups: contractors, garden centers, golf courses, governments, institutions and school districts. Compost sales to each of these groups would be approached in different ways relating to their particular needs, but there is certainly some overlap in end uses. When considering next steps in a compost program there are three potential avenues for Sullivan County to pursue or some combination thereof: direct sales, block sales, and brokers.

*Direct Sales*

Direct sales require County staff and resources to offer the compost to consumers. Places like OCRRA and Ulster County sell material to end users, picked up by customers only. OCRRA sells material by the cubic yard and Ulster County by the ton. A facility will need to set a method for sales, collecting payments, credit card processing, labeling, detailed use instructions and more. Municipalities often face challenges with this model, as much of the compost market seeks delivered materials to a storage site or supply yard. This type of arrangement can be an issue for a government agency requiring bids for work. Scheduling is an issue as commercial users do not often plan far in advance as conditions drive the work timeline. In order to expand sales, municipalities often require a dedicated salesperson or representative to promote the product in the marketplace. Because compost is a well-known existing material that others are producing, active marketing and sales are important for growth. Material rarely 'sells itself' and without some push from an active marketing process, passive sales may not prove enough to clear a facility of all finished products. Composting is seen as a manufacturing process, but unlike the modern 'just in time' production strategy, compost is a constant-flow material that requires managed sales in order to stay ahead of production. Direct sales can be explored further with US Composting Council training, marketing firms, web developers and more. Direct sales may provide for the highest revenue, but often come with larger cash outputs to achieve success.

*Block Sales*

Some programs look to bulk, or 'block,' sales to move large volumes (e.g., thousands of cubic yards at a time). This may be done with an auction, bid, volume discounts, or some combination thereof. The focus is on clearing finished material from the facility, rather than highest pricing or best uses. This is a common approach in the State of New Jersey to move unscreened compost to market. There can be a vicious cycle in a bidding or auction scenario, as the local market understands that the goal is to move large volumes, not maximize revenue. As a result, bidders will often wait out the process or bid to lock up material and not actually remove that material from the site. Block sales are a difficult model to institute successfully. A detailed study of local laws and municipal sales of surplus materials is required.

*Brokers*

Another popular model is for a municipal program to enlist an outside partner to sell and/or market the finished compost materials. This could be done through a Request for Proposal process as a professional service, enlisting a third party that may have expertise in compost sales and applications. They can be given flexibility in product pricing and hiring trucking for delivery, along with providing a brand or technical support as part of the package. Firms like Agresource, WeCare Organics, Naturcycle and others are in the market to support this approach. Brokering arrangements are sometimes done through small local firms, like nurseries or sitework firms. One of the benefits of this type of arrangement is the flexibility it provides a municipal producer. The contracted relationship can be specifically designed to meet the unique needs of the composting facility. Brokers have long played an important role in growing the industry. Many of the larger firms, like Synagro, began mostly as brokers of organic residuals.

**Conclusion**

In-person meetings with local users may provide further information in selecting the best options for marketing. Further work to develop a marketing plan or sales approach should be conducted as a program is finalized and a site is designed.

Compost is an excellent option for organics management. With its existing markets, commodity status and industry support, pursuing a path to success is more likely. The long list of potential clients in the region, along with the existing requirements of the NYS DOT make the ability to sell easier. Looking at key market segments and studying the local competition will position Sullivan County for a strong future in organics management. Compost has become a household term and will continue to be the cornerstone of future organics management.

**Next Steps**

Included with this report is a list of over 500 potential local customers complied by Naturcycle (see Appendix C). In Sullivan County alone, we identified 26 contractors, 7 golf courses, 13 garden centers, 8 school districts and 15 institutions that are all potential compost customers. Additional customers include many villages, towns and other potential municipal users like the NYS DOT.

Recommended next steps are as follows:

1) Meet with Sullivan County Department of Planning, Community Development and Real Property: Discuss with the Department any existing specifications or regulations related to soil and soil disturbance. Many county-level Departments of Planning or Development rely upon the local soil and water district for guidance on stormwater regulation and site specifications. Naturcycle has spoken with the Sullivan County Soil Water Conservation District. Their current specifications, or suggested solutions, do not rely much upon compost. Influencing them may be the more likely path to growing compost applications than potential changes at the county level.

2) Meet with and review existing specifications used by the Sullivan County Department of Public Works: Often, County DPWs simply align their bidding and work specifications with the NYS DOT. It would be useful to meet with the road maintenance superintendent to receive input on any compost or soil uses in the county. Important questions include: What issues prevent the

department from using more compost? Are there any practices where we could expand the use of compost?

3) Meet with the Sullivan County Department of Parks, Recreation and Beautification: There are seven main facilities maintained by the Department. A list of questions can be generated for their director prior to a meeting with county staff. The lack of major athletic facilities may limit the potential for compost use at a large scale. Compost as a topsoil alternative for repairs or slope stabilization appears the more likely method for their use.

4) Meet with Resorts World: Large commercial properties often have a Director of Facilities or a Grounds Manager. An in-person meeting may be helpful to judge how they could benefit from access to a locally produced compost product for use on site.

5) Survey Golf Courses in Sullivan County: Develop a single page questionnaire so that county staff can ask local golf courses about management practices that may currently include compost or whether they would be open to compost use (see draft in Appendix D). A form that could be mailed or faxed to the course superintendents may be a useful, non-intrusive way to gather information on potential compost use and volumes they would be open to using. It would also be useful to gauge if they have the tools to spread the materials themselves.

6) Meet with Bethel Woods: Over the years, Bethel Woods has expanded and manicured its grounds extensively, with the use of specially engineered soils. Compost can play a key role in maintaining those landscapes. An in-person meeting with their grounds manager may provide great insight into their needs.

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# Appendix A

**SWOT Analysis of Proposed Facility**

The SWOT (Strengths, Weaknesses, Opportunities and Threats) Analysis has been a popular planning tool for corporations since its development in the 1960's at Stanford University as an organized method for analyzing future and executable plans. Naturcycle is including a condensed SWOT Analysis below for consideration based on the following assumptions:

- Proposed facility based on prior research performed by SCS for Sullivan County
- Annual production of 5,000 to 7,000 cubic yards
- Hybrid aerated static pile and windrow system
- Pre- and post-consumer food scraps and carbon feedstocks

| STRENGTHS | WEAKNESSES |
|---|---|
| • High-tech facility with technology that produces a consistent compost product<br>• Starting from scratch means that the site can be tailored to specific market demands (screen size, for example)<br>• Limited competition in Sullivan County | • Food scrap composting means no potential for "organic" certifications<br>• Proposed facility size may limit ability to service larger projects that may require several thousand yards of material<br>• COVID-19 may change food scrap collection standards and practices<br>• No existing brand or sales pathways<br>• Most compost end users are in urban and suburban areas, while Sullivan County is more rural |
| OPPORTUNITIES | THREATS |
| • Ability to customize final products to meet market demands<br>• New facility design/construction allows for adoption of up-to-date technology and best practices<br>• Organics diversion is expanding rapidly in New York State due to recent legislation and widespread social buy-in | • Large compost sites in neighboring counties, specifically Delaware County and Orange County<br>• Reduced highway construction forecast due to COVID-19 related budgetary issues in New York State<br>• PFA contamination concerns related to food scraps |

# Appendix B

# USCC STA Compost Technical Data Sheet

US COMPOSTING COUNCIL

*Seal of Testing Assurance*

**MCMUA PARSIPPANY COMPOST FACILITY**

500 West Hanover Ave
Parsippany NJ 07054
973-285-8389

*Product Name:* **Naturcycle Compost PT**
*Sample Date:* **4/9/20 2:00 PM**
*Receive Date:* **4/13/20 10:00 AM**
*A & L Lab Number:* **24432**
*A & L Report Number:* **F20104-6514**

# COMPOST TECHNICAL DATA SHEET

**A & L Great Lakes Laboratories, Inc. 3505 Conestoga Drive Fort Wayne IN 46808**

| *Compost Parameters* | *Method* | *Reported as (units of measure)* | *Test Results* | *Test Results* |
|---|---|---|---|---|
| Plant Nutrients: | | %, weight basis | %, wet weight basis | %, dry weight basis |
| Nitrogen | TMECC 04.02-D | Total N | 0.63 | 1.44 |
| Phosphorus | TMECC 04.03-A | $P_2O_5$ | 0.16 | 0.37 |
| Potassium | TMECC 04.04-A | $K_2O$ | 0.12 | 0.28 |
| Calcium | TMECC 04.05-CA | Ca | 0.92 | 2.08 |
| Magnesium | TMECC 04.05-MG | Mg | 0.22 | 0.50 |
| Moisture Content | TMECC 03.09-A | %, wet weight basis | 55.98 | |
| Organic Matter Content | TMECC 05.07-A | %, dry weight basis | 42.52 | |
| pH | TMECC 04.11-A | pH units | 7.2 | |
| Soluble Salts *(electrical conductivity $EC_5$)* | TMECC 04.10-A | dS/m (mmhos/cm) | 0.32 | |
| Particle Size | TMECC 02.02-B | % < 9.5 mm (3/8 in.), dw basis | 100.00 | |
| Stability Indicator *(respirometry)* | | | | |
| $CO_2$ Evolution | TMECC-05.08-B | mg $CO_2$-C/g OM/day | 1.4 | Stable |
| | | mg $CO_2$-C/g TS/day | 1.5 | |
| Maturity Indicator (bioassay) | | | | |
| Percent Emergence | TMECC 05.05-A | average % of control | 100 | |
| Relative Seedling Vigor | TMECC 05.05-A | average % of control | 98 | |
| Select Pathogens | TMECC 07.01-B | PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.32(a) | PASS | *FecalColiform* |
| Trace Metals | TMECC 04.06 | PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.13, Tables 1 and 3. | PASS | *As, Cd, Pb, Hg, Mo, Ni, Se, Zn* |

***Participants in the US Composting Council's Seal of Testing Assurance Program have shown the commitment to test their compost products on a prescribed basis and provide this data, along with compost end use instructions, as a means to better serve the needs of their compost customers.***

US COMPOSTING COUNCIL
Seal of Testing Assurance

**MCMUA PARSIPPANY COMPOST FACILITY**

500 West Hanover Ave
Parsippany NJ 07054
973-285-8389

*Product Name:* **Naturcycle Compost PT**
*Sample Date:* **4/9/20 2:00 PM**
*Receive Date:* **4/13/20 10:00 AM**
*A & L Lab Number:* **24432**
*A & L Report Number:* **F20104-6514**

# COMPOST TECHNICAL DATA SHEET

**A & L Great Lakes Laboratories, Inc. 3505 Conestoga Drive Fort Wayne IN 46808**

| *Compost Parameters* | *Method* | *Reported as (units of measure)* | *Test Results* | |
|---|---|---|---|---|
| Plant Nutrients: | | %, weight basis | Not Reported | |
| Moisture Content | TMECC 03.09-A | %, wet weight basis | 55.98 | |
| Organic Matter Content | TMECC 05.07-A | %, dry weight basis | 42.52 | |
| pH | TMECC 04.11-A | pH units | 7.2 | |
| Soluble Salts *(electrical conductivity $EC_5$)* | TMECC 04.10-A | dS/m (mmhos/cm) | 0.32 | |
| Particle Size | TMECC 02.02-B | % < 9.5 mm (3/8 in.), dw basis | 100.00 | |
| Stability Indicator *(respirometry)* | | | | *Stability Rating:* |
| $CO_2$ Evolution | TMECC 05.08-B | mg $CO_2$-C/g OM/day | 1.4 | Stable |
| | | mg $CO_2$-C/g TS/day | 1.5 | |
| Maturity Indicator (bioassay) | | | | |
| Percent Emergence | TMECC 05.05-A | average % of control | 100 | |
| Relative Seedling Vigor | TMECC 05.05-A | average % of control | 98 | |
| Select Pathogens | TMECC 07.01-B | PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.32(a) | PASS | *FecalColiform* |
| Trace Metals | TMECC 04.06 | PASS/FAIL: per US EPA Class A standard, 40 CFR § 503.13, | PASS | *As, Cd, Pb, Hg, Mo, Ni, Se, Zn* |

***Participants in the US Composting Council's Seal of Testing Assurance Program have shown the commitment to test their compost products on a prescribed basis and provide this data, along with compost end use instructions, as a means to better serve the needs of their compost customers.***

# Appendix C

# Potential Customers

| | | Naturcycle LLC Research | | MJR / CDD | |
|---|---|---|---|---|---|
| | Sullivan County and Surronding Area Potential Compost Users | | | | |
| | | April - May 2020 | | | |
| | | | | | |
| **County** | **Category** | **Business Name** | **Address1** | **Address2** | **Phone Number** |
| Delaware | Contractor | A-1 Landscape Lawn Care | 50 Front St | Deposit, NY 13754 | (607) 467-2269 |
| Delaware | Contractor | All Lawn Care & Landscaping | 122 Old Plank Rd | Deposit, NY 13754 | (607) 221-1678 |
| Delaware | Contractor | B & B Lawn Care & Landscaping | 123 Bob Hall Rd | Bovina Center, NY 13740 | (607) 832-4857 |
| Delaware | Contractor | Bourke Landscaping | 539 Perch Lake Rd | Andes, NY 13731 | (845) 676-4000 |
| Delaware | Contractor | Catskill Enterprises Inc | 29 Marvin Ave | Walton, NY 13856 | (607) 865-8912 |
| Delaware | Contractor | Catskill Landscaping Corp | 1571 Maggie Hoag Rd | Delancey, NY 13752 | (607) 746-7805 |
| Delaware | Contractor | CJR Enterprises | 2674 Warner Hill Rd | East Meredith, NY 13757 | (607) 746-3299 |
| Delaware | Contractor | Deposit Lawn Care Services | 698 Big Hollow Rd | Deposit, NY 13754 | (607) 467-1205 |
| Delaware | Contractor | Down To Earth Landscaping | 429 Jersey Rd | Delhi, NY 13753 | (607) 746-9844 |
| Delaware | Contractor | J & M Lawn Care | 2521 E Hubbell Hill Rd | Margaretville, NY 12455 | (845) 586-1789 |
| Delaware | Contractor | McIntosh Tree & Landscaping Service | 1975 Main St | Bovina Center, NY 13740 | (607) 832-4479 |
| Delaware | Contractor | Pardee Excavating & Landscaping | 4545 County Highway 2 | Delancey, NY 13752 | (607) 746-6930 |
| Delaware | Contractor | Santos Landscaping | 23 Broad Acres Rd | Margaretville, NY 12455 | (845) 254-6839 |
| Delaware | Contractor | Sunshine Valley Landscaping | 81 Liddle Rd | Margaretville, NY 12455 | (845) 901-0704 |
| Delaware | Contractor | The Lawn Guy | 96 Creamery Rd | Stamford, NY 12167 | (607) 434-2722 |
| Delaware | Contractor | Turfgrass Technologies | 16574 State Highway 23 | Davenport, NY 13750 | (607) 278-5729 |
| Delaware | Contractor | Wild Mountain Landscaping | 1545 Bennett Hollow Rd | Franklin, NY 13775 | (607) 829-3000 |
| Delaware | Garden Center | Botanical Treasures | 11 Maple Street | Franklin, NY 13775 | (607) 434-3076 |
| Delaware | Garden Center | Davenport Garden Center | 11600 State Highway 23 | Davenport Center, NY 13751 | (607) 278-6909 |
| Delaware | Garden Center | Greenane Garden Center | 196 County Highway 10 | Meridale, NY 13806 | (607) 746-8878 |
| Delaware | Garden Center | Jake's Place Garden & Farm | 25 West Street | Walton, NY 13856 | (607) 865-7622 |
| Delaware | Garden Center | Quarltere's Garden & Market | 48850 NY-30 | Roxbury, NY 12474 | (607) 326-4282 |
| Delaware | Garden Center | Railroad Ave Supply Co. | 5 Railroad Ave | Stamford, NY 12167 | (607) 652-7103 |
| Delaware | Garden Center | Stamford Farmers Cooperative | 6 South Street | Stamford, NY 12167 | (607) 652-7225 |
| Delaware | Garden Center | Sweet Meadows Country Home & Garden | 18269 NY-23 | Davenport, NY 13750 | (607) 278-4005 |
| Delaware | Garden Center | The Green Thumb | 37784 State Highway 10 | Hamden, NY 13782 | (607) 746-2248 |
| Delaware | Garden Center | Tractor Supply Co. | 174 Delaware Ave | Sidney, NY 13838 | (607) 563-1009 |
| Delaware | Garden Center | Wadler Bros Inc. | 47293 Old Route 28 | Fleischmanns, NY 12430 | (845) 254-5500 |
| Delaware | Garden Center | Westlake Ace Hardware | 1 Main St #7 | Delhi, NY 13753 | (607) 746-8810 |

| | | Naturcycle LLC Research | | MJR / CDD | |
|---|---|---|---|---|---|
| | Sullivan County and Surronding Area Potential Compost Users | | | | |
| | | April - May 2020 | | | |
| | | | | | |
| Delaware | Garden Center | Westlake Ace Hardware | 36 West Street | Walton, NY 13856 | (607) 510-4150 |
| Delaware | Golf Course | Crestview Heights Golf Club | 169 Forest Ln | West Oneonta, NY 13861 | (607) 267-4862 |
| Delaware | Golf Course | French Woods Golf & Country Club | 17440 NY-97 | Hancock, NY 13783 | (607) 637-1800 |
| Delaware | Golf Course | Hancock Golf Course | 522 Golf Course Rd | Hancock, NY 13783 | (607) 637-2480 |
| Delaware | Golf Course | Hardwood Hills Golf Course | 11160 NY-8 | Masonville, NY 13804 | (607) 467-1031 |
| Delaware | Golf Course | Ouleout Creek Golf Course | 13501 State Highway 357 | Franklin, NY 13775 | (607) 829-2100 |
| Delaware | Golf Course | Shephard Hills Golf Course | 185 Golf Course Rd | Roxbury, NY 12474 | (607) 326-7121 |
| Delaware | Golf Course | Sidney Golf & Country Club | 1987 Co Rd 4 | Sidney, NY 13838 | (607) 563-8381 |
| Delaware | Golf Course | Stamford Golf Club | 163 Taylor Rd | Stamford, NY 12167 | (607) 652-7398 |
| Delaware | Golf Course | The College Golf Course at Delhi | 85 Scotch Mountain Rd | Delhi, NY 13753 | (607) 746-4653 |
| Delaware | Golf Course | The Meadows Golf Center | 42565 State Highway 28 | Margaretville, NY 12455 | (845) 586-4104 |
| Delaware | Government | Delaware County Buildings & Grounds | 111 Main Street, Suite 2 | Delhi, New York 13753 | (607) 832-5050 |
| Delaware | Government | Delaware County DPW | P.O. Box 311 | Delhi, New York 13753 | (607) 832-5800 |
| Delaware | Government | Delaware County Soil & Water | 44 West St #1 | Walton, NY 13856 | (607) 865-7161 |
| Delaware | Government | Town of Andes Highway Dept. | P.O. Box 246 | Andes, NY 13731 | (845) 676-4781 |
| Delaware | Government | Town of Bovina Highway Dept. | 1580 County Highway 6 | Bovina Center, NY 13740 | (607) 832-4220 |
| Delaware | Government | Town of Colchester Highway Dept. | 6292 River Rd | Downsville, NY 13755 | (607) 363-2239 |
| Delaware | Government | Town of Davenport Highway Dept. | P.O. Box 3 | Davenport Center, NY 13751 | (607) 278-6070 |
| Delaware | Government | Town of Delhi Highway Dept. | 3 Elm Street | Delhi, NY 13753 | (607) 746-2237 |
| Delaware | Government | Town of Deposit Highway Dept. | 2346 County Hwy 20 | Deposit, NY 13754 | (607) 467-3394 |
| Delaware | Government | Town of Franklin Highway Dept. | P.O. Box 124 | Franklin, NY 13775 | (607) 829-2211 |
| Delaware | Government | Town of Hamden Highway Dept. | 2429 Covert Hollow Road | Hamden, NY 13782 | (607) 746-6890 |
| Delaware | Government | Town of Hancock Highway Dept. | 661 West Main Street | Hancock, NY 13783 | (607) 637-3651 |
| Delaware | Government | Town of Harpersfield Highway Dept. | 4141 County Hwy 29 | Jefferson, NY 12093 | (607) 652-7498 |
| Delaware | Government | Town of Kortright Haighway Dept. | P.O. Box 6 | Bloomville, NY 13739 | (607) 538-9021 |
| Delaware | Government | Town of Masonville Highway Dept. | P.O. Box 384 | Masonville, NY 13804 | (607) 265-4010 |
| Delaware | Government | Town of Meredith Highway Dept. | P.O. Box 116 | Meridale, NY 13806 | (607) 746-7114 |
| Delaware | Government | Town of Middletown Highway Dept. | P.O. Box 577 | Margaretville, NY 12455 | (845) 586-2653 |
| Delaware | Government | Town of Roxbury Highway Dept. | P.O. Box 189 | Roxbury, NY 12474 | (607) 326-4222 |
| Delaware | Government | Town of Sidney Highway Dept. | 21 Liberty Street, Suite 18 | Sidney, NY 13838 | (607) 369-9152 |

| | | Naturcycle LLC Research | | MJR / CDD | |
|---|---|---|---|---|---|
| | Sullivan County and Surronding Area Potential Compost Users | | | | |
| | | April - May 2020 | | | |
| | | | | | |
| Delaware | Government | Town of Stamford Highway Dept. | 42 Main Street | Stamford, NY 12167 | (607) 538-9971 |
| Delaware | Government | Town of Tompkins Highway Dept. | P.O. Box 4 | Trout Creek, NY 13847 | (607) 865-4979 |
| Delaware | Government | Town of Walton Highway Dept. | 25091 State Hwy 10 | Walton, NY 13856 | (607) 865-5120 |
| Delaware | Government | Village of Delhi DPW | P.O. Box 328 | Delhi, NY 13753 | (607) 746-2257 |
| Delaware | Government | Village of Deposit DPW | 146 Front Street | Deposit, NY 13754 | (607) 467-1118 |
| Delaware | Government | Village of Fleischmanns DPW | P.O. Box 339 | Fleischmanns, NY 12430 | (845) 254-5514 |
| Delaware | Government | Village of Franklin DPW | P.O. Box 886 | Franklin, NY 13775 | (607) 829-3782 |
| Delaware | Government | Village of Hancock DPW | 85 E. Front Street | Hancock, NY 13783 | (607) 637-3316 |
| Delaware | Government | Village of Margaretville DPW | P.O. Box 572 | Margaretville, NY 12455 | (845) 586-3700 |
| Delaware | Government | Village of Sidney DPW | 28 Sherman Avenue | Sidney, NY 13838 | (607) 561-2329 |
| Delaware | Government | Village of Stamford DPW | 84 Main Street | Stamford, NY 12167 | (607) 652-4710 |
| Delaware | Government | Village of Walton DPW | 21 North Street | Walton, NY 13856 | (607) 865-6110 |
| Delaware | Institution | Belleayre Mountain Ski Center | 181 Galli Curci Rd | Highmount, NY 12441 | (845) 254-5600 |
| Delaware | Institution | Northern Catskill Occupations Center | P.O. Box 382 | Grand Gorge, NY 12434 | (607) 588-6291 |
| Delaware | Institution | Plattekill Mountain | 469 Plattekill Rd | Roxbury, NY 12474 | (607) 326-3500 |
| Delaware | Institution | Robert W. Nichol Center | 404 W Main St | Hancock, NY 13783 | (607) 637-5265 |
| Delaware | Institution | SUNY Delhi | 454 Delhi Dr | Delhi, NY 13753 | (607) 746-4000 |
| Delaware | School Dist. | Andes Central School District | P.O. Box 248 | Andes, NY 13731 | (845) 676-3166 |
| Delaware | School Dist. | Charlotte Valley Central School District | 15611 St. Hwy. 23 | Davenport, NY 13750 | (607) 278-5511 |
| Delaware | School Dist. | Dehli Central School District | 2 Sheldon Drive | Delhi, NY 13753 | (607) 746-1300 |
| Delaware | School Dist. | Deposit Central School District | 171 Second Street | Deposit, NY 13754 | (607) 467-2197 |
| Delaware | School Dist. | Downsville Central School District | 14784 State Hwy 30 | Downsville, NY 13755 | (607) 363-2100 |
| Delaware | School Dist. | Franklin Central School District | P.O. Box 888 | Franklin, NY 13775 | (607) 829-3551 |
| Delaware | School Dist. | Hancock Central School District | 67 Education Lane | Hancock, NY 13783 | (607) 637-1301 |
| Delaware | School Dist. | Margaretville Central School District | P.O. Box 319 | Margaretville, NY 12455 | (845) 586-2647 |
| Delaware | School Dist. | Roxbury Central School District | 53729 State Hwy 30 | Roxbury, NY 12474 | (607) 326-4151 |
| Delaware | School Dist. | Sidney Central School District | 95 West Main Street | Sidney, NY 13838 | (607) 561-7700 |
| Delaware | School Dist. | South Kortright Central School District | 58200 St. Rt. 10 | South Kortright, NY 13842 | (607) 538-9111 |
| Delaware | School Dist. | Stamford Central School District | 1 River Street | Stamford, NY 12167 | (607) 652-7301 |
| Delaware | School Dist. | Walton Central School District | 47-49 Stockton Avenue | Walton, NY 13856 | (607) 865-4116 |

| | | Naturcycle LLC Research | | MJR / CDD | |
|---|---|---|---|---|---|
| | Sullivan County and Surronding Area Potential Compost Users | | | | |
| | | April - May 2020 | | | |
| | | | | | |
| Orange | Contractor | 4 Seasons Tree Service | 47 Sloane Rd | Newburgh, NY 12550 | (845) 275-0811 |
| Orange | Contractor | 84 Landscaping Inc | 43 Taft Ave | Newburgh, NY 12550 | (845) 565-5511 |
| Orange | Contractor | Adler's Topsoil Supply | 895 Pulaski Hwy | Goshen, NY 10924 | (845) 651-4177 |
| Orange | Contractor | Adrian Woodward Landscaping | 11 Maurice Ln | Newburgh, NY 12550 | (845) 569-8795 |
| Orange | Contractor | All In One Property Management Services | 610 Broadway, Suite 446 | Newburgh, NY 12550 | (845) 232-0308 |
| Orange | Contractor | Allegro Landscaping | 68 South St | Goshen, NY 10924 | (845) 294-8119 |
| Orange | Contractor | Black Rock Landscape Group | 18 Algonquin Dr | Newburgh, NY 12550 | (914) 960-8383 |
| Orange | Contractor | Blue Skies Landscaping | 308 Maple Ave | Goshen, NY 10924 | (845) 346-1954 |
| Orange | Contractor | Community Landscape Inc | 12 Old Minisink Trl | Goshen, NY 10924 | (845) 294-9958 |
| Orange | Contractor | Crystal Clean Landscaping | 13 Putters Way | Middletown, NY 10940 | (914) 443-4999 |
| Orange | Contractor | Dave's Landscaping | 17 Noviski Ln | Pine Island, NY 10969 | (845) 258-4107 |
| Orange | Contractor | Diamond Landscaping | 1 Connolly Way | Newburgh, NY 12550 | (845) 565-1924 |
| Orange | Contractor | Double Cut Landscaping | 5 Autumn Trl | Goshen, NY 10924 | (845) 806-7676 |
| Orange | Contractor | Eagle Creek Landscaping Inc | 45 Farmingdale Rd | Goshen, NY 10924 | (845) 294-0146 |
| Orange | Contractor | Environmental Dreamscapes | 5465 Route 9W | Newburgh, NY 12550 | (877) 540-6817 |
| Orange | Contractor | EZ-Way Lawn Care & Sod Installation | 59 Fowler St | Port Jervis, NY 12771 | (845) 856-4201 |
| Orange | Contractor | Grabowski's Landscaping | 54 Mill St | Middletown, NY 10940 | (845) 343-2916 |
| Orange | Contractor | Greenwood Tree Service & Landscaping | 3 Ricki Ln | Chester, NY 10918 | (845) 469-5393 |
| Orange | Contractor | Grogan Excavating LLC | 157 Elm St | Walden, NY 12586 | (845) 567-2767 |
| Orange | Contractor | H & G Landscaping | 26 Anthony St | Middletown, NY 10940 | (845) 500-6093 |
| Orange | Contractor | Honest Landscaping & Interiors | P.O. Box 33 | Goshen, NY 10924 | (727) 637-8014 |
| Orange | Contractor | Howell's Lawn Service Inc | 380 Scotchtown Rd | Goshen, NY 10924 | (845) 294-8999 |
| Orange | Contractor | Land Worx Of New York Inc | 4239 Rt. 94 | Goshen, NY 10924 | (845) 651-5376 |
| Orange | Contractor | Larry's Landscape & Lawncare | 16 Green Briar Rd | Port Jervis, NY 12771 | (845) 858-9226 |
| Orange | Contractor | Lawn Lizard | 52 Gregory Dr | Goshen, NY 10924 | (845) 355-2576 |
| Orange | Contractor | Lynn Warren Landscaping | 1450 Route 300, Ste 202 | Newburgh, NY 12550 | (845) 564-8760 |
| Orange | Contractor | M & J Landscaping | 24 Mulford Rd | Middletown, NY 10940 | (845) 754-4979 |
| Orange | Contractor | Material Processors, Inc. | 280 State School Rd | Warwick, NY 10990 | (845) 986-1366 |
| Orange | Contractor | McCarey Landscaping Inc | 80 Tower Dr | Middletown, NY 10941 | (845) 956-7000 |
| Orange | Contractor | Minisink Valley Lawn & Landscape | 99 Burnt Corners Rd | Middletown, NY 10940 | (845) 355-1645 |

| | | Naturcycle LLC Research | | MJR / CDD | |
|---|---|---|---|---|---|
| | Sullivan County and Surronding Area Potential Compost Users | | | | |
| | | April - May 2020 | | | |
| | | | | | |
| Orange | Contractor | New Hampton Lawn Care | 860 Ridgebury Rd | New Hampton, NY 10958 | (845) 741-7006 |
| Orange | Contractor | North East Landscape Contractors | 2709 Route 17M | Goshen, NY 10924 | (845) 294-0999 |
| Orange | Contractor | Pennings Lawn Care & Landscaping Inc | 103 Hoyt Rd | Warwick, NY 10990 | (845) 986-8688 |
| Orange | Contractor | Perfect Cut Landscaping | 10a Mcnamara Ln | Goshen, NY 10924 | (845) 651-4263 |
| Orange | Contractor | Peters Landscapes Inc | 287 Mt Eve Rd | Goshen, NY 10924 | (845) 651-2175 |
| Orange | Contractor | Priority Landscaping | 42 Sproat St | Middletown, NY 10940 | (845) 343-3240 |
| Orange | Contractor | Procak Property Management | 325 Franke Rd | Huguenot, NY 12746 | (845) 741-8941 |
| Orange | Contractor | Pro-Cut Landscaping | 286 N Plank Rd | Newburgh, NY 12550 | (845) 564-0034 |
| Orange | Contractor | R Brewer Landscaping | 1785 Route 300 | Newburgh, NY 12550 | (845) 566-0974 |
| Orange | Contractor | R McCormick Landscaping | 19 Innis Ave | Newburgh, NY 12550 | (845) 591-7012 |
| Orange | Contractor | Snappy Lawn Service | 208 Route 209 | Port Jervis, NY 12771 | (845) 856-2489 |
| Orange | Contractor | Stony Ford Lawncare | 579 Stony Ford Rd | Middletown, NY 10941 | (845) 692-2373 |
| Orange | Contractor | Tony Monaco Landscaping Inc | 60 Scotchtown Dr | Middletown, NY 10941 | (845) 343-9772 |
| Orange | Contractor | Two Brothers Landscaping | 40 Hawthorne Ave, Apt 1 | Newburgh, NY 12550 | (845) 561-9300 |
| Orange | Contractor | U.S. Lawns | 241 Monhagen Ave | Middletown, NY 10940 | (845) 591-7068 |
| Orange | Contractor | Urato Landscaping | 4 Laura Ln | New Hampton, NY 10958 | (845) 519-0647 |
| Orange | Contractor | Whitney's Landscaping & Lawn | 35 Foss Ln | Huguenot, NY 12746 | (845) 856-1425 |
| Orange | Garden Center | A Thru Z Landscape Materials & Top Soil | 3037 Route 6 | Slate Hill, NY 10973 | (845) 355-8290 |
| Orange | Garden Center | Beck's Home & Garden | 105 Depot St | Pine Bush, NY 12566 | (845) 744-2011 |
| Orange | Garden Center | Brett's True Value | 59 N Plank Rd | Newburgh, NY 12550 | (845) 562-3234 |
| Orange | Garden Center | Depew Nursery & Garden Center Inc | 5182 Route 9W | Newburgh, NY 12550 | (845) 565-7220 |
| Orange | Garden Center | Devitt's Nursery & Supply | 56 Devitts Cir | New Windsor, NY 12553 | (845) 561-1968 |
| Orange | Garden Center | DJM Enterprises | 108 Maybrook Rd | Campbell Hall, NY 10916 | (845) 427-5328 |
| Orange | Garden Center | Goshen Hardware | 44 W Main St | Goshen, NY 10924 | (845) 294-7925 |
| Orange | Garden Center | Greenwood Lake Garden & Farm Market | 1197 State Route 17A | Greenwood Lake, NY 10925 | (845) 595-1579 |
| Orange | Garden Center | Greenwood True Value | 77 Windermere Ave | Greenwood Lake, NY 10925 | (845) 477-3327 |
| Orange | Garden Center | Hickory Hollow Nursery Garden Center | 713 State Route 17A | Tuxedo Park, NY 10987 | (845) 351-7226 |
| Orange | Garden Center | Hoffman's True Value Hardware | 302 Main St | Highland Falls, NY 10928 | (845) 446-4541 |
| Orange | Garden Center | Home Depot | 474 Route 211 East | Middletown, NY 10940 | (845) 343-9200 |
| Orange | Garden Center | Home Depot | 1220 NY-300 | Newburgh, NY 12550 | (845) 561-6540 |

| | | Naturcycle LLC Research | | MJR / CDD | |
|---|---|---|---|---|---|
| | Sullivan County and Surronding Area Potential Compost Users | | | | |
| | | April - May 2020 | | | |
| | | | | | |
| Orange | Garden Center | Home Depot | 254 Larkin Dr | Monroe, NY 10950 | (845) 781-4307 |
| Orange | Garden Center | Jansen E P Nursery Wholesalers | 161 Glenmere Ave | Florida, NY 10921 | (845) 651-4144 |
| Orange | Garden Center | Julia's Garden | 22 Pipers Ln | Warwick, NY 10990 | (845) 986-1953 |
| Orange | Garden Center | Kimiecik Landscaping Inc | 10 Fox Rd | Florida, NY 10921 | (845) 651-4661 |
| Orange | Garden Center | Lowe's Home Improvement | 700 N Galleria Dr | Middletown, NY 10941 | (845) 692-8044 |
| Orange | Garden Center | Lowe's Home Improvement | 3924 Summerville Way | Chester, NY 10918 | (845) 572-2400 |
| Orange | Garden Center | Lowe's Home Improvement | 1239 Route 300 | Newburgh, NY 12550 | (845) 567-2860 |
| Orange | Garden Center | Maples Farm | 749 Route 17M | Middletown, NY 10940 | (845) 344-0330 |
| Orange | Garden Center | Mulch Right | 76 Skinners Ln | Goshen, NY 10924 | (833) 205-8618 |
| Orange | Garden Center | Natures View Incorporated | 83 Evan Rd | Warwick, NY 10990 | (845) 987-7947 |
| Orange | Garden Center | Otisville True Value Hardware | 10 Wallace St | Otisville, NY 10963 | (845) 386-3343 |
| Orange | Garden Center | Scott's Corners Hardware | 1037 NY-17K | Montgomery, NY 12549 | (845) 457-5005 |
| Orange | Garden Center | Thruway Ace Hardware | 78 Oak St | Walden, NY 12586 | (845) 778-6634 |
| Orange | Garden Center | Torrisi's Agway | 2921 US-6 | Slate Hill, NY 10973 | (845) 355-8880 |
| Orange | Garden Center | Tractor Supply Co. | 61 Tower Dr | Middletown, NY 10941 | (845) 692-2447 |
| Orange | Garden Center | Tractor Supply Co. | 78 Brookside Ave, Ste 152 | Chester, NY 10918 | (845) 469-1732 |
| Orange | Garden Center | Tractor Supply Co. | 2401 NY-52 | Pine Bush, NY 12566 | (845) 744-8109 |
| Orange | Garden Center | Tractor Supply Co. | 127 Temple Hill Rd | New Windsor, NY 12553 | (845) 565-4690 |
| Orange | Garden Center | Walmart Supercenter | 288 Larkin Dr | Monroe, NY 10950 | (845) 783-3505 |
| Orange | Garden Center | Walmart Supercenter | 1201 NY-300 | Newburgh, NY 12550 | (845) 567-6007 |
| Orange | Garden Center | Walmart Supercenter | 470 NY-211 E | Middletown, NY 10940 | (845) 342-0222 |
| Orange | Garden Center | Werner's Ace Hardware | 8-10 N Main St | Florida, NY 10921 | (845) 651-3011 |
| Orange | Golf Course | Central Valley Golf Club | 206 Smith Clove Rd | Central Valley, NY 10917 | (845) 928-6924 |
| Orange | Golf Course | Eagle Drive Golf | 1 Durland Rd | Florida, NY 10921 | (845) 651-5001 |
| Orange | Golf Course | Falkirk Estate & Country Club | 206 Smith Clove Rd | Central Valley, NY 10917 | (845) 928-8060 |
| Orange | Golf Course | Green Ridge Golf Club | 204 Gregory Rd | Johnson, NY 10933 | (845) 355-1317 |
| Orange | Golf Course | Hickory Hill Golf Course | 156 Route 17A | Warwick, NY 10990 | (845) 988-9501 |
| Orange | Golf Course | Monroe Country Club | 63 Still Rd | Monroe, NY 10950 | (845) 783-9045 |
| Orange | Golf Course | Osiris Country Club | 110 Country Club Rd | Walden, NY 12586 | (845) 778-5309 |
| Orange | Golf Course | Otterkill Golf & Country Club | 100 Otter Rd | Campbell Hall, NY 10916 | (845) 427-2020 |

| | | Naturcycle LLC Research | | MJR / CDD | |
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| | Sullivan County and Surronding Area Potential Compost Users | | | | |
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| Orange | Golf Course | Scenic Farms Golf Course | 525 Glenwood Rd | Pine Island, NY 10969 | (845) 258-4455 |
| Orange | Golf Course | Scott's Corner Golf Course | 1 Roswin Ln | Montgomery, NY 12549 | (845) 457-9141 |
| Orange | Golf Course | Stony Ford Golf Course | 217 State Route 416 | Campbell Hall, NY 10916 | (845) 457-4949 |
| Orange | Golf Course | Storm King Golf Club | 18 Ridge Rd | Cornwall, NY 12518 | (845) 534-3899 |
| Orange | Golf Course | Tamaqua Golf Course | 157 Fordlea Rd | Unionville, NY 10988 | (845) 726-3660 |
| Orange | Golf Course | The Golf Center | 130 Dolson Ave, Suite 6 | Middletown, NY 10940 | (845) 344-5505 |
| Orange | Golf Course | The Golf Club at Mansion Ridge | 1292 Orange Turnpike | Monroe, NY 10950 | (845) 782-7888 |
| Orange | Golf Course | The Lynx at River Bend Golf Club | 87 Neversink Dr | Port Jervis, NY 12771 | (845) 858-4653 |
| Orange | Golf Course | Turtle Creek Golf Course | 219 Plattekill Ardonia Rd | Wallkill, NY 12589 | (845) 564-3220 |
| Orange | Golf Course | Wallkill Golf Club | 40 Sands Rd | Middletown, NY 10941 | (845) 361-1022 |
| Orange | Golf Course | Warwick Valley Country Club | 42 Oakland Ave | Warwick, NY 10990 | (845) 986-9609 |
| Orange | Golf Course | West Hills Country Club | 121 Golf Links Rd | Middletown, NY 10940 | (845) 341-1899 |
| Orange | Golf Course | West Point Golf Course | 718 Victor Constant Rd | West Point, NY 10996 | (845) 938-2435 |
| Orange | Golf Course | Winding Hills Golf Club | 1847 State Route 17K | Montgomery, NY 12549 | (845) 457-3187 |
| Orange | Government | City of Middletown DPW | 16 James Street | Middletown, NY 10940 | (845) 343-3169 |
| Orange | Government | City of Middletown Parks Dept. | 47 Academy Avenue | Middletown, NY 10940 | (845) 346-4180 |
| Orange | Government | City of Newburgh DPW | 88 Pierces Road | Newburgh, NY 12550 | (845) 565-3297 |
| Orange | Government | City of Port Jervis DPW | 20 Hammond St | Port Jervis, NY 12771 | (845) 858-4001 |
| Orange | Government | Orange County DPW | P.O. Box 509 | Goshen, NY 10924 | (845) 291-2750 |
| Orange | Government | Orange County Parks Dept. | 211 Route 416 | Montgomery, NY 12549 | (845) 615-3830 |
| Orange | Government | Orange County Soil & Water | 225 Dolson Ave, #103 | Middletown, NY 10940 | (845) 343-1873 |
| Orange | Government | Town of Blooming Grove Highway Dept. | 2741 Route 94 | Blooming Grove, NY 10914 | (845) 496-3816 |
| Orange | Government | Town of Blooming Grove Parks Dept. | 6 Horton Road | Blooming Grove, NY 10914 | (845) 496-5223 |
| Orange | Government | Town of Chester Highway Dept. | 77 Laroe Rd | Chester, NY 10918 | (845) 469-4101 |
| Orange | Government | Town of Cornwall Building & Grounds | 183 Main Street | Cornwall, NY 12518 | (845) 534-8938 |
| Orange | Government | Town of Cornwall Highway Dept. | 184 Main Street | Cornwall, NY 12519 | (845) 534-2171 |
| Orange | Government | Town of Crawford Highway Dept. | 121 Route 302 | Pine Bush, NY 12566 | (845) 744-8069 |
| Orange | Government | Town of Crawford Parks Dept. | 121 Route 302 | Pine Bush, NY 12566 | (845) 744-2029 |
| Orange | Government | Town of Deerpark Highway Dept. | P.O. Box 621 | Huguenot, NY 12746 | (845)-856-2210 |
| Orange | Government | Town of Goshen Highway Dept. | 41 Webster Avenue | Goshen, NY 10924 | (845) 294-6033 |

| | | Naturcycle LLC Research | | MJR / CDD | |
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| | Sullivan County and Surronding Area Potential Compost Users | | | | |
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| Orange | Government | Town of Greenville Highway Dept. | 1537 US Highway 6 | Port Jervis, NY 12771 | (845) 856-6045 |
| Orange | Government | Town of Hamptonburgh Highway Dept. | 18 Bull Rd | Campbell Hall, NY 10916 | (845) 496-3444 |
| Orange | Government | Town of Highlands Highway Dept. | 1530 Route 9W | Highland Falls, NY 10928 | (845) 446-3800 |
| Orange | Government | Town of Minisink Highway Dept. | 20 Roy Smith Drive | Westtown, NY 10998 | (845) 726-4141 |
| Orange | Government | Town of Minisink Parks Dept. | 20 Roy Smith Drive | Westtown, NY 10998 | (845) 726-3700 |
| Orange | Government | Town of Monroe Highway Dept. | 87 Mine Road | Monroe, NY 10950 | (845) 783-1900 |
| Orange | Government | Town of Montgomery Highway Dept. | 110 Bracken Road | Montgomery, NY 12549 | (845) 457-2610 |
| Orange | Government | Town of Mount Hope Highway Dept. | 1706 Route 211W | Otisville, NY 10963 | (845) 386-5603 |
| Orange | Government | Town of New Windsor Buildings & Grounds | 887 Brooks Street | New Windsor, NY 12553 | (845) 565-8800 |
| Orange | Government | Town of New Windsor Highway Dept. | 196 Perimeter Rd | New Windsor, NY 12553 | (845) 564-6660 |
| Orange | Government | Town of Newburgh Highway Dept. | 90 Gardnertown Road | Newburgh, NY 12550 | (845) 561-2177 |
| Orange | Government | Town of Tuxedo Highway Dept. | 984 Long Meadow Road | Tuxedo, NY 10987 | (845) 351-2594 |
| Orange | Government | Town of Wallkill Highway Dept. | 860 Route 17M | Middletown, NY 10940 | (845) 361-1106 |
| Orange | Government | Town of Wallkill Parks Dept. | 50 Creamery Road | Circleville, NY 10919 | (845) 361-2422 |
| Orange | Government | Town of Warwick DPW | 65 Public Works Road | Warwick, NY 10990 | (845) 986-3358 |
| Orange | Government | Town of Wawayanda Highway Dept | 80 Ridgebury Hill Road | Slate Hill, NY 10973 | (845) 355-5700 |
| Orange | Government | Town of Woodbury Parks Dept. | P.O. Box 1004 | Highland Mills, NY 10930 | (845) 928-9588 |
| Orange | Government | Village of Chester DPW | 3 Vadala Rd | Chester, NY 10918 | (845) 469-4192 |
| Orange | Government | Village of Cornwall-on-Hudson DPW | 50 Shore Road | Cornwall-on-Hudson, NY 12520 | (845) 534-7600 |
| Orange | Government | Village of Florida Highway Dept. | 45 Maple Ave | Florida, NY 10921 | (845) 651-4332 |
| Orange | Government | Village of Florida Parks Dept. | 33 South Main St | Florida NY, 10921 | (845) 651-7815 |
| Orange | Government | Village of Goshen DPW | 276 Main Street | Goshen, NY 10924 | (845) 294-6288 |
| Orange | Government | Village of Goshen Parks Dept. | 276 Main Street, 2nd Floor | Goshen, NY 10924 | (845) 294-1558 |
| Orange | Government | Village of Greenwood Lake DPW | P.O. Box 7 | Greenwood Lake, NY 10925 | (845) 477-9215 |
| Orange | Government | Village of Harriman DPW | 1 Church St | Harriman, NY 10926 | (845) 783-0762 |
| Orange | Government | Village of Highland Falls DPW | 303 Main St | Highland Falls, NY 10928 | (845) 446-4096 |
| Orange | Government | Village of Maybrook DPW | 111 Shipps Lane | Maybrook, NY 12543 | (845) 427-2717 |
| Orange | Government | Village of Monroe DPW | 7 Stage Rd | Monroe, NY 10950 | (845) 782-8341 |
| Orange | Government | Village of Montgomery DPW | 133 Clinton Street | Montgomery, NY 12549 | (845) 457-9661 |
| Orange | Government | Village of Otisville DPW | 66 Highland Ave | Otisville, NY 10963 | (845) 386-5172 |

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| Orange | Government | Village of Tuxedo Park DPW | P.O. Box 31 | Tuxedo Park, NY 10987 | (845) 351-4743 |
| Orange | Government | Village of Unionville DPW | P.O. Box 148 | Unionville, NY 10988 | (845) 726-3681 |
| Orange | Government | Village of Walden DPW | 12 Bradley Lane | Walden, NY 12586 | (845) 778-2177 |
| Orange | Government | Village of Walden Parks Dept. | 1 Municipal Square | Walden, NY 12586 | (845) 778-2177 |
| Orange | Government | Village of Warwick DPW | P.O. Box 369 | Warwick, NY 10990 | (845) 986-2031 |
| Orange | Government | Village of Washingtonville DPW | 1 Walt Cole Blvd | Washingtonville, NY 10992 | (845) 496-1032 |
| Orange | Government | Village of Woodbury Highway Dept. | P.O. Box 546 | Central Valley, NY 10917 | (845) 928-6912 |
| Orange | Institution | Harness Racing Museum & Hall Of Fame | 240 Main St | Goshen, NY 10924 | (845) 294-6330 |
| Orange | Institution | LEGOLAND of New York | 420 Harriman Dr | Goshen, NY 10924 | (866) 249-0908 |
| Orange | Institution | Mount Peter Ski Area | 51 Old Mt Peter Rd | Warwick, NY 10990 | (845) 986-4940 |
| Orange | Institution | Mount Saint Mary College | 330 Powell Ave | Newburgh, NY 12550 | (845) 561-0800 |
| Orange | Institution | Orange County Community College | 115 South St | Middletown, NY 10940 | (845) 344-6222 |
| Orange | Institution | Orange County Correctional Facility | 110 Wells Farm Rd | Goshen, NY 10924 | (845) 291-4033 |
| Orange | Institution | Orange County Fair Speedway | 239 Wisner Ave | Middletown, NY 10940 | (845) 342-2573 |
| Orange | Institution | Orange Regional Medical Center | 707 E Main St | Middletown, NY 10940 | (845) 333-1000 |
| Orange | Institution | Orange-Ulster BOCES | 53 Gibson Rd | Goshen, NY 10924 | (845) 291-0100 |
| Orange | Institution | Stewart International Airport | 1180 1st St | New Windsor, NY 12553 | (845) 838-8200 |
| Orange | Institution | Storm King Art Center | 1 Museum Rd | New Windsor, NY 12553 | (845) 534-3115 |
| Orange | Institution | The Castle Fun Center | 109 Brookside Ave | Chester, NY 10918 | (845) 469-2116 |
| Orange | Institution | The New York Renaissance Faire | 600 NY-17A | Tuxedo Park, NY 10987 | (845) 351-5171 |
| Orange | Institution | Trailside Museums & Zoo | P.O. Box 427 | Bear Mountain, NY 10911 | (845) 786-2701 |
| Orange | Institution | United States Military Academy | 606 Thayer Rd | West Point, NY 10996 | (845) 938-4011 |
| Orange | Institution | Woodbury Common Premium Outlets | 498 Red Apple Ct | Central Valley, NY 10917 | (845) 928-4000 |
| Orange | School Dist. | Chester Union Free School District | 64 Hambletonian Avenue | Chester, NY 10918 | (845) 469-5052 |
| Orange | School Dist. | Cornwall Central School District | 24 Idlewild Avenue | Cornwall-on-Hudson, NY 12520 | (845) 534-8009 |
| Orange | School Dist. | Florida Union Free School District | 51 North Main Street | Florida, NY 10921 | (845) 651-3095 |
| Orange | School Dist. | Goshen Central School District | 227 Main Street | Goshen, NY 10924 | (845) 294-2410 |
| Orange | School Dist. | Greenwood Lake Union Free School District | 80 Waterstone Road | Greenwood Lake, NY 10925 | (845) 477-7395 |
| Orange | School Dist. | Highland Falls Central School District | 21 Morgan Road | Fort Montgomery, NY 10922 | (845) 446-9575 |
| Orange | School Dist. | Kiryas Joel Union Free School District | 51 Forest Rd, Suite 315 | Monroe, NY 10950 | (845) 782-2300 |

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| Orange | School Dist. | Middletown City School District | 223 Wisner Avenue Ext | Middletown, NY 10940 | (845) 341-5205 |
| Orange | School Dist. | Minisink Valley Central School District | 2320 Route 6 | Middletown, NY 10940 | (845) 355-5110 |
| Orange | School Dist. | Monroe-Woodbury Central School District | 278 Route 32 | Central Valley, NY 10917 | (845) 460-6200 |
| Orange | School Dist. | Newburgh City School District | 124 Grand Street | Newburgh, NY 12550 | (845) 563-3500 |
| Orange | School Dist. | Pine Bush Central School District | 156 State Route 302 | Pine Bush, NY 12566 | (845) 744-2031 |
| Orange | School Dist. | Port Jervis City School District | 9 Thompson Street | Port Jervis, NY 12771 | (845) 858-3175 |
| Orange | School Dist. | Tuxedo Union Free School District | 1 Tomato Drive | Tuxedo Park, NY 10987 | (845) 351-4799 |
| Orange | School Dist. | Valley Central School District | 944 State Route 17K | Montgomery, NY 12549 | (845) 457-2400 |
| Orange | School Dist. | Warwick Valley Central School District | 225 West Street | Warwick, NY 10990 | (845) 987-3010 |
| Orange | School Dist. | Washingtonville Central School District | 52 West Main Street | Washingtonville, NY 10992 | (845) 497-2200 |
| Sullivan | Contractor | Apple Tree Landscaping | P.O. Box 22 | Mountain Dale, NY 12763 | (845) 332-5184 |
| Sullivan | Contractor | Bernas Construction | 220 Bernas Rd | Cochecton, NY 12726 | (845) 932-5222 |
| Sullivan | Contractor | Creative Earth Landscaping | 74 Moscoe Road | White Lake, NY 12786 | (845) 468-0130 |
| Sullivan | Contractor | Crystal Falls Farm Sand & Gravel | 7601 State Route 55 | Neversink, NY 12765 | (845) 985-7866 |
| Sullivan | Contractor | D & D General Contracting | 532 Benton Hollow Rd | Woodbourne, NY 12788 | (845) 985-7294 |
| Sullivan | Contractor | D & R Excavating & Landscaping Inc | P.O. Box 427 | Glen Spey, NY 12737 | (845) 292-7707 |
| Sullivan | Contractor | E & T Landscape Inc. | 53 Stanton Corner Rd | Swan Lake, NY 12783 | (845) 292-3405 |
| Sullivan | Contractor | Evergreen Landscape Design | 993 Old Liberty Rd | Monticello, NY 12701 | (845) 434-0205 |
| Sullivan | Contractor | Fantastic 4 Landscaping & Restorations | 1 Gregory Rd | Monticello, NY 12701 | (855) 932-4665 |
| Sullivan | Contractor | Fodor Excavating & Landscaping | 101 Katrina Falls Road | Rock Hill, NY 12775 | (845) 794-5143 |
| Sullivan | Contractor | Gary Myers Excavation Inc. | 4400 State Rte 55 | Swan Lake, NY 12783 | (845) 292-8309 |
| Sullivan | Contractor | Hamlin Construction | 6135 State Rte 55 | Liberty, NY 12754 | (845) 292-3006 |
| Sullivan | Contractor | Jerry's Tree & Landscaping | 432 S Main St | Liberty, NY 12754 | (845) 295-8733 |
| Sullivan | Contractor | Lawn Rangers Landscaping | 182 Timber Lake Dr | Yulan, NY 12792 | (845) 557-3303 |
| Sullivan | Contractor | Martin Landscaping | 1262 Briscoe Rd | Swan Lake, NY 12783 | (845) 807-7409 |
| Sullivan | Contractor | MDL Excavating LLC | P.O. Box 1088 | Rock Hill, NY 12775 | (845) 741-5713 |
| Sullivan | Contractor | Mountain Top Landscaping | 590 Shandelee Rd | Livingston Manor, NY 12758 | (845) 807-6484 |
| Sullivan | Contractor | Mountain Valley Landscaping | 436 Broadway | Monticello, NY 12701 | (845) 807-1687 |
| Sullivan | Contractor | National Landscaping | 103 Downs Road | Monticello, NY 12701 | (845) 208-4424 |
| Sullivan | Contractor | Perennial Gardens Landscaping | P.O. Box 161 | Bethel, NY 12720 | (845) 583-5760 |

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| Sullivan | Contractor | Rembe Landscaping | P.O. Box 849 | Phillipsport, NY 12769 | (845) 647-8624 |
| Sullivan | Contractor | Robert Dubas Contracting | 23 Wagners Rd | Neversink, NY 12765 | (845) 985-7116 |
| Sullivan | Contractor | Russ's Landscape | 261 Wade Road | Liberty, NY 12754 | (845) 796-8479 |
| Sullivan | Contractor | Treestone Unlimited | P.O. Box 194 | White Lake, NY 12786 | (845) 866-0278 |
| Sullivan | Contractor | Turning Leaves Landscaping, LLC | 10 County Rd 94 | Hankins, NY 12741 | (845) 887-3051 |
| Sullivan | Contractor | Upstate Pavers & Landscapers | 264 Cypert Rd | Woodbourne, NY 12788 | (845) 436-5676 |
| Sullivan | Contractor | WTS Landscaping | P.O. Box 1220 | Livingston Manor, NY 12758 | (845) 428-6804 |
| Sullivan | Garden Center | Delaware Valley Farm & Garden | 30 Viaduct Rd | Callicoon, NY 12723 | (845) 887-5100 |
| Sullivan | Garden Center | Delaware Valley True Value | 30 Viaduct Rd | Callicoon, NY 12723 | (845) 887-5100 |
| Sullivan | Garden Center | DJM Dealers | 462 Twin Bridge Rd | Ferndale, NY 12734 | (845) 295-6984 |
| Sullivan | Garden Center | Home Depot | 68 Thompson Square | Monticello, NY 12701 | (845) 794-2498 |
| Sullivan | Garden Center | Liberty Agway Home & Garden Center | 11 Bon Jovi Ln | Liberty, NY 12754 | (845) 292-7220 |
| Sullivan | Garden Center | Maplehorst Farm Nursery | 151 Rapp Road | Monticello, NY 12701 | (845) 794-8596 |
| Sullivan | Garden Center | Monticello Farm Home & Garden | 420 Route 17B | Monticello, NY 12701 | (845) 794-6457 |
| Sullivan | Garden Center | Stephenson's Garden Center | 1706 State Route 52 | Liberty, NY 12754 | (845) 292-4153 |
| Sullivan | Garden Center | Tractor Supply Co. | 1939 NY-52, Suite 1 | Liberty, NY 12754 | (845) 292-0712 |
| Sullivan | Garden Center | Walmart Supercenter | 41 Anawana Lake Rd | Monticello, NY 12701 | (845) 796-7202 |
| Sullivan | Garden Center | Woodbourne Landscape Supply, Inc. | 5858 NY-42 | Woodbourne, NY 12788 | (845) 434-6628 |
| Sullivan | Garden Center | Wyde Lumber Supply Corp | 419 Route 17B | Monticello, NY 12701 | (845) 794-5770 |
| Sullivan | Golf Course | Lochmor Golf Course | 586 Loch Sheldrake Rd | Loch Sheldrake, NY 12759 | (845) 434-1257 |
| Sullivan | Golf Course | Sullivan County Golf & Country Club | 2514 NY-52 | Liberty, NY 12754 | (845) 292-9584 |
| Sullivan | Golf Course | Swan Lake Golf & Country Club | 38 Eagle Dr | Swan Lake, NY 12783 | (845) 292-0323 |
| Sullivan | Golf Course | Tarry Brae Golf Course | 387 Pleasant Valley Rd | South Fallsburg, NY 12779 | (845) 434-2620 |
| Sullivan | Golf Course | Tennanah Lake Golf & Tennis Club | 100 Fairway View Dr | Roscoe, NY 12776 | (607) 498-5000 |
| Sullivan | Golf Course | The Club at Villa Roma | 356 Villa Roma Rd | Callicoon, NY 12723 | (845) 887-4880 |
| Sullivan | Golf Course | Twin Village Golf Course | 144 Rockland Rd | Roscoe, NY 12776 | (607) 498-5829 |
| Sullivan | Government | NYS Dept. of Transportation | 165 E Broadway | Monticello, NY 12701 | (845) 794-7450 |
| Sullivan | Government | Sullivan County DPW | P.O. Box 5012 | Monticello, NY 12701 | (845) 807-0261 |
| Sullivan | Government | Sullivan County Parks Dept. | P.O. Box 5012 | Monticello, NY 12701 | (845) 807-0287 |
| Sullivan | Government | Sullivan County SWCD | 64 Ferndale-Loomis Road | Liberty, New York 12754 | (845) 292-6552 |

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| Sullivan | Government | Town of Bethel Highway Dept. | P.O. Box 300 | White Lake, NY 12786 | (845) 583-4460 |
| Sullivan | Government | Town of Bethel Parks Dept. | P.O. Box 300 | White Lake, NY 12786 | (845) 583-4350 |
| Sullivan | Government | Town of Calicoon Highway Dept. | P.O. Box 687 | Jeffersonville, NY 12748 | (845) 482-5505 |
| Sullivan | Government | Town of Cochecton Highway Dept. | 10 Mitchell Pond East Road | Cochecton, NY 12726 | (845) 932-8737 |
| Sullivan | Government | Town of Delaware Highway Dept. | P.O. Box 129 | Hortonville, NY 12745 | (845) 887-4660 |
| Sullivan | Government | Town of Fallsburg Highway Dept. | P.O. Box 2019 | South Fallsburg, NY 12779 | (845) 434-6827 |
| Sullivan | Government | Town of Fallsburg Parks Dept. | 11 Morningside Park Road | Hurleyville, NY 12747 | (845) 434-5877 |
| Sullivan | Government | Town of Forestburgh Highway Dept. | 1041 Sackett Lake Road | Forestburgh, NY 12777 | (845) 794-8069 |
| Sullivan | Government | Town of Forestburgh Parks Dept. | 332 King Road | Forestburgh, NY 12777 | (845) 794-0611 |
| Sullivan | Government | Town of Fremont Highway Dept. | 8217 Cream Hill Road | Arkport, NY 14807 | (607) 324-6349 |
| Sullivan | Government | Town of Highland Highway Dept. | P.O. Box 66 | Eldred, NY 12732 | (845) 557-6257 |
| Sullivan | Government | Town of Liberty Highway Dept. | 2751 State Route 52 | Liberty, NY 12754 | (845) 292-4172 |
| Sullivan | Government | Town of Liberty Parks Dept. | 119 North Main Street | Liberty, NY 12754 | (845) 292-7690 |
| Sullivan | Government | Town of Lumberland Highway Dept. | 989 Proctor Road | Glen Spey, NY 12737 | (845) 856-2300 |
| Sullivan | Government | Town of Lumberland Parks Dept. | 1054 Proctor Road | Glen Spey, NY 12737 | (845) 856-8600 |
| Sullivan | Government | Town of Mamakating Highway Dept. | P.O. Box 892 | Wurtsboro, NY 12790 | (845) 888-3033 |
| Sullivan | Government | Town of Mamakating Parks Dept. | 2948 Route 209 | Wurtsboro, NY 12790 | (845) 888-3013 |
| Sullivan | Government | Town of Neversink Highway Dept | 7941 State Rte 55 | Grahamsville, NY 12740 | (845) 985-2281 |
| Sullivan | Government | Town of Neversink Parks Dept. | P.O. Box 307 | Grahamsville, NY 12740 | (845) 985-2262 |
| Sullivan | Government | Town of Rockland Highway Dept. | P.O. Box 964 | Livingston Manor, NY 12758 | (845) 439-5110 |
| Sullivan | Government | Town of Thompson Highway Dept. | 33 Jefferson Street | Monticello, NY 12701 | (845) 794-5560 |
| Sullivan | Government | Town of Thompson Parks Dept. | 179 Town Park Rd | Monticello, NY 12701 | (845) 796-3606 |
| Sullivan | Government | Town of Tusten Highway Dept. | P.O. Box 195 | Narrowsburg, NY 12764 | (845) 252-7500 |
| Sullivan | Government | Town of Tusten Parks Dept. | 210 Bridge Street | Narrowsburg, NY 12764 | (845) 252-7146 |
| Sullivan | Government | Village of Jeffersonville Highway Dept. | 17 Center Street | Jeffersonville, NY 12748 | (845) 701-2824 |
| Sullivan | Government | Village of Liberty DPW | 167 North Main Street | Liberty, NY 12754 | (845) 292-7031 |
| Sullivan | Government | Village of Monticello DPW | 2 Pleasant Street | Monticello, NY 12701 | (845) 794-4911 |
| Sullivan | Government | Village of Monticello Parks Dept. | 2 Pleasant Street | Monticello, NY 12701 | (845) 794-6130 |
| Sullivan | Institution | Bethel Motor Speedway | P.O. Box 207 | White Lake, NY 12786 | (845) 319-7908 |
| Sullivan | Institution | Bethel Woods Center for the Arts | 200 Hurd Rd | Bethel, NY 12720 | (845) 583-2000 |

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| Sullivan | Institution | Catskill Mountains Resort | 211 Mail Road | Barryville, NY 12719 | (845) 456-0195 |
| Sullivan | Institution | Catskill Regional Medical Center | 68 Harris-Bushville Rd | Harris, NY 12742 | (845) 794-3300 |
| Sullivan | Institution | Cornell Cooperative Extension | 64 Ferndale-Loomis Road | Liberty, NY 12754 | (845) 292-6180 |
| Sullivan | Institution | Grover M. Hermann Hospital | 8881 NY-97 | Callicoon, NY 12723 | (845) 887-5530 |
| Sullivan | Institution | Holiday Mountain Ski & Fun Park | 99 Holiday Mountain Road | Monticello, NY 12701 | (845) 796-3161 |
| Sullivan | Institution | Kartrite Resort & Indoor Waterpark | 555 Resorts World Dr | Monticello, NY 12701 | (845) 397-2500 |
| Sullivan | Institution | Kittatinny Campground & Adventure Center | 3854 State Route 97 | Barryville, NY 12719 | (800) 356-2852 |
| Sullivan | Institution | Monticello Casino & Raceway | 204 Route 17B | Monticello, NY 12701 | (845) 794-4100 |
| Sullivan | Institution | Resorts World Catskills | 888 Resorts World Dr | Monticello, NY 12701 | (833) 586-9358 |
| Sullivan | Institution | Sullivan Correctional Facility | 325 Riverside Dr | Fallsburg, NY 12733 | (845) 434-2080 |
| Sullivan | Institution | Sullivan County Airport | 75 Co Rd 183A | Swan Lake, NY 12783 | (845) 807-0326 |
| Sullivan | Institution | Sullivan County Community College | 112 College Rd | Loch Sheldrake, NY 12759 | (845) 434-5750 |
| Sullivan | Institution | Villa Roma Resort & Conference Center | 356 Villa Roma Road | Callicoon, NY 12723 | (845) 887-4880 |
| Sullivan | Institution | Woodbourne Correctional Facility | 99 Prison Rd | Woodbourne, NY 12788 | (845) 434-7730 |
| Sullivan | School Dist. | Eldred Central School District | PO Box 249 | Eldred, NY 12732 | (845) 456-1100 |
| Sullivan | School Dist. | Fallsburg Central School District | 115 Brickman Road | Fallsburg, NY 12733 | (845) 434-6800 |
| Sullivan | School Dist. | Liberty Central School District | 115 Buckley Street | Liberty, NY 12754 | (845) 292-5400 |
| Sullivan | School Dist. | Livingston Manor Central School District | 19 School Street | Livingston Manor, NY 12758 | (845) 439-4400 |
| Sullivan | School Dist. | Monticello Central School District | 60 Jefferson Street, Suite 3 | Monticello, NY 12701 | (845) 794-7700 |
| Sullivan | School Dist. | Roscoe Central School | P.O. Box 429 | Roscoe, NY 12776 | (607) 498-4126 |
| Sullivan | School Dist. | Sullivan West Central School District | 33 Schoolhouse Road | Jeffersonville, NY 12748 | (845) 482-4610 |
| Sullivan | School Dist. | Tri-Valley Central School District | 34 Moore Hill Road | Grahamsville, NY 12740 | (845) 985-2296 |
| Ulster | Contractor | AA Landscaping and Lawn Maintenance | 2087 State Route 32 | Kingston, NY 12401 | (877) 757-0611 |
| Ulster | Contractor | AHW Landscaping | 12 Robin Lane | Kingston, NY 12401 | (845) 339-0932 |
| Ulster | Contractor | Alarcon Landscaping | 211 Oneil St | Kingston, NY 12401 | (845) 305-0080 |
| Ulster | Contractor | All Around Landscaping | 1428 Creek Locks Rd | Kingston, NY 12401 | (845) 532-8808 |
| Ulster | Contractor | Aztlan Outdoor Living | 251 Route 208 | New Paltz, NY 12561 | (845) 691-7182 |
| Ulster | Contractor | B & T Landscaping | 3 Kolb Rd | Boiceville, NY 12412 | (845) 657-6209 |
| Ulster | Contractor | Ben Sprenger & Son Landscaping | 212 Maple Ave | Tillson, NY 12486 | (845) 658-8277 |
| Ulster | Contractor | BKN Design & Build | 119 Barclay Ln | Saugerties, NY 12477 | (845) 389-6222 |

| | | Naturcycle LLC Research | | MJR / CDD | |
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| | Sullivan County and Surronding Area Potential Compost Users | | | | |
| | | April - May 2020 | | | |
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| Ulster | Contractor | Bloom Fine Gardening | 25 N Ohioville Rd | New Paltz, NY 12561 | (845) 255-2734 |
| Ulster | Contractor | Creative Gardens | 570 Clove Valley Rd | High Falls, NY 12440 | (845) 687-7895 |
| Ulster | Contractor | Cross' Landscaping & Lawncare | 143 Patura Rd | Modena, NY 12548 | (845) 883-4069 |
| Ulster | Contractor | Curb Appeal Landscaping | 4805 Highway 209 | Accord, NY 12404 | (845) 853-9113 |
| Ulster | Contractor | Down to Earth Property Maintenance | 623 Old Route 32 | New Paltz, NY 12561 | (845) 797-7901 |
| Ulster | Contractor | Dwyer Contracting | 4037 Route 9W | Saugerties, NY 12477 | (845) 546-8233 |
| Ulster | Contractor | EC Lawn Care & Landscaping | 24 Salvatore Drive | West Park, NY 12493 | (845) 399-2044 |
| Ulster | Contractor | G. Cuney Construction, Inc. | 377 Broadway | Port Ewen NY 12466 | (845) 706-8610 |
| Ulster | Contractor | Gardening Angels LLC | 28 Silver Wings | Woodstock NY 12498 | (845) 679-7377 |
| Ulster | Contractor | Green Valley Landscaping | 57 Cornell Street | Kingston, NY 12401 | (845) 331-1904 |
| Ulster | Contractor | Green Valley Landscaping | 57 Cornell Street | Kingston NY 12401 | (845) 331-1904 |
| Ulster | Contractor | Guilded Leaf Landscapes | 1106 Glasco Turnpike | Saugerties, NY 12477 | (845) 249-4061 |
| Ulster | Contractor | Hearts Bend Landscaping | P.O. Box 567 | Woodstock, NY 12498 | (845) 901-6265 |
| Ulster | Contractor | Hudson Valley Landscaping, Inc. | P.O. Box 424 | Lake Katrine, NY 12449 | (845) 476-0369 |
| Ulster | Contractor | Immaculate Lawn Services LLC | 73 Pine Grove Ave | Kingston, NY 12401 | (845) 334-9323 |
| Ulster | Contractor | J. H. Construction | 1137 Route 32 | Rosendale, NY 12472 | (845) 658-3362 |
| Ulster | Contractor | J. Mullen & Sons Inc. | 997 Kings Highway | Saugerties, NY 12477 | (845) 247-0954 |
| Ulster | Contractor | J.M.C Lawn Care & Property Maintenance | 94 N Chestnut St | New Paltz, NY 12561 | (845) 303-3538 |
| Ulster | Contractor | Jimenez Landscaping and Construction | 27 Oak Street | Kingston, NY 12401 | (845) 399-9779 |
| Ulster | Contractor | Kingwoods Landscaping | 75 Oneil St | Kingston, NY 12401 | (845) 663-5142 |
| Ulster | Contractor | Klomm Construction | 321 Chestnut Hill Rd | Stone Ridge, NY 12484 | (845) 687-0632 |
| Ulster | Contractor | Kyle's Honest Landscaping & Construction | 450 Band Camp Rd | Saugerties, NY 12477 | (845) 853-4094 |
| Ulster | Contractor | Liberty Bell Landscaping | 1765 Lucas Avenue Ext | Cottekill, NY 12419 | (845) 687-7785 |
| Ulster | Contractor | Lupinacci Landscaping | 256 NY-32 | New Paltz, NY 12561 | (845) 255-7960 |
| Ulster | Contractor | Martino's Landscaping & Excavating | 50 Pauline Ln | Saugerties, NY 12477 | (845) 399-0706 |
| Ulster | Contractor | McClure Construction, Inc. | 16 Cowboy Trail | Saugerties, NY 12477 | (845) 247-3025 |
| Ulster | Contractor | Mike's Earthworks | 143 Schoonmaker Ln | Stone Ridge, NY 12484 | (845) 687-9117 |
| Ulster | Contractor | MNC Landscape & Lawncare | 28 Tracy Rd | New Paltz, NY 12561 | (845) 430-7790 |
| Ulster | Contractor | Moran Landscaping & Lawn Care | P.O. Box 1145 | Woodstock, NY 12498 | (914) 388-7634 |
| Ulster | Contractor | Mountain Gardens Landscaping | 28 Hillside Dr | West Shokan, NY 12494 | (845) 657-8762 |

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| | Sullivan County and Surronding Area Potential Compost Users | | | | |
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| Ulster | Contractor | Nine to Five Landcare | 18 Sylvester Hollow Road | Saugerties, NY 12477 | (845) 399-6273 |
| Ulster | Contractor | North Wind Landscaping | 165 Willow Tree Rd | Milton, NY 12547 | (845) 795-5062 |
| Ulster | Contractor | Panoramic Landscaping | 179 NY Route 32 | Kingston, NY 12401 | (845) 853-8219 |
| Ulster | Contractor | Paragon Building Group | 612 Washington Ave | Kingston, NY 12401 | (845) 389-8374 |
| Ulster | Contractor | Quigley's Lawn Care | 24 Birmingham Ln | Kingston, NY 12401 | (843) 333-0007 |
| Ulster | Contractor | Rogers Landscaping | 224 Camp Rd | Ellenville, NY 12428 | (845) 647-3635 |
| Ulster | Contractor | Santini's Landscape | P.O. Box 660 | Marlboro, NY 12542 | (845) 234-5320 |
| Ulster | Contractor | Schaffer Excavating, LLC | 57 Van De Bogart Road | Woodstock, NY 12498 | (845)-679-4742 |
| Ulster | Contractor | Serenity Gardens | 41 Bunny Run Rd | Saugerties, NY 12477 | (845) 246-5421 |
| Ulster | Contractor | Sirni Bros Landscaping | 99 Eagles Nest Rd | Hurley, NY 12443 | (845) 338-4960 |
| Ulster | Contractor | SJB Lawn Care & Landscaping | 87 N Ohioville Rd | New Paltz, NY, 12561 | (845) 475-4384 |
| Ulster | Contractor | Spurling Contracting | 33 S Putt Corners Rd | New Paltz, NY 12561 | (845) 590-1728 |
| Ulster | Contractor | StoneWell Lawn & Landscape Co. | 660 Albany Post Rd | New Paltz, NY 12561 | (845) 594-9594 |
| Ulster | Contractor | Tony's Landscaping | 99 Elmendorf St | Kingston, NY 12401 | (845) 443-5280 |
| Ulster | Contractor | Travis Howe General Construction | 76 River Rd | New Paltz, NY 12561 | (845) 594-1888 |
| Ulster | Contractor | Ulster Excavating & Trucking | 909 Orlando St | Kingston, NY 12401 | (845) 339-4350 |
| Ulster | Contractor | Ulster Premium Lawn Services | 28 Kingston Terrace | Kingston, NY 12401 | (845) 331-2150 |
| Ulster | Contractor | Wild Flower Gardener | 328 Meads Mountain Rd | Woodstock, NY 12498 | (203) 246-5711 |
| Ulster | Contractor | Willy's Landscaping | 27 Old Sawkill Rd | Kingston, NY 12401 | (845) 514-2519 |
| Ulster | Contractor | Winter Sun Construction | 43 N Chestnut St #1406 | New Paltz, NY 12561 | (845) 256-1031 |
| Ulster | Contractor | WW Landscaping | 1175 Ulster Heights Rd | Ellenville, NY 12428 | (845) 901-4912 |
| Ulster | Contractor | Zimmer Gardens | 4 Crane St | Kingston, NY 12401 | (201) 280-2167 |
| Ulster | Garden Center | Augustine Nursery | 177 Van Kleeck Lane | Kingston, NY 12401 | (845) 338-4936 |
| Ulster | Garden Center | Catskill Native Nursery | 607 Samsonville Rd | Kerhonkson, NY 12446 | (845) 626-2758 |
| Ulster | Garden Center | Cedar Ridge Nursery | 2123 Old Kings Hwy | Saugerties, NY 12477 | (845) 246-5419 |
| Ulster | Garden Center | H Houst & Son Inc. | 4 Mill Hill Rd | Woodstock, NY 12498 | (845) 679-2115 |
| Ulster | Garden Center | Herzog's True Value Home Center | 151 Plaza Rd | Kingston, NY 12401 | (845) 338-6300 |
| Ulster | Garden Center | Home Depot | 1122 Ulster Ave | Kingston, NY 12401 | (845) 336-4575 |
| Ulster | Garden Center | Kelshanny Stockyard | 249 NY-32 | New Paltz, NY 12561 | (845) 255-7778 |
| Ulster | Garden Center | Lowe's Home Improvement | 901 Frank Sottile Blvd | Kingston, NY 12401 | (845) 382-6000 |

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| | Sullivan County and Surronding Area Potential Compost Users | | | | |
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| Ulster | Garden Center | Lowe's Home Improvement | 650 NY-299 | Highland, NY 12528 | (845) 834-5000 |
| Ulster | Garden Center | Mac's Farm & Garden World | 68 Firehouse Lane | Red Hook, NY 12571 | (845) 876-1559 |
| Ulster | Garden Center | Marbletown True Value | 3606 Main St | Stone Ridge, NY 12484 | (845) 687-2098 |
| Ulster | Garden Center | Mike's Hothouse | 2036 US-44 | Modena, NY 12548 | (845) 883-6868 |
| Ulster | Garden Center | Saugerties Lumber True Value | 223 Ulster Ave | Saugerties, NY 12477 | (845) 246-4915 |
| Ulster | Garden Center | Saunderskill Farms | 5100 Route 209 | Accord, NY 12404 | (845) 626-2676 |
| Ulster | Garden Center | Techmer Nursery & Garden Center | 4 Allhusen Rd | Modena, NY 12548 | (845) 255-7430 |
| Ulster | Garden Center | Top Seed Landscape Nursery | 2004 Route 9W | Milton, New York 12547 | (845) 795-1318 |
| Ulster | Garden Center | Tractor Supply Co. | 1611 Ulster Ave | Lake Katrine, NY 12449 | (845) 336-5038 |
| Ulster | Garden Center | True Value Of New Paltz | 4 Cherry Hill Rd | New Paltz, NY 12561 | (845) 255-8481 |
| Ulster | Garden Center | Veronica's Gardens Stone Ridge Nursery | 110 Kripplebush Rd | Stone Ridge, NY 12484 | (845) 687-9026 |
| Ulster | Garden Center | Victoria Gardens | 1 Cottekill Rd | Rosendale, NY 12472 | (845) 658-9007 |
| Ulster | Garden Center | Walmart Supercenter | 601 Frank Stottile Blvd | Kingston, NY 12401 | (845) 336-4159 |
| Ulster | Garden Center | Walmart Supercenter | 125 Main St | Napanoch, NY 12458 | (845) 647-2671 |
| Ulster | Garden Center | Williams Lumber & Home Center | 317 Kyserike Rd | High Falls, NY 12440 | (845) 687-7676 |
| Ulster | Garden Center | Woodstock Hardware | 84 Tinker St | Woodstock, NY 12498 | (845) 679-2862 |
| Ulster | Golf Course | Alapaha Golf Links | 180 Sawkill Rd | Kingston, NY 12401 | (845) 331-2334 |
| Ulster | Golf Course | Apple Greens Golf Course | 161 South Street | Highland, NY 12528 | (845) 883-5500 |
| Ulster | Golf Course | Ascot Park Golf Center | 163 Esopus Ave | Kingston, NY 12401 | (845) 339-6395 |
| Ulster | Golf Course | Green Acres Golf Club | 250 Harwich St | Kingston, NY 12401 | (845) 331-2283 |
| Ulster | Golf Course | Hudson Valley Resort & Spa Golf Course | 400 Granite Rd | Kerhonkson, NY 12446 | (845) 626-1166 |
| Ulster | Golf Course | Mohonk Mountain House Golf Course | 1000 Mountain Rest Road | New Paltz, NY 12561 | (845) 256-2154 |
| Ulster | Golf Course | New Paltz Golf Course | 215 Huguenot St | New Paltz, NY 12561 | (845) 255-8282 |
| Ulster | Golf Course | Rondout Golf Club | 10 Bank Street | Accord, NY 12404 | (845) 626-2513 |
| Ulster | Golf Course | Shawangunk Country Club | 38 Country Club Road | Ellenville, NY 12428 | (845) 647-6090 |
| Ulster | Golf Course | Stoeckler Memorial Park and Golf Club | 38 Nevele Rd | Ellenville, NY 12428 | (845) 647-7080 |
| Ulster | Golf Course | Stone Dock Golf Club | 12 Stone Dock Rd | High Falls, NY 12440 | (845) 687-7107 |
| Ulster | Golf Course | The Lazy Swan Golf & Country Club | 1754 Old Kings Highway | Saugerties, NY 12477 | (845) 247-0075 |
| Ulster | Golf Course | Turtle Creek Golf Course in Plattekill | 219 Plattekill Ardonia Road | Wallkill, NY 12589 | (845) 564-3220 |
| Ulster | Golf Course | Wiltwyck Golf Club | 404 Steward Ln | Kingston, NY 12401 | (845) 331-0700 |

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| Ulster | Golf Course | Woodstock Golf Club | 14 Mill Hill Rd | Woodstock, NY 12498 | (845) 679-2914 |
| Ulster | Government | City of Kingston DPW | 25 East O'Reilly Street | Kingston, NY 12401 | (845) 331-0682 |
| Ulster | Government | City of Kingston Parks Dept. | 467 Broadway | Kingston, NY 12401 | (845) 481-7333 |
| Ulster | Government | Town of Denning Highway Dept. | 1444 Denning Road | Claryville, NY 12725 | (845) 985-2543 |
| Ulster | Government | Town of Esopus Highway Dept. | P.O. Box 1015 | Port Ewen, NY 12466 | (845) 331-5723 |
| Ulster | Government | Town of Gardiner Highway Dept. | 630 South Mountain Road | Gardiner, NY 12525 | (845) 255-1381 |
| Ulster | Government | Town of Hardenburgh Highway Dept. | 51 Rider Hollow Road | Arkville, NY 12406 | (845) 586-2223 |
| Ulster | Government | Town of Hurley Highway Dept. | P.O. Box 302 | West Hurley, NY 12491 | (845) 338-4067 |
| Ulster | Government | Town of Kingston Highway Dept. | 906 Sawkill Road | Kingston, NY 12401 | (845) 336-8899 |
| Ulster | Government | Town of Lloyd Highway Dept. | 12 Church Street | Highland, NY 12528 | (845) 691-7631 |
| Ulster | Government | Town of Marbletown Highway Dept. | P.O. Box 217 | Stone Ridge, NY 12484 | (845) 687-9615 |
| Ulster | Government | Town of Marlborough Highway Dept. | P.O. Box 305 | Milton, NY 12547 | (845) 795-2272 |
| Ulster | Government | Town of New Paltz Highway Dept. | P.O. Box 550 | New Paltz, NY 12561 | (845) 255-5050 |
| Ulster | Government | Town of Olive Highway Dept. | P.O. Box 180 | West Shokan, NY 12494 | (845) 657-8118 |
| Ulster | Government | Town of Plattekill Highway Dept. | P.O. Box 45 | Modena, New York 12548 | (845) 883-5910 |
| Ulster | Government | Town of Rochester Highway Dept. | P.O. Box 65 | Accord, NY 12404 | (845) 626-7221 |
| Ulster | Government | Town of Rosendale Highway Dept. | 1915 Lucas Avenue | Cottekill, NY 12419 | (845) 658-9851 |
| Ulster | Government | Town of Saugerties Highway Dept. | 25 Churchland Road | Saugerties, NY 12477 | (845) 246-2400 |
| Ulster | Government | Town of Shandaken Highway Dept. | P.O. Box 134 | Shandaken, NY 12480 | (845) 688-5031 |
| Ulster | Government | Town of Shawangunk Highway Dept. | 16 Kings Lane | Wallkill, NY 12589 | (845) 895-3620 |
| Ulster | Government | Town of Ulster Highway Dept | 584 East Chester Street By-Pass | Kingston, NY 12401 | (845) 338-0193 |
| Ulster | Government | Town of Wawarsing Highway Dept. | P.O. Box 671 | Ellenville, NY 12428 | (845) 647-6890 |
| Ulster | Government | Town of Woodstock Highway Dept. | 45 Comeau Drive | Woodstock, NY 12498 | (845) 679-2805 |
| Ulster | Government | Ulster County DPW | 313-317 Shamrock Ln | Kingston, NY 12401 | (845) 340-3500 |
| Ulster | Government | Ulster County SWCD | 5 Park Lane | Highland, New York 12528 | (845) 883-7162 |
| Ulster | Government | Village of Ellenville DPW | 2 Elting Court | Ellenville, NY 12428 | (845) 647-7080 |
| Ulster | Government | Village of New Paltz DPW | 25 Plattekill Avenue | New Paltz, NY 12561 | (845) 255-1980 |
| Ulster | Government | Village of Saugerties DPW | 43 Partition Street | Saugerties, NY 12477 | (845) 246-2921 |
| Ulster | Institution | Catskill Animal Sanctuary | 316 Old Stage Rd | Saugerties, NY 12477 | (845) 336-8447 |
| Ulster | Institution | Emerson Resort & Spa | 5340 Route 28 | Mt. Tremper, NY 12457 | (845) 688-2828 |

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| Ulster | Institution | Health Alliance Hospital | 396 Broadway | Kingston, NY 12401 | (845) 331-3131 |
| Ulster | Institution | Honor's Haven Resort & Spa | 1195 Arrowhead Rd | Ellenville, NY 12428 | (845) 210-1600 |
| Ulster | Institution | Hudson Valley Resort & Spa | 400 Granite Rd | Kerhonkson, NY 12446 | (845) 626-1166 |
| Ulster | Institution | Mohonk Mountain House | 1000 Mountain Rest Road | New Paltz, NY 12561 | (845) 765-3286 |
| Ulster | Institution | New York City North / Newburgh KOA | 119 Freetown Highway | Plattekill, NY 12568 | 845-564-2836 |
| Ulster | Institution | Pine Ridge Dude Ranch | 30 Cherrytown Rd | Kerhonkson, NY 12446 | (845) 626-7345 |
| Ulster | Institution | Rip Van Winkle Campgrounds | 149 Blue Mountain Rd | Saugerties, NY 12477 | (845) 246-8334 |
| Ulster | Institution | Rocking Horse Ranch Resort | 600 US-44 | Highland, NY 12528 | (844) 402-3214 |
| Ulster | Institution | Wildberry Lodge & Spa | 111 Paradies Lane | New Paltz, NY 12561 | (845) 691-2927 |
| Ulster | School Dist. | Ellenville Central School District | 28 Maple Ave | Ellenville, NY 12428 | (845) 647-0100 |
| Ulster | School Dist. | Highland School District | 320 Pancake Hollow Road | Highland, NY 12528 | (845) 691-1012 |
| Ulster | School Dist. | Kingston City School District | 61 Crown Street | Kingston, NY 12401 | (845) 339-3000 |
| Ulster | School Dist. | Marlboro School District | 50 Cross Road | Marlboro, NY 12542 | (845) 236-5802 |
| Ulster | School Dist. | New Paltz School District | 196 Main Street | New Paltz, NY 12561 | (845) 256-4020 |
| Ulster | School Dist. | Onteora School District | 4166 Route 28 | Boiceville, NY 12412 | (845) 657-6383 |
| Ulster | School Dist. | Rondout Valley School District | 122 Kyserike Road | Accord, NY 12404 | (845) 687-2400 |
| Ulster | School Dist. | Saugerties School District | 310 Washington Ave | Saugerties, NY 12477 | (845) 247-6500 |
| Ulster | School Dist. | Wallkill School District | 19 Main Street | Wallkill, NY 12589 | (845) 895-7101 |
| Ulster | School Dist. | West Park Union Free School District | 2112 Route 9W | West Park, NY 12493 | (845) 384-6710 |
| Wayne | Contractor | Aiken Landscaping | 1204 Easton Tpke | Lake Ariel, PA 18436 | (570) 499-2321 |
| Wayne | Contractor | Brother's Lawn Care Inc | 108 Wallace Rd | Lake Ariel, PA 18436 | (570) 698-9677 |
| Wayne | Contractor | Burleigh Construction Inc | 860 Great Bend Tpke | Pleasant Mount, PA 18453 | (570) 448-3177 |
| Wayne | Contractor | Curtis Valley Horticultural Services | 1315 Belmont Tpke | Waymart, PA 18472 | (570) 785-5484 |
| Wayne | Contractor | Dein Nurseries | 1411 Shady Ln | Honesdale, PA 18431 | (570) 253-2124 |
| Wayne | Contractor | E&S Property Maintenance | 136 Steep Hill Rd | Beach Lake, PA 18405 | (570) 251-0226 |
| Wayne | Contractor | Final Touch Landscaping | 729 Keystone Rd | Lake Ariel, PA 18436 | (570) 698-5106 |
| Wayne | Contractor | Flynn's Naturescapes Inc | 362 Woods Rd | Lakewood, PA 18439 | (570) 798-0411 |
| Wayne | Contractor | Grassie & Sons Inc | 10 Mount Cobb Hwy | Lake Ariel, PA 18436 | (570) 689-0650 |
| Wayne | Contractor | Green Valley Yard Care | 1104 Tresslarville Rd | Lake Ariel, PA 18436 | (570) 698-7617 |
| Wayne | Contractor | KC Landscaping | 1974 Lake Ariel Hwy | Lake Ariel, PA 18436 | (570) 698-5454 |

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| Wayne | Contractor | Landcrafters Inc | 8 Nursery Dr | Lake Ariel, PA 18436 | (570) 937-3333 |
| Wayne | Contractor | M N' D Lawn & Landscape | 38 Hemlock Path | Lake Ariel, PA 18436 | (570) 689-4412 |
| Wayne | Contractor | Maciejewski Landscaping | 366 Swago Rd | Damascus, PA 18415 | (570) 224-6405 |
| Wayne | Contractor | MDA Landscaping | 1520 West St | Honesdale, PA 18431 | (570) 616-7355 |
| Wayne | Contractor | MTS Landscaping | 153 Orchard Hts | Beach Lake, PA 18405 | (570) 229-6934 |
| Wayne | Contractor | Northeast Tree & Excavating | 149 Valley Ridge Rd | Honesdale, PA 18431 | (570) 470-2317 |
| Wayne | Contractor | Over The Edge Landscaping | 447 Wayne St | Bethany, PA 18431 | (570) 983-7163 |
| Wayne | Contractor | Pocono Tree & Landscape Service | 639 Old Willow Ave | Honesdale, PA 18431 | (570) 253-3207 |
| Wayne | Contractor | Rooted Landscaping | 74 Slater Rd | Beach Lake, PA 18405 | (570) 352-5512 |
| Wayne | Contractor | Sheldons Landscaping | 928 Beech Grove Rd | Honesdale, PA 18431 | (570) 253-6684 |
| Wayne | Contractor | Total Landscaping Inc | 239 Golf Hill Road | Honesdale, PA 18431 | (570) 253-0222 |
| Wayne | Contractor | Woodland Design Associates | 12 Village Rd | Beach Lake, PA 18405 | (570) 729-8524 |
| Wayne | Garden Center | Bold's Florist & Garden Center | 259 Willow Ave Route 6 | Honesdale, PA 18431 | (570) 253-1630 |
| Wayne | Garden Center | Bunting's Nursery | 522 Wanoka Rd | Honesdale, PA 18431 | (570) 253-5043 |
| Wayne | Garden Center | Church Street Hardware Inc | 702 Church St | Hawley, PA 18428 | (570) 226-3131 |
| Wayne | Garden Center | Davitt's Nursery | 5 Slish Rd | Honesdale, PA 18431 | (570) 253-0443 |
| Wayne | Garden Center | Home Depot | 721 Old Willow Ave | Honesdale, PA 18431 | (570) 253-3148 |
| Wayne | Garden Center | Honesdale Agway | 35 Brown St | Honesdale, PA 18431 | (570) 253-3890 |
| Wayne | Garden Center | Moss Acres | 59 Bates Rd | Honesdale, PA 18431 | (570) 253-7859 |
| Wayne | Garden Center | Paul Kellogg's Garden Center | PA-590 & Sawmill Rd | Lake Ariel, PA 18436 | (570) 689-7912 |
| Wayne | Garden Center | PJ's Garden Center | 284 Texas Palmyra Hwy | Hawley, PA 18428 | (570) 226-3170 |
| Wayne | Garden Center | Tractor Supply Co. | 240 Willow Ave | Honesdale, PA 18431 | (570) 253-2300 |
| Wayne | Garden Center | Tractor Supply Co. | 454 Hamlin Hwy Ste 100a | Lake Ariel, PA 18436 | (570) 689-7990 |
| Wayne | Garden Center | Walmart Supercenter | 723A Old Willow Ave | Honesdale, PA 18431 | (570) 251-9543 |
| Wayne | Golf Course | Cricket Hill Golf Club | 176 Cricket Hill Rd | Hawley, PA 18428 | (570) 226-4366 |
| Wayne | Golf Course | Hideout Golf | 640 Hideout Golf Course | Lake Ariel, PA 18436 | (570) 698-4100 |
| Wayne | Golf Course | Honesdale Golf Club | 121 Golf Hill Rd | Honesdale, PA 18431 | (570) 253-5616 |
| Wayne | Golf Course | Lake Lorain Golf Course | 60 Lake Lorain Rd | Poyntelle, PA 18454 | (570) 448-2232 |
| Wayne | Golf Course | Lords Valley Country Club | 1004 Hemlock Farms | Hawley, PA 18428 | (570) 775-7325 |
| Wayne | Golf Course | Memorial Links Golf Course | 106 Memorial Links Rd | Waymart, PA 18472 | (570) 448-9200 |

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| Wayne | Golf Course | Red Maples Golf Course | 2322 Easton Turnpike | Waymart, PA 18472 | (570) 937-4543 |
| Wayne | Golf Course | The Country Club at Woodloch Springs | Woodloch Dr W | Hawley, PA 18428 | (570) 685-8102 |
| Wayne | Government | Damascus Township Road Maintenance | 60 Conklin Hill Road | Damascus, PA 18415 | (570) 224-4410 |
| Wayne | Government | Honesdale Borough DPW | 958 Main Street | Honesdale, PA 18431 | (570) 253-1830 |
| Wayne | Government | Honesdale Borough Parks Dept. | 958 Main Street | Honesdale, PA 18431 | (570) 253-0731 |
| Wayne | Government | Paupack Township Parks Dept. | 25 Daniels Road | Lakeville, PA, 18438 | (570) 226-3115 |
| Wayne | Government | Wayne County Parks Dept. | 925 Court Street | Honesdale, PA 18431 | (570) 253-5970 |
| Wayne | Institution | Carousel Water & Fun Park | 1018 Beach Lake Hwy | Beach Lake, PA 18405 | (570) 729-7532 |
| Wayne | Institution | Claws 'N' Paws Wild Animal Park | 1475 Ledgedale Rd | Lake Ariel, PA 18436 | (570) 698-6154 |
| Wayne | Institution | Costa's Family Fun Park | 2111 Rt. 6 | Hawley, PA 18428 | (570) 226-8585 |
| Wayne | Institution | Cove Haven Entertainment Resort | 194 Lakeview Drive | Lakeville, PA 18438 | (800) 233-4141 |
| Wayne | Institution | Lukan's Farm Resort | 539 Long Ridge Road | Hawley, PA 18428 | (570) 226-4574 |
| Wayne | Institution | Mansion at Noble Lane | 150 Noble Lane | Bethany, PA 18431 | (866) 466-3855 |
| Wayne | Institution | State Correctional Institute | 100 US-6 | Waymart, PA 18472 | (570) 488-5811 |
| Wayne | Institution | The Lodge at Woodloch | 109 River Birch Ln | Hawley, PA 18428 | (800) 966-3562 |
| Wayne | Institution | US Penitentiary Canaan | 3057 Eric J. Williams Memorial Dr | Waymart, PA 18472 | (570) 488-8000 |
| Wayne | Institution | Wayne Memorial Hospital | 601 Park St, #1445 | Honesdale, PA 18431 | (570) 253-8100 |
| Wayne | Institution | Woodloch Pines Resort | 731 Welcome Lake Rd | Hawley, PA 18428 | (800) 966-3562 |
| Wayne | School Dist. | Forest City Regional School District | 100 Susquehanna Street | Forest City, PA 18421 | (570) 785-2400 |
| Wayne | School Dist. | North Pocono School District | 701 Church Street | Moscow, PA 18444 | (570) 842-7659 |
| Wayne | School Dist. | Susquehanna Community School District | 3192 Turnpike St | Susquehanna, PA 18847 | (570) 853-4921 |
| Wayne | School Dist. | Wallenpaupack Area School District | 2552 Route 6 | Hawley, PA 18428 | (570) 226-4557 |
| Wayne | School Dist. | Wayne Highlands School District | 474 Grove Street | Honesdale, PA 18431 | (570) 253-4661 |
| Wayne | School Dist. | Western Wayne School District | 1970C Easton Turnpike | Lake Ariel, PA 18436 | (800) 321-9973 |

# Appendix D

# Golf Course Questionnaire

**Sullivan County Organics Project - Golf Course Survey**

Sullivan County is considering building and operating a compost facility to serve the region. The County is exploring the production of a compost product designed specifically for turf topdressing applications. A very fine, clean compost made from local food scraps could be used to improve soil health for turf and could be sold or made available to local golf courses like yours. For research purposes, information on the current market would be useful.

Please take a minute to complete the following survey as part of this important research project. Your feedback is confidential and very important.

---

Golf Course Name:_____

Golf Course Address:_____

| Questions: | Yes | No |
|---|---|---|
| 1) Does your Golf Course currently topdress turf grass areas with compost? | ☐ | ☐ |
| 2) Have you considered topdressing with compost as a fertilizer alternative? | ☐ | ☐ |
| 3) Do you have the equipment to apply a quality compost for topdressing? | ☐ | ☐ |
| 4) Would you be interested in renting or borrowing topdressing equipment? | ☐ | ☐ |
| 5) Would you be open to learning more about compost topdressing? | ☐ | ☐ |
| 6) Would you or your staff attend a training event at a central location? | ☐ | ☐ |

Name: _____

Phone: _____

Email: _____

Date: _____

Scan & Email to:

Fax Back to:

Mail via Return Envelope to:

Please contact Charles Duprey of Naturcycle LLC with questions at cduprey@naturcycle.com or (315) 558-4612. Naturcycle LLC is assisting Sullivan County and SCS Engineers with market research and support.

# APPENDIX C: ALTERNATIVES ASSESSMENT

## Title: Waste Reduction Programs – Textile collection

**Administrative/Technical Impacts:**

Quantitative/Qualitative Impacts on Waste Stream:

Collection of textiles is currently in place within the County. Collection of textiles reduces tonnage that would otherwise be landfilled and allows the material to be reused or repurposed. The goal of this initiative is to better promote textile collection from residents and businesses, as well as quantify tonnages collected more accurately.

Types and Sizing of Facilities or Program:

This program would not affect sizing of current facilities and there would be no infrastructure required by the County as collection bins are already in place. Waste reduction allows the facilities within the planning unit to stay the same size. Additional brochures, mailers, and educational information will be distributed.

Summary of Cost Data for Evaluation:

Waste reduction efforts are not anticipated to have a significant impact on the County, haulers and residents.

Impact on Natural Resource Conservation, Energy Production and, Employment:

Waste reduction is expected to conserve natural resources and landfill space.
Energy production and job creation is not anticipated.

**Jurisdictional Impacts:**

Interest in Participation by Neighboring Planning Units:

Interest from neighboring planning units has not been inquired about. Other counties have similar textile collection bins in place either by private entities or counties operations.

Alternatives Available with Participation by Neighboring Planning Units:

Activities associated with this program are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units:

Not requested.

Assessment of Environmental Justice Impacts:

There is no known or expected environmental justice impacts associated with this waste reduction program in Sullivan County. Textile donation is available to all those interested at each transfer station within the County.

**Selected Alternatives Identification:**

Reasons for Being Chosen:

Waste reduction is a key element in the NYS SWMP. The implementation is relatively low cost and should result in diversion of materials previously destined to be landfilled. Reuse of clothes and similar products can help reduce costs for families with difficult financial situations by providing them with access to free or inexpensive clothing.

Expected Quantitative and Qualitative Impacts On:

*Waste Reduction:*

Expected to reduce waste volumes by less than 1%.

*Reuse:*

Expected to enhance reuse or repurposing by 1%.

*Materials Recovery:*

Resue programs will improve materials recovery.

*Participation in Recovery Opportunities:*

Expected to enhance participation by 3-5%.

*Product Stewardship:*

No impacts on product stewardship are expected.

*Economic, Administrative, or Partnership Benefits:*

Expected to have little to no impact.

Identification of Administrative, Contractual, and Financial Requirements for Implementation:
The existing administrative, contractual, and financial structure is sufficient to support ongoing and future waste reduction activities.
Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation:
None required at this time.

## Title: Waste Reduction Programs – Scrap metal collection

**Administrative/Technical Impacts:**

Quantitative/Qualitative Impacts on Waste Stream:

Collection of scrap metal is currently in place within the County. Scrap metal is collected for free at the County transfer stations. The goal of this initiative is to better promote scrap metal recycling either at the transfer stations or to scrap metal recycling facilities. This will help reduce tonnages in C&D and MSW that would otherwise be sent to a landfill.

Types and Sizing of Facilities or Program:

This program would not affect sizing of current facilities and there would be no infrastructure required by the County as collection bins are already in place. Waste reduction allows the facilities within the planning unit to stay the same size. Additional brochures, mailers, and educational information will be distributed.

Summary of Cost Data for Evaluation:

Waste reduction efforts are not anticipated to have a significant impact on the County, haulers and residents.

Impact on Natural Resource Conservation, Energy Production and, Employment:

Waste reduction is expected to conserve natural resources and landfill space. Energy production and job creation is not anticipated.

**Jurisdictional Impacts:**

Interest in Participation by Neighboring Planning Units:

Interest from neighboring planning units has not been inquired about. Other counties have similar scrap metal collection bins in place either at transfer stations or businesses and residents can bring scrap metal to metal recycling facilities.

Alternatives Available with Participation by Neighboring Planning Units:

Activities associated with this program are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units:

Not requested.

Assessment of Environmental Justice Impacts:

There are no known or expected environmental justice impacts associated with this waste reduction program in Sullivan County. Scrap metal collection is available to all those interested at each transfer station within the County and at private facilities.

**Selected Alternatives Identification:**

Reasons for Being Chosen:

Waste reduction is a key element in the NYS SWMP. The implementation is relatively low cost and should result in diversion of materials previously destined to be landfilled. This will reduce tip fees at landfill and potentially allow the County to make money on metal recycling.

Expected Quantitative and Qualitative Impacts On:

*Waste Reduction:*

Expected to reduce waste volumes by less than 1%.

*Reuse:*

Expected to enhance reuse or repurposing by 1%.

*Materials Recovery:*

Resue programs will improve materials recovery.

*Participation in Recovery Opportunities:*

Expected to enhance participation by 3-5%.

*Product Stewardship:*

No impacts on product stewardship are expected.

*Economic, Administrative, or Partnership Benefits:*

Expected to have little to no impact.

Identification of Administrative, Contractual, and Financial Requirements for Implementation:
The existing administrative, contractual, and financial structure is sufficient to support ongoing and future waste reduction activities.
Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation:
None required at this time.

## Title: Reuse Programs

**Administrative/Technical Impacts:**

Quantitative/Qualitative Impacts on Waste Stream:

The County will promote reuse of materials via their website and promotional fliers. Product reuse is a key element to waste reduction. Items can be repurposed and given away for free to those is need. This limits waste from entering the landfill, allows individuals to save money, and reduces the need for more manufacturing.

Types and Sizing of Facilities or Program:

This program would not affect sizing of current facilities and there would be no infrastructure required by the County. Reuse allows the facilities within the planning unit to stay the same size and no additional resources for waste management are anticipated to be needed.

Summary of Cost Data for Evaluation:

Costs anticipated to be incurred are expected to be minimal and would result from increased educational efforts.

Impact on Natural Resource Conservation, Energy Production and, Employment:

Reuse of goods and materials is expected to conserve natural resources and landfill space. Energy production and job creation is not anticipated.

**Jurisdictional Impacts:**

Interest in Participation by Neighboring Planning Units:

Interest from neighboring planning units has not been inquired about. However, as previously discussed, promoting similar concepts and consistent messages between towns and counties would be beneficial for the region as a whole.

Alternatives Available with Participation by Neighboring Planning Units:

Activities associated with this program are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units:

Not requested.

Assessment of Environmental Justice Impacts:

There are no known or expected environmental justice impacts associated with reuse programs in Sullivan County; however, lower income families may have increased availability to goods and products that are diverted for reuse.

**Selected Alternatives Identification:**

Reasons for Being Chosen:

Reuse and repurposing are key elements in the NYS SWMP. The implementation is relatively low cost and should result in diversion of materials previously destined to be landfilled.

Expected Quantitative and Qualitative Impacts On:

*Waste Reduction:*

Expected to reduce waste volumes by 3-5%.

*Reuse:*

Expected to enhance reuse or repurposing by 3-5%.

*Materials Recovery:*

Expected to enhance recovery by 3-5%.

*Participation in Recovery Opportunities:*

Expected to enhance participation by 3-5%.

*Product Stewardship:*

No impacts on product stewardship are expected.

*Economic, Administrative, or Partnership Benefits:*

Expected to have little to no impact.

Identification of Administrative, Contractual, and Financial Requirements for Implementation:

The existing administrative, contractual, and financial structure is sufficient to support ongoing and future waste reduction activities.

Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation:

None required at this time.

## Title: Recyclables Recovery Programs

**Administrative/Technical Impacts:**

Quantitative/Qualitative Impacts on Waste Stream:

The Recyclables Recovery Program is essential to reduce waste volumes. Improved recycling efforts can divert materials destined for a landfill, reduce disposal fees, and save natural resources. Sullivan County currently operates single stream recycling, but does collect source separated carboard, oil, scrap metal, textiles, and hosts household hazardous waste events. The County will educate individuals as to where items can be recycled within the County.

Types and Sizing of Facilities or Program:

This recycles recovery program will continue to promote recycling with additional emphasis on recycling of batteries, plastic bags and ink cartridges through increased education efforts and awareness to residents and businesses. This increased education effort for recycling will not affect sizing of current facilities and will not require additional space by the County.

Summary of Cost Data for Evaluation:

Additional costs may result for needed labor and education to promote recycling.

Impact on Natural Resource Conservation, Energy Production and, Employment:

Increased conservation of natural resources and landfill space is expected. Energy production and job creation are not anticipated.

**Jurisdictional Impacts:**

Interest in Participation by Neighboring Planning Units:

Interest from neighboring planning units has not been inquired about. However, as previously discussed, promoting similar concepts and consistent messages between towns and counties would be beneficial for the region as a whole.

Alternatives Available with Participation by Neighboring Planning Units:

Activities associated with this program are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units:

Not requested.

Assessment of Environmental Justice Impacts:

There are no known or expected environmental justice impacts associated with recyclables recovery programs in Sullivan County.

**Selected Alternatives Identification:**

Reasons for Being Chosen:

Recycling is essential to reduce waste volumes and save natural resources. Depending on the cost/expense analysis and end market availability, additional items may be considered for recycling in the future.

Expected Quantitative and Qualitative Impacts On:

*Waste Reduction:*

Expected to reduce waste volumes by <1%.

*Reuse:*

Expected to enhance reuse or repurposing by <1%.

*Materials Recovery:*

Expected to enhance recovery by <1%.

*Participation in Recovery Opportunities:*

Expected to enhance participation by 5-10%.

*Product Stewardship:*

No impacts on product stewardship are expected.

*Economic, Administrative, or Partnership Benefits:*

Increased labor and administrative costs for education efforts.

Identification of Administrative, Contractual, and Financial Requirements for Implementation:
The existing administrative, contractual, and financial structure is sufficient to support ongoing recycling activities.
Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation:
None required at this time.

## Title: Enforcement Programs

**Administrative/Technical Impacts:**

Quantitative/Qualitative Impacts on Waste Stream:

The enforcement Program is not expected to reduce MSW waste volumes. However, it will hopefully identify individuals who are violating the law (not properly recycling or disposing of hazardous materials improperly).

Types and Sizing of Facilities or Program:

This program would not affect sizing of current facilities. Cameras would be added to the transfer station buildings.

Summary of Cost Data for Evaluation:

Enforcement efforts are anticipated to have a small financial impact on the County for increased labor of boots on the ground inspecting curbside containers and for the purchase of cameras.

Impact on Natural Resource Conservation, Energy Production and, Employment:

Impact on natural resource conservation, energy production and job creation is not anticipated.

**Jurisdictional Impacts:**

Interest in Participation by Neighboring Planning Units:

Interest from neighboring planning units has not been inquired about. Other planning units with flow control should have enforcement in place.

Alternatives Available with Participation by Neighboring Planning Units:

Activities associated with this program are not dependent on the participation of neighboring planning units. However, conservations with neighboring counties will be held to confirm waste and recyclables from Sullivan County are not being disposed of in neighboring planning units.

Recommendations from Neighboring Planning Units:

Not requested.

Assessment of Environmental Justice Impacts:

There are no known or expected environmental justice impacts associated with the enforcement programs in Sullivan County.

**Selected Alternatives Identification:**

Reasons for Being Chosen:

By enforcing flow control laws, it will help the County capture MSW being generated within the County. Also, by enforcing recycling and removal of hazardous materials from loads will reduce labor costs for separation on the tip floor and keep these materials out of landfills.

Expected Quantitative and Qualitative Impacts On:

*Waste Reduction:*

Little to no impact.

*Reuse:*

Little to no impact.

*Materials Recovery:*

Little to no impact.

*Participation in Recovery Opportunities:*

Little to no impact.

*Product Stewardship:*

No impacts on product stewardship are expected.

*Economic, Administrative, or Partnership Benefits:*

Expected to have little to no impact.

Identification of Administrative, Contractual, and Financial Requirements for Implementation:

The existing administrative, contractual, and financial structure is sufficient to support ongoing and future enforcement activities.

Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation:

None required at this time.

## Title: Education and Outreach

**Administrative/Technical Impacts:**

Quantitative/Qualitative Impacts on Waste Stream:

Education and outreach is essential in order to inform residents and haulers of current waste disposal, recycling, and markets changes. The County will continue to reach out to residents, haulers and businesses through a combination of mailers, social media, and in person events/meetings. The County will focus on completing at least 1 monthly training or educational event via online platforms or by directly visiting with schools/businesses. This will allow individuals to ask questions and become more engaged in waste management and recycling practices.

Types and Sizing of Facilities or Program:

This program would not affect sizing of current facilities and there would be no infrastructure required by the County. The education efforts would most likely result is a reduction of MSW and an increase in recycling and reuse.

Summary of Cost Data for Evaluation:

A slight increase in administrative cost for flyers and labor are expected.

Impact on Natural Resource Conservation, Energy Production and, Employment:

A small natural resource conservation is anticipated. Energy production and job creation is not anticipated.

**Jurisdictional Impacts:**

Interest in Participation by Neighboring Planning Units:

Interest from neighboring planning units has not been inquired about. However, as previously discussed, promoting similar concepts and consistent messages between towns and counties would be beneficial for the region as a whole.

Alternatives Available with Participation by Neighboring Planning Units:

Activities associated with this program are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units:

Not requested.

Assessment of Environmental Justice Impacts:

There are no known or expected environmental justice impacts associated with education and outreach in Sullivan County.

**Selected Alternatives Identification:**

Reasons for Being Chosen:

Educating the public is critical to continue to improve recycling and waste deduction.

Expected Quantitative and Qualitative Impacts On:

*Educated and outreach:*

Expected to reduce waste volumes by 3-5%.

*Reuse:*

Expected to enhance reuse or repurposing by 3-5%.

*Materials Recovery:*

Expected to enhance recovery by 3-5%.

*Participation in Recovery Opportunities:*

Expected to enhance participation by 3-5%.

*Product Stewardship:*

No impacts on product stewardship are expected.

*Economic, Administrative, or Partnership Benefits:*

Expected to have little to no impact.

Identification of Administrative, Contractual, and Financial Requirements for Implementation:

The existing administrative, contractual, and financial structure is sufficient to support ongoing and future waste reduction activities. A slight increase in costs is expected for labor to perform educational meetings and documents to hand out to the public.

Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation:

None required at this time.

## Title: Data collection and evaluation efforts

**Administrative/Technical Impacts:**

Quantitative/Qualitative Impacts on Waste Stream:

During the planning process for this Plan, a data gap was identified related to quantification of industrial and biosolid waste produced/handled within the County, as well as quantification of organic components used on farms. Data collection for the three waste types will be completed via mailed out surveys.

Types and Sizing of Facilities or Program:

This program would not affect sizing of current facilities and there would be no infrastructure required by the County. The County does not manage these materials and has no intentions too in the foreseeable future.

Summary of Cost Data for Evaluation:

Increased efforts for communication and data collected may increase administrative costs.

Impact on Natural Resource Conservation, Energy Production and, Employment:

No impacts on natural resource conservation, energy production, and job creation is anticipated.

**Jurisdictional Impacts:**

Interest in Participation by Neighboring Planning Units:

No interest has been pursued. Gathering data and sharing among planning units may allow for collaborative planning in the future.

Alternatives Available with Participation by Neighboring Planning Units:

Activities associated with this program are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units:

Not requested.

Assessment of Environmental Justice Impacts:

There are no known or expected environmental justice impacts associated with data collection efforts in Sullivan County.

**Selected Alternatives Identification:**

Reasons for Being Chosen:

Various data gaps exist within the County for waste volumes produced and managed within the County. Collection of the data will provide a better overall understanding of materials generated in the County and potential improvements for the volumes to be managed.

Expected Quantitative and Qualitative Impacts On:

*Waste Reduction:*

Data collection is not anticipated to reduce waste.

*Reuse:*

No impact expected.

*Materials Recovery:*

No impact expected.

*Participation in Recovery Opportunities:*

Increased information may help the County to better understand all the recovery opportunities and facilities currently in the County managing waste.

*Product Stewardship:*

No impacts on product stewardship are expected.

*Economic, Administrative, or Partnership Benefits:*

Partnerships may arise depending on information collected. Increased administrative costs will be required as well. Little to no economic benefits are expected.

Identification of Administrative, Contractual, and Financial Requirements for Implementation:

The existing administrative, contractual, and financial structure is sufficient to support data collection activities.

Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation:

None required at this time.

## Title: C&D Debris Reduction

**Administrative/Technical Impacts:**

Quantitative/Qualitative Impacts on Waste Stream:

The County can promote deconstruction and reuse of materials on all projects being completed within the County. By calling construction and demolition companies and educating them on the importance of reuse of materials could result in a reduced volume of waste being hauled to a landfill for disposal.

Types and Sizing of Facilities or Program:

The County does not sort C&D materials. The current facility capacity in place meets the needs of the County.

Summary of Cost Data for Evaluation:

The high costs to permit, build, staff, and operate a C&D facility are not favorable for the County. The County will continue to operate solely as a transfer station and promote the reuse of building materials.

Impact on Natural Resource Conservation, Energy Production and, Employment:

Natural resource conservation would be a positive benefit from reducing volumes disposed of at landfills. Energy production is not anticipated. No jobs are expected to be created.

**Jurisdictional Impacts:**

Interest in Participation by Neighboring Planning Units:

Some neighboring planning units do have limited C&D recycling facilities in place or are being constructed. Collaboration among neighboring planning units could potentially reuse transportation and disposal costs to landfills.

Alternatives Available with Participation by Neighboring Planning Units:

Activities associated with promotion of reuse for construction materials are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units:

Not requested.

Assessment of Environmental Justice Impacts:

There are no known or expected environmental justice impacts associated with C&D debris reduction in Sullivan County.

**Selected Alternatives Identification:**

Reasons for Being Chosen:

A facility for C&D management is not being considered but the County will continue to promote reuse and repurposing of material.

Expected Quantitative and Qualitative Impacts On:

*Waste Reduction:*

Expected to reduce waste volumes by 3-5%.

*Reuse:*

Expected to enhance reuse or repurposing by 3-5%.

*Materials Recovery:*

Expected to enhance recovery by 3-5%.

*Participation in Recovery Opportunities:*

Expected to enhance participation by 3-5%.

*Product Stewardship:*

No impacts on product stewardship are expected.

*Economic, Administrative, or Partnership Benefits:*

Expected to have little to no impact.

Identification of Administrative, Contractual, and Financial Requirements for Implementation:

The existing administrative, contractual, and financial structure is sufficient to support ongoing and future waste reduction activities.

Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation:

None required at this time.

## Title: Management of Waste through Thermal Treatment Technologies

**Administrative/Technical Impacts:**

Quantitative/Qualitative Impacts on Waste Stream:

The County does not have sufficient volume or infrastructure in place to utilize gasification or pyrolysis technologies.

Types and Sizing of Facilities or Program:

New infrastructure would be needed.

Summary of Cost Data for Evaluation:

Infrastructure would be extremely costly, and the county does not manage sufficient volume to make this type of technology viable. This would require high capital costs, and therefore increased tipping fees or taxes passed onto the people of Sullivan, along with additional funding to implement this technology.

Impact on Natural Resource Conservation, Energy Production and, Employment:

No natural resource conservation, energy production and job creation are not anticipated as this technology is not being pursued.

**Jurisdictional Impacts:**

Interest in Participation by Neighboring Planning Units:

Not required.

Alternatives Available with Participation by Neighboring Planning Units:

Activities associated with this program are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units:

Not requested.

Assessment of Environmental Justice Impacts:

There are no known or expected environmental justice impacts associated with these technologies in Sullivan County.

**Selected Alternatives Identification:**

Reasons for Being Chosen:

Due to the high capital costs and limited volumes of source material this alternative is not being pursued.

Expected Quantitative and Qualitative Impacts On:

*Waste Reduction:*

N/A.

*Reuse:*

N/A.

*Materials Recovery:*

N/A.

*Participation in Recovery Opportunities:*

N/A.

*Product Stewardship:*

No impacts on product stewardship are expected.

*Economic, Administrative, or Partnership Benefits:*

None.

Identification of Administrative, Contractual, and Financial Requirements for Implementation:

N/A

Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation:

None required at this time.

## Title: Waste Disposal Options

**Administrative/Technical Impacts:**

Quantitative/Qualitative Impacts on Waste Stream:

For the next few years, waste operations and management will remain similar to what they are today.

Types and Sizing of Facilities or Program:

No additional facilities are needed.

Summary of Cost Data for Evaluation:

The County will continue to collect fees from users of the County-owned transfer stations for the disposal of solid waste and recyclables to offset the cost of transportation and disposal of waste at out-of-county facilities. Tip fees will most likely continue to increase year or over year.

Impact on Natural Resource Conservation, Energy Production and, Employment:

Natural resource conservation, energy production and job creation are not anticipated.

**Jurisdictional Impacts:**

Interest in Participation by Neighboring Planning Units:

The County is going to complete various feasibility studies and operational reviews to determine the best path forward. This may include collaboration with neighboring planning units.

Alternatives Available with Participation by Neighboring Planning Units:

Activities associated with this program are not dependent on the participation of neighboring planning units.

Recommendations from Neighboring Planning Units:

Not requested.

Assessment of Environmental Justice Impacts:

There are no known or expected environmental justice impacts associated with current waste disposal in Sullivan County.

**Selected Alternatives Identification:**

Reasons for Being Chosen:

The County realizes the need for local and alternative disposal options with the increasing transportation and disposal costs and limited remaining capacity of landfills in NY.

Expected Quantitative and Qualitative Impacts On:

*Waste Reduction:*

To be determined.

*Reuse:*

To be determined.

*Materials Recovery:*

To be determined.

*Participation in Recovery Opportunities:*

To be determined.

*Product Stewardship:*

No impacts on product stewardship are expected.

*Economic, Administrative, or Partnership Benefits:*

To be determined.

Identification of Administrative, Contractual, and Financial Requirements for Implementation:

The existing administrative, contractual, and financial structure is sufficient to support additional technology and operational reviews. Although funding allocations may be required for engineering consultants or infrastructure improvements at a later point in time.

Identification of New or Modified Local Laws, Ordinances, or Regulations Required for Implementation:

None required at this time.

# APPENDIX D: PUBLIC COMMENTS AND RESPONSE

**PUBLIC COMMENT PERIOD**

The Draft Local Solid Waste Management Plan for Sullivan County was issued for public comment on September 1, 2024. The public comment period was open for a period of 45 days and closed on October 15, 2024.

**PUBLIC MEETING**

A public meeting was held at 12:00 noon on Thursday September 19, 2024, in the legislative chambers of the Sullivan County Government Center, 100 North Street, Monticello, New York. Public notice of the meeting was posted a minimum of 15 days prior to the opening of the public comment period on the Sullivan County Website and Facebook page, as well as published in the River Reporter and the Sullivan County Democrat. Approximately 31 people from the public attended this meeting. During the meeting DPW Commissioner Ed McAndrew provided an introduction and established the purpose of the meeting. A presentation summarizing the contents of the LSWMP was given by Cornerstone Engineering and Geology, PLLC. Following the presentation the floor was opened to comments from meeting attendees. Approximately 17 people spoke. The meeting closed at approximately 1:45 PM.

**PUBLIC COMMENTS**

A total of approximately 110 separate comment submittals were received by Sullivan County. Within this grouping of submittals some of the comments were duplicate submittals by multiple individuals and some were duplicates of one submittal instructing others on what to submit and how to make the submittal.

Based upon Cornerstone's review, the comments received are grouped into four general categories with the majority of the comments directed at the concept of energy from waste. The four comments are summarized below along with an explanation of how these comments are addressed within the LSWMP. Copies of the comments received are attached.

**Comment Topic No. 1 – Opposition to Energy From Waste**

Energy from Waste (a.k.a burn plant, incinerator, waste to energy facility) facilities are harmful to people and the environment. "Individual" is against building or having the County allocate funds to perform a feasibility study on this technology.

**Response to Comment Topic No. 1**

*A preliminary review and evaluation of multiple waste disposal technologies was performed in conjunction with the preparation of the Draft LSWMP. Based upon this preliminary work and in conjunction with County staff, three feasibility studies were identified for further evaluation. The three studies are;*

1. *efficiency review of existing facilities and operations,*
2. *privatization of waste management within the County, and*
3. *a waste to energy facility*

*The Draft LSWMP is a framework to guide the management of waste materials in Sullivan County over the period of the next 10 years. The Plan as presented does not include the development of a Waste to Energy Facility. The Plan does include recommendation for a Feasibility Study to evaluate whether such a facility can be beneficial to the County. The recommended Feasibility Study is an opportunity to identify issues and concerns, such as have been raised by the comments received, and allow them to be appropriately addressed in light of applicable science, environmental policy, and economics. No revision to the Plan is recommended in response to this grouping of comments.*

**Comment Topic No. 2 – Support for Energy From Waste**

One of the comments received is in support of an Energy from Waste facility being constructed in the County.

**Response to Comment Topic No. 2**

*This comment is acknowledged. As noted above, the Draft Plan does not include a plan for construction of a Waste to Energy facility. No revision to the Plan is recommended in response to this comment topic.*

**Comment Topic No. 3 – Zero Waste Strategies**

Several of the comments indicated that individuals would like to see a focus on "zero waste" strategies and implementation by increasing education efforts, recycling, reuse, manufacturing/purchasing changes, and continuing to expand on composting.

**Response to Comment Topic No. 3**

*This comment is acknowledged. The Draft LSWMP identifies and encourages efforts associated with reduction, reuse and recycling. The County, in cooperation with Ulster County, has already initiated a larger scale composting program. The Draft LSWMP supports ongoing implementation and expansion of the County's composting program. No revision to the Plan is recommended in response to this grouping of comments.*

**Comment Topic No. 4 – Variable Disposal Fees**

One comment received recommended the imposition of higher disposal fees for summer residents, especially summer camps which typically do not recycle.

**Response to Comment Topic No. 4**

*This comment is acknowledged. The Plan sets forth methods for the County to handle waste and recyclables received at County facilities. The rate schedule for receipt of materials is reviewed and set forth on an annual basis. While the comment may be considered during the next rate setting*

*period, preference will be given to an equitable rate structure for all residents. No revision to the Plan is recommended in response to this comment topic.*

## Thelman, Kassie L.

**From:** Mina Mauerstein-Bail <minambail@gmail.com>
**Sent:** Thursday, September 19, 2024 12:38 AM
**To:** DPW Recycling Web Site Email
**Subject:** Draft Solid Waste Management Plan for Sullivan County

ITS ADVISES CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Building an incinerator does not appear to be a good idea for a number of reasons.

It is really bad for the environment with adverse impacts on human and animal health. These have been documented. Negative impacts go beyond the boundaries of where incineration takes place given wind patterns and climate change.

The economics of building incinerators and their decommissioning do not make financial sense. This is a no win for municipalities. Based on available research.

The company providing this technology does not appear to have a very good track record based on feedback from affected communities.

There are other alternatives that should be considered that are better for the environment and health. Zero waste approaches are being adopted by municipalities around the country. Efforts to learn more about how Sullivan county can develop and implement a zero waste strategy should be encouraged and expanded.

Finally, future discussions on this issue might be scheduled at a time when working folks are not working to allow more folks to attend public meetings.

Thank you
Mina Bail
Town of Thompson

Sent from my iPhone

## Thelman, Kassie L.

**From:** Alasha Santiago <alashasantiago09@yahoo.com>
**Sent:** Thursday, September 19, 2024 1:20 AM
**To:** DPW Recycling Web Site Email
**Subject:** Statement regarding No "waste to energy incinerator in Sullivan County
**Attachments:** Statement Incinerator Waste.pdf

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Recycling Sullivan,
My statement is attached below:

Thank you.

Alasha Santiago
845-428-0423

Sent from Yahoo Mail for iPad

The concept of having a no “ waste to energy “incinerator is a detriment to Sullivan County, as it will place families at high risks for cancer, polluting the air quality, risk for heart disease, and so many other potential risk factors that have yet to be studied. We already know the chemicals released will be toxic, let’s not poison our children, mothers, fathers, and grandparents . Let’s keep our environment safe for the community that we live. This process is actually a  very expensive way of getting rid of trash. I personally have a cousin who was told her cancer diagnosis was due to an industrial plant in her neighborhood. She passed away 2 years after her diagnosis, and left behind 3 young children. We have a right, and an obligation to stand up for community, and search for safer options.
Alasha Santiago- Sullivan County NAACP 2187-B

## Thelman, Kassie L.

**From:** MARIA GRIMALDI <pantherrock@hughes.net>
**Sent:** Thursday, September 19, 2024 7:02 AM
**To:** Thelman, Kassie L.
**Subject:** Public Commentary on Solid Waste Proposal
**Attachments:** solid waste2.pdf

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Kassie,

I am hoping all is going well with the composting project.
I am sending you via attachment my comments on the Solid Waste Management plan. I am hoping you will direct it to those whom it may concern.
The composting program is an example of where we (the County) should be going with trying to manage the volume of garbage we create.
I am opposed to the idea of incinerating plastics.

Stay in touch,

***Maria Grimaldi***

845 820-2903 cell

My statement would be as follows:

First I would like to applaud the County's food waste recycling program which is underway at some of the transfer stations. Special thanks to Kassie Thelman.

Turning food waste into fertilizer for commercial use makes a great deal of sense as a wasted resource that can be recovered through municipal composting. If Sullivan County can do this the process it would accomplish two objectives.

Regarding the proposal to incinerating mixed waste, however, is a bad idea for two important reasons.

#1 The burning of mixed waste which contains plastics is a process that releases gas, emissions and ash residue that have proven toxic effects on human and environmental health. Our air, water and soil resources must be protected.

#2 Our focus should be on reducing waste not relying on a business model that needs a large volume of garbage to operate profitably. There is no incentive to reduce waste if we rely on companies to incinerate garbage. Can we all work together on a sane waste reduction plan, not on a proposal to promote more damage to the environment and profits for the companies that are in the business of garbage?

#3 A solid waste incinerator facility would not be compatible with the booming economic health of our communities which rely on our peaceful and pristine environment. Property values and revenues from tourism would be adversely affected incinerating garbage.

**Thelman, Kassie L.**

**From:** MARIA GRIMALDI <pantherrock@hughes.net>
**Sent:** Thursday, September 19, 2024 7:15 AM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on Incineration of garbage
**Attachments:** solid waste2.pdf

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please see attachment regarding solid waste management plan.

Thank you for all you are doing in trying to manage our solid waste problems.

***Maria Grimaldi***

845 820-2903 cell

My statement would be as follows:

First I would like to applaud the County's food waste recycling program which is underway at some of the transfer stations. Special thanks to Kassie Thelman.

Turning food waste into fertilizer for commercial use makes a great deal of sense as a wasted resource that can be recovered through municipal composting. If Sullivan County can do this the process it would accomplish two objectives.

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#3 A solid waste incinerator facility would not be compatible with the booming economic health of our communities which rely on our peaceful and pristine environment. Property values and revenues from tourism would be adversely affected incinerating garbage.

## Thelman, Kassie L.

**From:** Eve Fox <evefox@gmail.com>
**Sent:** Thursday, September 19, 2024 4:52 PM
**To:** DPW Recycling Web Site Email
**Subject:** Public comment on Solid Waste Management Plan - WTE is not an acceptable solution

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Sullivan County officials,

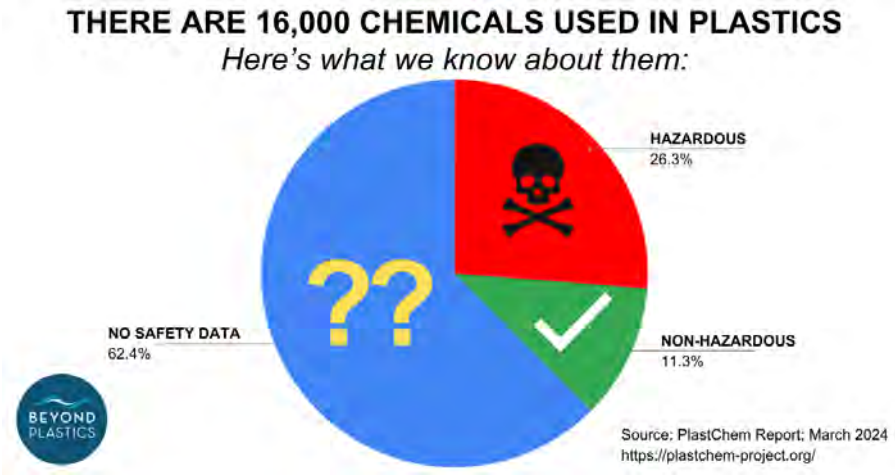
I'm writing to share my concerns about section 7.5 WASTE TO ENERGY – THERMAL CONVERSION (MASS BURN) - in the solid waste management plan. I urge you to drop all consideration of waste to energy for the following reasons:

1. Waste to energy is simply a fancy name for a trash incinerator. Incinerators release toxic pollutants, including dioxins, PFAS, and mercury, that poison surrounding communities and the entire planet.
2. WTE facilities create greenhouse gas emissions that speed climate change and also fly in the face of NY's Climate Law (CLCPA).
3. WTE facilities also create hazardous waste in the form of toxic ash that must be dealt with by paying to transport and landfill the toxic ash in a toxic ash dump, costing taxpayers money and generating additional climate-change-speeding greenhouse gas emissions (and undoubtedly leaking along the way.) Toxic ash dumps are overwhelmingly located in environmental justice communities like those in Sullivan County.
4. An incinerator would threaten the health of Sullivan County residents and residents in neighboring counties while also polluting the environment in Sullivan and neighboring counties, including mine (Ulster.)
5. The presence of an incinerator will increase the negative impacts on the many environmental justice communities in and just outside of Sullivan County (which I appreciated were clearly designated in the SWM Plan) and will decrease property values and harm the economy.

In short, an incinerator (or WTE facility, if you prefer) is the last thing Sullivan County needs and I urge you to please drop consideration of this incineration option.

On the other hand, diverting organics from the waste stream is a proven way to both save space in landfills and reduce the need for incinerators or waste exports while also decreasing methane generation from landfills (methane is a highly potent climate pollutant). However, I encourage you to choose an option other than 7.3.6 Membrane Covered Aerated Static Pile as I have concerns about the wisdom of encase the organic material in plastic as there's more and more scientific evidence that plastic leaches toxic chemicals into anything it comes into contact with (our soil, our food, our beverages, our skin.) We also know that chemicals migrate out of plastic at much higher rates in the presence of heat and high temperatures are unavoidable in a composting operation.

Given that the majority of chemicals used in plastics have never been tested for safety and that more than a quarter of chemicals in plastics are known to be toxic to humans, this represents a serious concern, particularly given that the soil created from composting may be used by gardeners and even farmers. Many of the substances used in plastics do not break down, including PFAS class of chemicals which remain in soil, water and bodies for decades.




Promoting backyard composting, investing in reuse and refill systems, supporting repair cafes, and investing in an industrial-scale composting program that includes green bin pick ups from businesses and at least the option for residents to drop organic waste off at transfer stations or other convenient locations are all excellent ways to decrease the amount of solid waste that's left to be buried or burned.

I would love to see the SWMP amended to include reuse and refill systems along with repair cafes and expanded promotion for the recycling of aluminum and other metals, paper, cardboard, and glass. Plastics are not truly recyclable and we should not waste time pretending that they are.

Thank you for taking the time to consider my public comment.

Sincerely,

Eve Fox
Digital Director, Beyond Plastics
Woodstock, NY

## Thelman, Kassie L.

**From:** Sean Zigmund <sean@zigmund.com>
**Sent:** Friday, September 20, 2024 9:39 AM
**To:** DPW Recycling Web Site Email
**Subject:** Draft SWMP Public Comment

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Mr. Witkowski,
I am writing to submit comments for the Draft Solid Waste Managment Plan that was discussed at the Sullivan County Government Center yesterday.

While I applaud the county for conducting the seemingly long-overdue process of researching and drafting a plan for solid waste management in our beautiful county, I write to *strongly oppose any type of incineration power plant in our county which would burn garbage or anykind. I have personal experience with a waste incineration plant in Vermont and it is all negative for the following reasons: a)* An incinerator costs a significant amount of money which is born on the backs of the citizens who pay tax in the area, money which could instead be spent on programs to promote, educate, and implement re-use, recycling, repair, and resale of products taken out of the waste stream to minimize as much as possible, b) An incinerator requires larger and larger volumes of trash to burn to be "sustainable", so other counties will be incentivized to bring their garbage to Sullivan County, meaning more air, soil, and water pollution in our community to make the incinerator financially sustainable, a net negative for our county if "waste management" comes at the cost of our environment, c) the companies who build and manage the incinerator plants have ZERO incentive to do anything other than operate the plant at maximum capactity to ensure maximum profits, d) the pollution created by incinerator plants is born on the backs of the general public and historically has caused public health issues, crises, and epidemics that in turn causes financial crises for the population around the incinerator - Sullivan County is already one of the unhealthiest counties in New York State, e) the burning of trash, specifically plastics, rubber, construction debris, and similar toxic items leads to concentrated toxic waste which still needs to be dealt with - additional costs will be born on the public to deal with this toxic waste, and f) the amount of energy generated in the plant is a small gain for a much larger cost to health, quality of life in our county, and heightened toxic waste from the incineration process. All of the reasons above have been well documented across the United States, with many incineration plants being shutdown after the ill affects are felt within a community. Please do not allow this to happen in Sullivan County. There must be more appropriate and viable options our county can choose and while the plan includes some, the incinerator has NO PLACE in our community. I encourage our govenment bodies to work together as connected communities to push higher up to State and Federal levels in a coordinated way to push our government bodies to *pressure producers to minimize, limit, and regulate products and packaging and include cradle-to-grave processes for any goods produced so that the general public isn't responsible for their garbage. Purchasing a good that is not regulated in this way means the product and the packaging become the responsibility of the general public for disposal, recycling, re-use, etc. and obviously this reality is NOT WORKING for the entire world, let alone the U.S.*
*We need new regulations on producers and packaging manufacturers to minimize waste, develop re-use and recycling processes that actually work. If we hold producers feet to the fire, eventually products and packaging will be developed, promoted, sold, and reintegrated into the manufacturing process, rather than thrown into a hole in the ground or an incinerator, further spreading pollution across our world. Plastic pollution is a significant existential threat to all life on our planet, and burning it is even worse.*
*Thank you for taking my comments and adding them to the record. I sincerely hope we can be given more time as a community to explore more sensible options and ideas to properly deal with our trash.*

Thank you,
Sean Zigmund

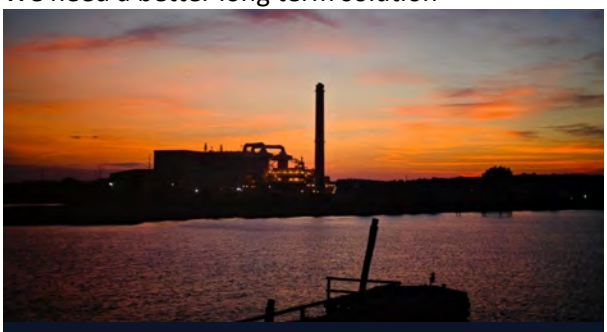
845-707-1876 (cell)  845-292-9126 (home/farm)
64 Mineral Springs Rd., Livingston Manor NY 12758

## Thelman, Kassie L.

**From:** Keith Gardner <gardnerkeith@me.com>
**Sent:** Friday, September 20, 2024 1:01 PM
**To:** DPW Recycling Web Site Email
**Subject:** Incinerator
**Attachments:** saugus-larussa.jpg

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please preserve our most precious resource. The air we breathe.
We cannot stop breathing
We need a better long term solution



## Thelman, Kassie L.

**From:** Rebekah Creshkoff <rcreshkoff@gmail.com>
**Sent:** Friday, September 27, 2024 9:01 AM
**To:** Thelman, Kassie L.
**Subject:** Comment on draft LSWMP by Johanna Fallert
**Attachments:** Sullivan County Public Comment 9_19_24 (1).docx

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

The attached comments were read aloud by Mary Paige Lang-Clouse at the 9/19 public meeting on the LSWMP.

Rebekah Creshkoff
cell 212-316-3163

The world starts to look very different once you realize that plastic is not biologically inert.

Begin forwarded message:

**From:** Johanna Fallert <jcfallert@gmail.com>
**Date:** September 19, 2024 at 9:52:34 AM EDT
**To:** Rebekah Creshkoff <rcreshkoff@gmail.com>
**Subject: comment on Sullivan solid waste plan**

Sullivan County Public Comment 9/19/24

I am reading the comment from Johanna Fallert, who lives in the Town of Poughkeepsie [16 Earlwood Dr.}, in Dutchess County, where they have a Waste-to-Energy Facility.

[QUOTE] “As someone who lives a few miles away from the County’s Waste-to-Energy Incinerator, and who spent more than 25 years on weekends and holidays in Fremont Center, I urge you to oppose the construction of a Waste to Energy facility in Sullivan County.

**You don’t need the small amount of electricity from** a gas-fueled incinerator. This electricity is neither clean nor renewable. If you need electricity, the federal and state government agencies are giving money away to create solar, wind, and geothermal structures which generate renewable, sustainable electricity. Don’t waste your taxpayer dollars to spend millions on an incinerator. It will become a **dying asset.** The number of incinerators has crashed **from 188 in 1991 to 64 today**.

**What’s in your trash?** In Dutchess County, the EPA says that 57% of what we burn is organic—-food scraps, wood and paper–and **this puts carbon dioxide,** that lasts at least a hundred years, into the atmosphere. It also burns plastics, metals, glass and other materials.

**NewYork State law requires us to reduce greenhouse gas emissions**, but our incinerator contributes to it. In 2020, **we emitte**d 106,000 tons of CO2 into the air–t**he equivalent of 22,000 gas-fueled cars.** Deliberately building an incinerator that produces CO2 undermines the law.

Sullivan County’s population is about a quarter of Dutchess County’s, but its **population is growing as WILL the volume of trash that is growing** everywhere.

Incineration does not address **what’s really needed–that we REDUCE the volume of trash, not burn more and more of it!**

**Zero Waste Management strategies manage waste without burning. Its strategies are practiced** by more than 500 municipalities in the United States and around the world and they lead to **economic benefits** by expanding existing jobs or creating **new jobs in building deconstruction, recycling, composting, reuse, repair, thrift sales, centers for hard to recycle materials, mattress recycling that creates bedding for animals, and more.**

**I urge you to research Zero Waste strategies. This is a great opportunity for Sullilvan County to put its thinking and its money toward the benefit of the community’s health and environment.**

**Dutchess County executives** have a vested interest in defending their Waste to Energy Incinerator. But the **electricity** it generates **powers only 8% o**f the County’s housing units and its air pollution affects everyone. The air carries foul odors to nearby neighborhoods.

EPA data show it as the **#1 industrial polluter of nitrogen oxides that trigger asthma**, and **Poughkeepsie** is ranked #6 in the USA as an **asthma capital**.

Our incinerator emitted **12 pounds of mercury** in 2020, a powerful neurotoxin. Just a tiny amount can contaminate wetlands and waterways. **Check warnings for Sullivan County** in the NY State Fisheries website about mercury's impact and restrictions on eating fish.

Please compare incineration to zero waste management for your future solid waste management needs and pledge to "First Do No Harm."

## Thelman, Kassie L.

**From:** Rebekah Creshkoff <rcreshkoff@gmail.com>
**Sent:** Friday, September 27, 2024 9:09 AM
**To:** Thelman, Kassie L.
**Subject:** Public comment on LSWMP: Newsletter that is relevant to the incinerator discussion

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

A colleague recently forwarded me this year-old newsletter. There's a lot of material in here that is worthy of consideration. Please include this document in the Public Comment section of the Draft Local Solid Waste Management Plan.

Thank you.

Rebekah Creshkoff
cell 212-316-3163

The world starts to look very different once you realize that plastic is not biologically inert.

Begin forwarded message:

**From:** Tracy Frisch <tracy.frisch@gmail.com>
**Date:** September 19, 2024 at 9:41:19 AM EDT
**To:** Rebekah Creshkoff <rcreshkoff@gmail.com>
**Subject: Fwd: caucus— auction postponed for incinerator in Penobscot because no one wants to buy it-- soon Dutchess GOP will force taxpayers of county to pony up $500 million for new incinerator: billion-dollar boondoggle**

On Wed, Sep 13, 2023 at 8:43 AM Joel Tyner <tynerjoel@gmail.com> wrote:

On Wed, Sep 13, 2023 at 7:27 AM Working Class Dutchess <tynerjoel@gmail.com> wrote:

*[note-- scroll down for specifics/info re: two very important Zoom calls tonight!]*
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@

**Thx to Mike Ewall of https://beyondburning.ejnet.org for the pic/info/link above-- during our Zero Waste Dutchess Zoom last night he informed us that they've literally had to postpone the auction (at least once) of that incinerator above in Penobscot (ME) because no one wants it!…(*it's the same age as the Dutchess incinerator*)…Wake up Dutchess— county GOP will soon enough (after the election this Nov.) be forcing you to pay for a $500 million bond to construct a gleaming new (unneeded) incinerator — literally a billion-dollar boondoggle after the bonds are paid off over 20-30 years— Neil Seldman of ZeroWasteUSA.org has read the Solid Waste Management**

**Plan for Dutchess repeatedly — and seen this very same story play out over and over across the US— WAKE. UP.**

**If you have time-- watch/share at least the beginning of this new video from our Zero Waste Dutchess Zoom last night on all this-- Neil Seldman of https://zerowasteusa.org spoke on all this in depth(!): https://www.youtube.com/watch?v=zbN6gM4n5B4**

***[Penobscot burner: https://keenanauction.com/auction.cgi?i=5217 ]***

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***[Dutchess incinerator began operation in 1989-- roughly same time; https://www.timesunion.com/hudsonvalley/news/article/dutchess-county-solid-waste-management-plan-18282574.php ]***

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**Be like Neil-- read Solid Waste Management Plan for Du. Co. yourself(!): https://www.dutchessny.gov//ConCalAtt/2/2023159.pdf**

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**That's not all all folks-- click here on link below for our video from last night of Neil Seldman of Zero Waste USA, Mike Ewall of Beyond Burning, Judy Malstrom of Zero Waste Dutchess, Jill Fieldstein of SaveDover.org, Doreen Tignanelli of the Town of Poughkeepsie, and Dave Heller of Rhinebeck for weekly Zero Waste Dutchess Zoom-- in this case a 9/12/23 debrief of what happened the day before-- when the Dutchess County Legislature Democratic Caucus stood strong and every Dem county legislator present voted no to the pro-incineration Solid Waste Management Plan for Dutchess (with no serious goals/plans re: increasing recycling/composting): https://www.youtube.com/watch?v=zbN6gM4n5B4**

**Especially of note here-- Neil Seldman starts the video talking about his work in upstate New York in Warren County (population of 130,000)-- where, together with Tracy Frisch of the Clean Air Action Network and Diane Collins of Zero Waste Warren County, they've convinced a critical mass of elected officials at county and government levels to make sure that at the town level at municipal transfer stations that metal, glass, plastics, and cardboard is separated instead of all being put into one recycling container. This means that taxpayers in Warren County will actually be able to save $200,000 a year by having those valuable recyclables baled locally and picked up by Replenysh.com to be brought to nearby paper/other mills. Currently towns governments are paying $100 a ton to have their recyclables shipped an hour away to Albany to be processed there; this model**

**avoids that. Neil made it clear to us in this video-- KISS-- Keep It Separated Stupid (keep materials that can be recycled separated from one another-- they're much more valuable that way). Click on these 2 links for Warren County's example for Dutchess:**
**https://www.zerowastewarrenco.org**
**https://www.cleanairactionnetwork.org**

**On that note, Seldman recently co-authored this piece-- "The Second Recycling Revolution" pointing out more recycling/composting facilities have been constructed in the last five years than in the previous fifty years-- because more and more municipalities across the U.S. are increasingly realizing the wisdom of the Seldman K.I.S.S. motto (avoiding the dead-end road of trying to ship materials to be recycled to China that are all messy after being mixed up together-- "commingled").**
**https://nrcrecycles.org/mobius/nrcwp-content/uploads/2022/12/NRC-December-2022-Newsltr-Second-Recycling-Revolution-Seldman-Kinsella-MP.docx.pdf**

**Dutchess County, with a population more than twice that of Warren County, could obviously save upwards of half a million dollars this way working with https://replenysh.com *(you may recall that just a few weeks ago Ryon Hart of Replenysh joined us for one of our weekly Zero Waste Dutchess Zoom calls-- Hart indicated a strong interest in working with Dutchess if local officials were interested-- see link below!).***

**Instead of embarking upon that sensible path, however, as Neil Seldman points out in this video, the taxpayers of Dutchess County are well on the way to a literal billion-dollar boondoggle of epic proportions. Neil has read and re-read the recently approved Solid Waste Management Plan (SWMP) for the county-- and come to the conclusion (along with Tyner and others @ Zero Waste Dutchess) that the county SWMP admits that the county incinerator is falling apart and will soon need millions of dollars in new pollution controls (not just incredibly expensive to build but quite expensive to operate). Neil knows that soon enough Dutchess County government officials ideologically bound to a burn-baby-burn approach will propose a $500-million-dollar bond to build a shiny new incinerator (that will cost literally a billion dollars to pay off over the few decades needed to pay off those bonds). Neil also knows from decades of experience dealing with this issue across the U.S. that a full fifteen percent of that half a billion dollars-- a whopping $75 million-- will go to the attorneys, bond firms, et. al. in a legalized-kickback frenzy with plenty of that funding returning to the Dutchess power structure in the form of campaign**

**contributions (Neil has seen this over and over again across the country).**

**Mike Ewall also talked about how, if government officials don't abdicate their responsibility to be leaders and educate the public, provide enough recycling bins, production service, and pay-as-you-throw pricing incentives, those things actually serve quite effectively to exponentially ramp up recycling and composting rates towards zero waste (meanwhile, Dutchess County Executive William O'Neil pathetically throws up his hands at the Sept. 7, 2023 County Legislature Environmental Committee meeting, complaining about how people are lazy and don't want to recycle).**

**Dutchess County deserves better.**

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# From Johanna Fallert (jcfallert@gmail.com) of Mothers Out Front and the Dutchess County Progressive Action Alliance:

## "Excellent Presentation on Food Scraps Recycling tonight via Zoom or TV, the "Scarsdale Model"

Dear Friends, Legislators, and Dutchess County Officials,

Please **Zoom** in to view the presentation at **7 pm tonight** about the successful program in Westchester County that **diverts food scraps from the solid waste stream**. It goes **beyond back-yard composting**, and would help every community to reduce heat-warming carbon emissions from entering the atmosphere.

**A public meeting of the Town of Poughkeepsie Town Board.**
September 13, 2023 at 7:00 PM.
Town Hall is open to the public, 1 Overocker Rd.
**ZOOM: https://us06web.zoom.us/j/81743955909 Via the Zoom website or application ("app"):**

- **Meeting ID: 817 4395 5909 Password: 333922.** Through Zoom, members of the community will be able to participate in the Town Board meeting via computer or phone audio.
- Members of the community can **also simply call into the meeting** using the following phone number: 1-929-205-6099 and the meeting ID and meeting password above.

The **meeting is also broadcast live on Cablevision Channel 22 and Verizon Fios Channel 38** COMMITTEE OF THE WHOLE 09:13-COW1 Presentation By Ready Coffee, Robert Wachtel and Jed (Councilwoman Bonnem re a Ready Coffee on Fairmont Shershin) Avenue. 09:13-COW2 Presentation Update on CAPI Dutchess: the Dutchess (Director Welti) County Climate Action Planning Institute – the Town of Poughkeepsie's Government Operations Greenhouse Gas Inventory **09:13-COW3: Presentation By the Conservation Advisory Commission (Councilwoman (CAC) and Ron Schulhof, Scarsdale Food Scrap Recycling Committee**

Johanna Fallert
"Hope is like a road in the country; there was never a road, but when many people walk on it, the road comes into existence." -Lin Yutang"

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# From Doreen Tignanelli (Doreentig@aol.com) of the Town of Poughkeepsie:

Tue, Sep 12, 1:46 PM (17 hours ago)

## Fw: Link to Zero Waste Westchester Zoom meeting for Wednesday, September 13th at 7:30pm

I registered for this but it conflicts with Town of Poughkeepsie Board Mtg so not sure which one I will be zooming into.

----- Forwarded Message -----
**From:** Doreen Tignanelli <**doreentig@aol.com**>
**To:** Working Class Dutchess <**tynerjoel@gmail.com**>
**Sent:** Sunday, September 10, 2023 at 08:05:02 PM EDT
**Subject:** WASS Zero Waste Task Force- Back to School Edition

Joel did you see this? Doreen

**Take Action on Zero Waste for Westchester County:**
1. Sign our petition (for individuals): **wasspeekskill.org/ZWpetition**
2. Sign your organization/business/local leader on to our letter to Westchester County Leadership in support of an RFP request for a County-Wide Zero Waste Plan: **wasspeekskill.org/ZWplan**
3. Activate YOUR community leaders in urging our county government to develop a comprehensive county-wide Zero Waste plan, invest in sustainable waste management practices, and end trash incineration for good! Template email language here: **wasspeekskill.org/zwplanemail**

----- Forwarded Message -----

**From:** Vanessa Agudelo <**vanessa@energyjustice.net**>
**Sent:** Saturday, September 9, 2023 at 06:18:43 PM EDT
**Subject:** Next Wed: WASS Zero Waste Task Force- Back to School Edition

*Westchester Alliance for Sustainable Solutions (WASS)* would like to cordially invite you to our next **monthly WASS Zero Waste Task Force meeting via zoom on Wednesday, September 13th at 7:30pm**. These meetings convene monthly to build a collective county-wide effort, with representation from various sustainability committees and community-based organizations across our region, to advance truly sustainable waste management practices and end toxic garbage incineration in Westchester County.

As so many of us gear up to get the next generation back to school, **this coming month we are inviting Anna Giordano from WeFuture Cycle** to present on her work with local schools and their goal of reducing lunchroom garbage by 90% by sorting out recyclables. Join us to learn more about how you can collaborate with your local school districts to move them closer to zero waste!

**Please register in advance here.** Feel free to share our registration link with any friends or colleagues that may be interested!

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Join WASS for our **End of Summer Community Potluck on Wed., September 20th** at the Peekskill Riverfront Green Gazebo. We will have a craft workshop courtesy of the Retake-Remake: Art Thriftshop. Please RSVP to or share our Facebook Event **here**. All are welcome to come as you are. We invite and welcome any organization that would like to support our event by donating a dish or special treat, please reach out so we can best coordinate.

If you have any questions, please do not hesitate to reach out to Vanessa Agudelo at **vanessa@energyjustice.net**

**Take Action on Zero Waste for Westchester County:**
1. Sign our petition (for individuals): **wasspeekskill.org/ZWpetition**
2. Sign your organization/business/local leader on to our letter to Westchester County Leadership in support of an RFP request for a County-Wide Zero Waste Plan: **wasspeekskill.org/ZWplan**
3. Activate YOUR community leaders in urging our county government to develop a comprehensive county-wide Zero Waste plan, invest in sustainable waste management practices, and end trash incineration for good! Template email language here: **wasspeekskill.org/zwplanemail**

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**Join Zero Waste Dutchess on Facebook too (and share!):**
**https://www.facebook.com/groups/116408325212474**

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**Thanks again to Lisa Kaul, Lalita Malik, John Rahl, Darrett Roberts, Joanne Underwood, Laurie Sandow, Dave Heller (tho Dave I'm not sure I would have used that wording), many others who came out to speak up at the Co. Leg. mtg. Mon. night pushing for more composting/recycling instead of incineration-- and kudos to the Co. Leg. Dem caucus who voted no to the Dutchess GOP's pro-incineration Solid Waste Management Plan resolution!**

**Click here to view public comment and discussion among county legislators from Monday night's meeting(!):**
**https://totalwebcasting.com/view/?func=VIEW&id=dutchess&date=2023-09-11&seq=1**

***Onward ho to Mon. Oct. 9th-- rally with Neil Seldman of Zero Waste USA in Poughkeepsie (hopefully with Tommy Zurhellen)-- help hold the GOP majority accountable this fall during Nov. elections for consigning the people of Dutchess to the fate of decades more incineration!***

**Kudos indeed to Co. Leg. Dem Minority Leader Yvette Valdes Smith, Assistant Minority Leader Barrington Atkins, and Co. Leg's Brennan Kearney, Giancarlo Llaverias, Craig Brendli, Kris Munn, and Nick Page for their comments on the floor and voting no to the proposed SWMP for Dutchess which unfortunately continues the current status quo of burning about half the garbage in Dutchess(!)...thx also to my Mom (Judy Malstrom), Johanna Fallert, Jill Fieldstein, Marta Knapp, several Sierra Club members, et. al. for also coming out Sept. 7th to speak up.**

**Click here to view public comment and discussion among county legislators from last Thursday night's meeting(!):**
**https://totalwebcasting.com/view/?func=VIEW&id=dutchess&date=2023-09-07&seq=1**

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**Outraged by last night's vote?...you should be-- as always, feel free to let your feelings be known-- email countyexec@dutchessny.gov, countylegislators@dutchessny.gov, countylegislature@dutchessny.gov! [my Mom (Judy Malstrom) actually yesterday just got back a personal response from County Exec O'Neil himself!...(later this week we will share with you her response to him)]**

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**https://midhudsonnews.com/2023/09/12/legislature-called-illiterate-pyromaniacs-prior-to-trash-vote/**

*[excerpt here of article; click on link for full piece; shame on Randy Johnson]*

**Legislature called "illiterate pyromaniacs" prior to trash vote**

**September 12, 2023**

**The county still uses landfills under the solid waste plan.**

**POUGHKEEPSIE – After hearing from eight members of the community who rallied against the adoption of the new Dutchess County Local Solid Waste Management Plan, the Republican majority voted to adopt the plan put forth by the county executive. The 10-year plan is a requirement of the New York State DEC to maintain an environmentally friendly waste management program. The previous plan was adopted in 2012.**

**Seventeen Republicans voted in favor of the plan while seven Democrats opposed it. Democrat Randy Johnson was absent.**
**Of the eight speakers, David Heller of Rhinebeck likened the new plan to the Flint, Michigan water pollution issue. In taking a shot at the proponents of the county incinerator, Heller called the legislature a group of "illiterate pyromaniacs." The environmentally friendly members of the audience disagreed on ways to improve the county's composting rate with one woman calling for the use of an anaerobic digestion system for food waste while another denounced the plan, calling for an aerobic composting system instead. The new plan calls for an increase in recycling through composting but offers no definitive goals or milestones, as pointed out by Democratic Lawmaker Craig Brendli (City of Poughkeepsie).**

**The county currently burns 45 percent of the county's solid waste which equates to hundreds of tons of trash at the incinerator on Sand Dock Road in the Town of Poughkeepsie. On the recycling side, in 2012, the county had a recycling rate of 36 percent. In 2022, that number had risen to 42 percent, which is higher than the state average.**

**Minority Leader Yvette Valdés Smith voted against the plan because it fails to set goals for composting and other methods of reducing waste. "We are better than this," she said in urging for more environmentally friendly ways to manage the waste.**

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***Mike crunched numbers; yes landfills are bad-- but incinerators worse:***
***http://www.energyjustice.net/files/incineration/incineration_vs_landfills.pdf***

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**Again-- regarding countless references made during Thursday evening's Co. Leg. Environmental Committee mtg. by O'Neil/Pulver et. al. to studies on this issue from Columbia/WTERT-- guess who pays for those studies folks-- the incinerator industry-- that is, that Columbia Univ. "scholarship" on this issue that Dutchess GOP alluded to Thurs. is literally paid for by incinerator firms like Wheelabrator (that currently manages the county incinerator for Dutchess), Covanta (which only til recently managed the county incinerator for Dutchess), et. al.(!)...don't believe me-- Mike Ewall of Beyond Burning proved this to us all-- everyone who was on our Zero Waste Dutchess Zoom yesterday a.m.-- Mike likened it to all those "scientific studies" that for decades "proved" that "tobacco cigarettes are good for our health-- expose this b.s. peeps:**
***https://web.archive.org/web/20210918104616/https://gwcouncil.org/sponsors/***

***[update-- thx to John Rahl for actually bringing this up last night!]***

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**Thx again to all who joined us for our Zero Waste Dutchess Debunk Zoom Sunday morning-- Neil Seldman of Zero Waste USA, Mike Ewall of Beyond Burning, and Doreen Tignanelli, Judy Malstrom, John Rath, and Pam Lovinger of Zero Waste Dutchess (with a reporter from a local publication part of the Zoom session posing questions as well!)....debunk and dissect pro-incineration misinformation put out by Dutchess GOP this week re: proposed Solid Waste Management Plan (SWMP) for Dutchess-- this one's a must-see:**
**https://www.youtube.com/watch?v=vZ4nnYJM5Bo**

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***Here's the zero-waste plan that Montgomery County (MD) is actually enacting there (written largely by Neil Seldman, Mike Ewall, et. al.)-- Neil Seldman recently informed us that the federal government is literally shoveling dollars out the door to help counties like Dutchess move towards zero waste by ramping up recycling/composting/reuse. Recall resolution I got passed unanimously in March 2009 thru Co. Leg. to access federal dollars for zero-waste planning for Dutchess-- O'Neil was Deputy County Exec for Steinhaus at that point-- imagine how far along Dutchess County could have been towards zero waste if O'Neil/Steinhaus/Molinaro/Serino/Rolison had actually implemented that Mar. '09 resolution passed unanimously (see below!):***
***https://www.beyondburning.org/md/moco/beyond.pdf***

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***Click on these two links for our past super-informative Zero Waste Dutchess Zooms 8/29/23 and 8/22/23 with Neil Seldman of Zero Waste USA, Mike Ewall of Beyond Burning, Brenda Platt of the Institute for Local Self-Reliance, Manna Jo Greene of the Ulster County Legislature (former Clearwater Environmental Director), Shabazz Jackson and Josephine Papagni of Greenway Environmental Services, and Ryon Hart of Replenysh:***
***https://www.youtube.com/watch?v=HmURuvpPYeI (8/29/23);***
***https://www.youtube.com/watch?v=JMkBBtAOdsw (8/22/23).***

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**Just how polluting is the Dutchess County Incinerator?...see here:**
**https://www.beyondburning.org/incineration/emissions-NY-Dutchess.pdf**

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**What's the impact on human health of the Dutchess incinerator?...see:**
**https://www.beyondburning.org/incineration/healthstudies.pdf**

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**Incinerators aren't "waste-to-energy facilities"-- call them out on this:**
**https://beyondburning.ejnet.org/incineration/waste-to-energy/**

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***[update-- kudos to Dem Co. Leg. candidate/activist extraordinaire Lisa Kaul for bringing the issue below of the CLCPA up last night during her testimony in the public comment period at the beginning of the meeting!]***

**Thx also to Ulster Co. Leg. Manna Jo Greene (former Clearwater Environmental Director) for texting me this on-target message yesterday morning-- "Dutchess should be a test case for CLCPA Climate Leadership and Community Protection Act-- bring forward experts with data; if we can stop Danskammer, which is likely, Dutchess can set a precedent for other incinerators".....on that note, we've been in contact with Environmental Dept.'s @ Vassar, Bard, Cary Institute, beyond towards building coalition with that goal; weeks ago I also contacted pro-environment dynamo Assemblymember Sarahana Shreshtha re: Dutchess incinerator/SWMP issue; all hands on deck folks-- pls reach out to other local state legislators like Michelle Hinchey, Jonathan Jacobson, Didi Barrett on this too-- the CLCPA will only be as stringent as local state legislators will force it to be (and as County Exec Wm. O'Neil proved in his comments Thursday before Co. Leg., even he is worried that the CLCPA could well turn out to eventually force operations of incinerators to be phased out sooner than later!)...state legislators can be reached at 877-255-9417 folks(!):**
**https://www.beyondburning.org/ny/CLCPA-WasteScopingComments.pdf**
**https://climate.ny.gov**

https://www.energyjustice.net/ny/ClimatePlanScopingComments.pdf
https://docs.google.com/document/d/14v9x4jDTw9RNjd08r-fdRcmYSW4FBqCjLIqGyl2w7fo/mobilebasic?urp=gmail_link

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**Again-- superb must-read article here by Emily Sachar on this issue in The Daily Catch: "Landfill in the Sky? Dutchess County's New Solid Waste Management Plan, Leaning Heavily on Incineration, Heads to Crucial Vote":**

https://www.thedailycatch.org/articles/landfill-in-the-sky-dutchess-countys-new-solid-waste-management-plan-leaning-heavily-on-incineration-heads-to-crucial-vote-thursday/

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**Mike Ewall recently confirmed that seven (7) pounds of mercury each year is emitted by the Dutchess Incinerator in Poughkeepsie-- enough to contaminate literally 3100+ lakes each 20 acres in size.**

**Ewall also sent us these numbers too-- based on data reported to the state, the county-owned incinerator run by Wheelabrator in Poughkeepsie releases more pounds of health-damaging air pollution than any other facility in the county (2017 emissions data listed first-- then 2018 data):**
**Global Warming Pollution (in tons of $CO_2$ equivalents): 109,085; 93,554**
**[rest of data listed here below in pounds]**
**Nitrogen Oxides: 296,925; 272,523**
**[triggers asthma attacks, chronic respiratory disease and stroke]**
**Sulfur Dioxide: 12,890; 4,310**
**[triggers asthma attacks; chronic respiratory and heart diseases; stroke]**
**Carbon Monoxide: 180,912; 137,808**
**Hydrochloric Acid: 4,112; 13,977**
**Volatile Organic Compounds: 46,418; 45,571**
**Particulate Matter: 589; 5,669**
**Chromium: 6.4; 6.2**
**Lead: 5.8; 4.3**
**Arsenic: 0.4; 0.4**
**Cadmium: 0.4; 0.5**

**[Lead and dioxins also have no "safe" level; dioxins are the most toxic chemicals known to science – 140,000 times more toxic than mercury – and incinerators are a major source: http://www.ejnet.org/dioxin/ .]**

**One of the most alarming things we recently found out about was the fact that the Baltimore incinerator was found to be the cause of literally $55 million a year in health problems.**

**Do the math-- the Baltimore incinerator burns 2250 tons of garbage a day-- that's 821,250 tons of trash each year. The Dutchess County incinerator, according to page 19 of the "Plan" burns 149,036 tons of garbage each year-- so the Baltimore incinerator burns about five and a half times what the Dutchess incinerator burns. If the Baltimore incinerator causes $55 million worth of health problems annually and burns 5.5 times as much trash as the county incinerator in Poughkeepsie, it seems logical to deduce that the Dutchess County incinerator causes literally $10 million worth of health problems each year(!). [think Dutchess incinerator is cleaner? it isn't]**
**https://chesapeakebaymagazine.com/study-baltimore-trash-incinerator-causes-55-million-in-health-problems/**

**Dutchess County citizens and organizations like Zero Waste Dutchess and Working Class Dutchess are opposed to the proposed 10-Year Solid Waste Management Plan based on the environmental assessment of nationally known anti-incineration expert Mike Ewall and economic risks and opportunity costs according to Neil Seldman, Zero Waste USA.**

**Fact: Federal EPA data clearly shows that Dutchess County's trash incinerator is the largest industrial air polluter in the county.**

**Fact: Dutchess County could create 300 new local green jobs processing materials by recycling mattresses, appliances, textiles, composting, building deconstruction and materials resale, electronic scrap repair and recycling, composting and compost by products, and retail thrift.**

**Neil Seldman, Zero Waste USA: 202-607-9786**
**Mike Ewall: Beyond Burning: 215-436-9511**
**Judy Malstrom, Zero Waste Dutchess: 845-876-2488**
**Joel Tyner, Zero Waste Dutchess: 845-464-2245**
**Info: zerowastedutchess@gmail.com**

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## From Mike Ewall (mike@beyondburning.org

## [here below Mike responds to five questions from Johanna Fallert of Mothers Out Front and DCPAA re: GOP statements during Thursday's Co. Leg. Environmental Committee re: SWMP/incineration]

## On Fri, Sep 8, 2023 at 3:11PM Johanna Fallert <jcfallert@gmail.com> wrote:

**Dutchess County Executive O'Neil raised the following points in defense of the solid waste management plan:**

**1. County Exec O'Neil: "The incinerator is not as polluting as the automobiles on Route 9."**

**Mike Ewall of Beyond Burning: "This is a common distraction. Yes, if you compare one incinerator to an entire sector, such as the sum of all cars and trucks in a county or a major highway, the total traffic is usually a larger "source" -- for a handful of major ("criteria") air pollutants. In no way does this justify burning trash at a facility that is the county's #1 industrial air polluter. Sure... it's an argument for ALSO prioritizing other needed changes in our society about how we get from place-to-place, but it does not justify sticking with trash incineration when incineration is the most expensive and polluting way to manage waste or to make energy."**

**Ewall: "These comparisons also commonly focus on the high-volume, but generally non-toxic pollutants: carbon dioxide, carbon monoxide, nitrogen oxides, sulfur oxides, volatile organic compounds (VOCs), and particulate matter. I said "generally" because VOCs and particulate matter can be toxic. However, if we look at the highly toxic and other hazardous chemicals released into the county's air, such as dioxins/furans, arsenic, cadmium, chromium (VI), lead, mercury, hydrochloric acid, and hydrofluoric acid, the incinerator is going to be a large portion of the entire amount, since these chemicals aren't common in vehicle exhaust or from burning oil or gas to heat buildings. However, trash incinerators release very serious amounts of these, and are usually #1 in any county (or close to it) for these very dangerous air contaminants, some of which bioaccumulate in the food chain, hitting people with even higher doses unless they avoid eating meat and dairy."**

**2. County Exec O'Neil: "The county has a B rating from the American Lung Association (one of the critics said there was another rating from this organization that is a negative)."**

**Mike Ewall of Beyond Burning: "Yes, the latest ALA State of the Air report gives the county a 'B' rating. Better than many places, but how does this justify not aiming for an 'A' when it comes to the air we breathe?**

**Ewall: "The ALA's 'B' rating is for only ONE pollutant: ground-level ozone. This is something that the county's incinerator contributes to, but vehicle and building heating systems would play a much larger role."**

**Ewall: "The rating has no relation to all of the other pollutants -- toxic or otherwise -- pumped out daily by the incinerator."**

**3. County Exec O'Neil: "Waste-to-energy systems" (trash incinerators) were initially going to be eliminated under the CLCPA, but the state/CLCPA has backed down because they realized that this practice would, (I assume), create more landfills."**

**Mike Ewall of Beyond Burning: "I don't know if there's any truth to this notion that incinerators were going to be eliminated under the Climate Leadership and Community Protection Act (CLCPA). I'd love to see any history on that. The CLCPA Climate Scoping Plan had a waste chapter that we wrote extensive comments on because it was very biased in favor of incineration, and wrongly pretended that landfills are worse for the climate."**

**Ewall: "That said, if we do nothing to implement Zero Waste strategies, then ending incineration DOES mean more landfilling (or emergence of even crazier ideas like different types of burning such as pyrolysis and gasification or burning in cement kilns). Landfilling is the lesser evil, and we must implement Zero Waste strategies to ensure that we have smaller, more biologically stable landfills that aren't so gassy and stinky because we'll have kept organics out and composted them, etc."**

**4. County Exec O'Neil: "Landfilling is more dangerous than incineration. Co. Leg Chair Gregg Pulver pulled up a quote from the EPA or DEC."**

**Mike Ewall of Beyond Burning: "That's not true at all AND it's not even an accurate comparison because the comparison is landfilling vs. BOTH incineration and landfilling (of ash and of bypass waste that the incinerator cannot burn)."**

**Ewall: "DEC most certainly has no studies to back up this claim. They, like all states and local governments that parrot this tune, are relying on EPA and incinerator industry claims. EPA has a waste hierarchy that places 'energy recovery' (incineration) above 'disposal' (meaning landfilling... as if incineration is not also a type of disposal). In early 2022, in a meeting I organized with EPA's waste division, they admitted that they have ZERO citations to back up the placement of incineration above landfilling in their hierarchy. In July 2022, at our request, EPA put a disclaimer on their hierarchy that indicates that they're reevaluating it based on the latest data and science. I expect this will take at least another year or two, as other processes we requested are dealt with in order to allow the agency to do any honest comparison... because they rely on a flawed model that only looks at climate impacts and screws that up with two major pro-incineration biases."**

**Ewall: "Credible life cycle analysis studies have repeatedly shown that incineration (and landfilling ash) is substantially worse than**

## Thelman, Kassie L.

**From:** Leonard Friedland <lennyf845@outlook.com>
**Sent:** Sunday, September 29, 2024 2:02 PM
**To:** DPW Recycling Web Site Email
**Subject:** incinerator? NO

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Why? Why choose an expensive poisonous flawed approach when some creative thought can provide cheaper and better solutions?
Here's a simple well-written article that lays out the issue. Let's protect our future. We have children.
https://uk01.l.antigena.com/l/0P40Hkpl9py7NpaqmJoxCQ-gKF56vpZi9XYlMnmd7HMF~nuIZ1YQAgjKT9loc~wJgdbxU~vMhit0oaNXJ5iyvPLPCg0sBqZV0pC0F5EVfBMd192FvdQSqwLxmAoH5ydDQAFnlHBaor~25ryR64YMw2tp~J~Z7qDSwldW6bTx6DE0JLXhuUw6RJSmZkRzKFDmYs~UfX5GOSvSZwZKqm

Is it money or politics or what? C'mon. Let's do the right thing.

Leonard Friedland
845-887-3056

## Thelman, Kassie L.

**From:** Dara Smith <dara3286@gmail.com>
**Sent:** Tuesday, October 1, 2024 12:55 PM
**To:** DPW Recycling Web Site Email
**Subject:** Trash Incinerator

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

To: Mark Witkowski
SCDPW Deputy Commissioner
P.O. Box 5012
Monticello, NY 12701

Dear Commissioner Witkowski,

These days you'd have to be living under a rock not to hear about PFAS - forever chemicals and micro plastics, which are unfortunately everywhere including IN all living things - including humans. That being said, I think that burning refuse, trash and garbage is probably the worst choice for Sullivan County. I understand that managing solid waste is a huge issue facing Sullivan County and all communities of the world. Trash and plastics in particular are choking our oceans, killing wildlife and causing mounding problems worldwide. There is no doubt that we have a monumental problem to solve. But all options must be considered before an expensive, toxic and environmentally detrimental incinerator is built to handle it regardless if it produces energy or not. It will also produce other harmful materials including dioxins - one of the most toxic materials known. Incineration is not the magic bullet that we're all in search of. Please let's be smart about this and consider other safer options first.

Thank you,
Dara Smith
Liberty, NY

## Thelman, Kassie L.

**From:** Julietta Eisenberg <juliettaeisenberg@gmail.com>
**Sent:** Tuesday, October 1, 2024 9:42 PM
**To:** DPW Recycling Web Site Email

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Sullivan County officials,

I'm writing to share my concerns about section 7.5 WASTE TO ENERGY – THERMAL CONVERSION (MASS BURN) - in the solid waste management plan. I urge you to drop all consideration of waste to energy for the following reasons:

1. Waste to energy is simply a misleading name for a trash incinerator. Incinerators release toxic pollutants, including dioxins, PFAS, and mercury, that poison surrounding communities and the entire planet.
2. WTE facilities create greenhouse gas emissions that speed climate change and are also counter to NY's Climate Law (CLCPA).
3. WTE facilities also create hazardous waste in the form of toxic ash that must be dealt with by paying to transport and landfill the toxic ash in a toxic ash dump, costing taxpayers money and generating additional climate-change-speeding greenhouse gas emissions (and possible accidents along the way). Toxic ash dumps are located primarily in environmental justice communities like those in Sullivan County.
4. An incinerator would threaten the health of residents of Sullivan County and neighboring counties while also polluting the environment there
5. The presence of an incinerator will increase the negative impacts on the many environmental justice communities in and just outside of Sullivan County (which I were clearly designated in the SWM Plan) and will decrease property values and harm the economy.

Summarizing, a WTE facility is something Sullivan County absolutely does not need. It's impact would be overwhelmingly negative. I fervently urge you to rule it out as an option.

A positive alternative would be to divert organics from the waste stream to save space in landfills and reduce the need for incinerators or waste exports while also decreasing methane generation from landfills (methane is a highly potent pollutant). However, I encourage you to choose an option other than 7.3.6 Membrane Covered Aerated Static Pile as encasing the organic material in plastic is risky, given recent research into nano & microplastics and their health effects. There's more and more scientific evidence that plastic leaches toxic chemicals into anything it comes into contact with (soil, food, beverages, skin.) We also know that chemicals migrate out of plastic at much higher rates in the presence of heat and high temperatures which are unavoidable in a composting operation.

Given that the majority of chemicals used in plastics have never been tested for safety and that more than a quarter of chemicals in plastics are known to be toxic to humans, this represents a serious concern, particularly since the soil created from composting may be used by gardeners and farmers. Many of the substances used in plastics do not break down, including the PFAS class of chemicals which remain in soil, water and bodies for decades.

Promoting backyard composting, investing in reuse and refill systems, supporting repair cafes, and investing in an industrial-scale composting program that includes green bin pick ups from businesses and the option for residents to drop organic waste off at transfer stations or other convenient locations are all excellent ways to decrease the amount of solid waste that's left to be buried or burned.

I hope to see the SWMP amended to include reuse and refill systems along with repair cafes and expanded promotion for the recycling of aluminum and other metals, paper, cardboard, and glass. Plastics are not truly recyclable and we should not waste time pretending that they are.

Thank you for your time and serious consideration of the above alternatives which would ensure health and safety for us all.

Sincerely,
Julietta Eisenberg

--
**Julietta Eisenberg** (she/her)
*Relationship Management Professional*
*Cochecton, NY*

**Thelman, Kassie L.**

**From:** Rima Fand <rimafand@gmail.com>
**Sent:** Wednesday, October 2, 2024 9:11 AM
**To:** DPW Recycling Web Site Email
**Subject:** Public comment on Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Sullivan County officials,

As a resident of North Branch who cares deeply about the health of the environment, I'm writing to share my concerns about section 7.5 WASTE TO ENERGY – THERMAL CONVERSION (MASS BURN) - in the solid waste management plan. I urge you to drop all consideration of waste to energy for the following reasons:

1. Waste to energy is just another name for a trash incinerator. Incinerators release toxic pollutants, including dioxins, PFAS, and mercury, that poison surrounding communities and the entire planet.

2. WTE facilities create greenhouse gas emissions that speed climate change and also fly in the face of NY's Climate Law (CLCPA).

3. WTE facilities also create hazardous waste in the form of toxic ash that must be dealt with by paying to transport and landfill the toxic ash in a toxic ash dump, costing taxpayers money and generating additional climate-change-speeding greenhouse gas emissions (and undoubtedly leaking along the way.) Toxic ash dumps are overwhelmingly located in environmental justice communities like those in Sullivan County.

4. An incinerator would threaten the health of Sullivan County residents and residents in neighboring counties while also polluting the environment in Sullivan and neighboring counties.

5. The presence of an incinerator will increase the negative impacts on the many environmental justice communities in and just outside of Sullivan County (which I appreciated were clearly designated in the SWM Plan) and will decrease property values and harm the economy.

I urge you to consider other options for waste management besides this one, which poses so many risks for our county.

Thank you for taking the time to consider my public comment.

Sincerely,
Rima Fand
North Branch, NY

## Thelman, Kassie L.

**From:** Rebekah Creshkoff <rcreshkoff@gmail.com>
**Sent:** Wednesday, October 2, 2024 2:05 PM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on the county's draft local solid waste management plan from an UCRRA board member

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello, Kassie et al. — I am forwarding the below on behalf of UCCRA's Jim Gordon, who submitted it to be read aloud at the public meeting on 9/19.

Rebekah Creshkoff
cell 212-316-3163

The world starts to look very different once you realize that plastic is not biologically inert.

Begin forwarded message:

**From:** Jim Gordon <jim65gordon@gmail.com>
**Date:** September 17, 2024 at 9:44:09 PM EDT
**To:** rcreshkoff@gmail.com
**Subject: UCRRA board member says...**

Dear Rebekah,
Hi. Here is a brief statement from me. Please, stress this is not an official UCRRA position, only the opinion of one board member. That is important to state clearly. Tx.

Recently, a member of the Ulster County legislature addressed this body and raised the idea of a joint incinerator project between Ulster County and Sullivan County. Please be aware that is not a realistic idea.

I am the vice chairman of the Ulster County Resource Recovery Agency, a body jointly created by the state and county, and which has actual decision making power regarding all matters related to solid waste. This is my view, and not an official UCRRA statement. However, the five member board of directors has strongly expressed at public meetings that it will not explore nor participate in any incineration project.
Furthermore, this summer, an Ulster County legislative committee of which I was an appointed member made numerous recommendations focusing on increasing materials diversion, composting, recycling, re-use, and ultimately siting a local landfill for the material that cannot be otherwise diverted from the waste stream.
On the last day of our deliberations, we passed a special recommendation specifically coming out against any waste to energy incinerator. Moreover, such a facility is extremely unlikely to receive approval from state regulators, especially given constraints imposed by the state climate law. (CLCPA).

While we all seek a magic solution to make our garbage go away, the truth is we need to reduce, recycle, reuse and otherwise sensibly manage our society's materials.
Thank you.
Jim Gordon
vice chair UCRRA

## Thelman, Kassie L.

**From:** Victoria Gershik <vgershik@gmail.com>
**Sent:** Saturday, October 5, 2024 2:47 AM
**To:** DPW Recycling Web Site Email
**Subject:** An example of a zero waste county plan
**Attachments:** zw-resolution-2005-138.pdf

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

https://uk01.l.antigena.com/l/uS6v7kGUmb9-28bWjky79XAcoIK-UW1od8jiLjv4li05JrRQTgXAC2yoL90L~9LHmJJtfS2niy4MqYJ5-mgW1SMYLECEViLQuHkaELoBz_2qSRZMS2yQskGU0eF_FFP4~JT2i_gpj1kFoweUPk2WUzrIbGSD2HGWWOSWVXXtmkHwl1v3S8gik7SDwQHUDBfKyfTdhRm3lyzP6Nmh0v0~yykQa_A7CWPINoElnnTJ0FLy58b

# RESOLUTION 2005 – 138

## Adopting Zero Waste as a Guiding Principle and Supporting the Creation of a Zero Waste Plan

**WHEREAS**, Article 30-11-107 of the Colorado Revised Statutes enables the Board of County Commissioners to make orders concerning the property of the County; and

**WHEREAS**, Article 30-28-115 of the Colorado Revised Statutes enable the Board of County Commissioners to promote the health, safety and welfare of the inhabitants of the county; and

**WHEREAS**, 30-28-201 of the Colorado Revised Statutes enable the Board of County Commissioners to adopt ordinances and building codes; and

**WHEREAS**, Boulder County is committed to protecting and enhancing environmental quality in the county now and for future generations; and

**WHEREAS**, Boulder County Commissioners are focusing on environmental sustainability as one of three major Commissioner goals; and

**WHEREAS**, an estimated 300,000 tons of waste is generated in Boulder County each year by residents, businesses, and institutions, and approximately 75% of this amount is sent for landfill disposal; and

**WHEREAS**, the placement of materials in landfills can cause damage to human health, wastes natural resources, and wrongly transfers liabilities to future generations; and

**WHEREAS**, waste prevention, reuse, recycling, and composting are material management options that conserve resources while reducing environmental impacts; and

**WHEREAS**, increased recycling and composting will increase the cost-efficiency of local, publicly-supported recycling facilities and programs; and

**WHEREAS**, increased recycling saves energy, water, natural resources, reduces air and water pollution, reduces the damage caused by extracting resources from the environment, and reduces the need for landfill facilities; and

**WHEREAS**, consumers are currently forced to assume the high financial cost of collecting, recycling, and disposing of materials; and

**WHEREAS**, tax subsidies for waste and virgin materials send the wrong economic signals to both consumers and producers; and

**WHEREAS**, a resource recovery-based economy will sustain, on a per-ton basis, up to ten times more jobs than landfilling or incineration, and these jobs will be more productive and meaning-ful; and

**WHEREAS**, increasingly, U.S. and international governments and organizations are adopting the policy that the financial responsibility of collecting, recycling, and disposing of materials belongs with producers; and

**WHEREAS**, producers should design products to ensure that they can be safely recycled back into the marketplace or nature; and

**WHEREAS**, most types of waste streams can be eliminated through across-the-board minimum recycling content laws, the use of non-toxic alternatives in product design, and local composting facilities; and

**WHEREAS**, recognizing that some presently non-recyclable materials are necessary for public health and national security; and

**WHEREAS**, recognizing that voluntary recycling goals have not, and in all probability cannot, achieve waste elimination; and

**WHEREAS**, with the understanding that government is ultimately responsible for leading by example and establishing criteria needed to eliminate waste, so that manufacturers produce and businesses sell materials that can be safely recycled or composted; and

**WHEREAS**, the Zero Waste philosophy accepts that the earth's ability to support life is finite and that natural resources must be used in the most efficient and sustainable way possible; and

**WHEREAS**, the guiding principles of Zero Waste are: managing resources instead of waste; conserving natural resources through waste prevention and recycling; turning discarded resources into jobs and new products instead of trash; promoting products and materials that are durable and recyclable; and discouraging products and materials that can only become trash after their use.

**NOW, THEREFORE, BE IT RESOLVED BY THE BOULDER COUNTY BOARD OF COUNTY COMMISSIONERS (BOCC) AS FOLLOWS:**

BOCC hereby adopts Zero Waste as a guiding principal for all county operations and for outreach and actions within the community. BOCC hereby directs staff to develop a Zero Waste Plan for Boulder County.

The Zero Waste Plan will be completed by December 2006, and will address Boulder County, "the organization," and Boulder County, "the community and geographic area." Boulder County is committed to promoting, facilitating, and modeling Zero Waste in the community. The Plan will be designed to achieve the initial goal of: increasing waste diversion for Boulder County government and for the county as a whole, to 50% or better by the year 2010. The ultimate goal of Boulder County's Zero Waste Plan is to eliminate waste (i.e. achieve Zero Waste or "darn near") by 2025.

The Plan will assess the county's current levels of resource use and wastage; identify objectives; and recommend short-, medium-, and long-term actions to reach these goals. The Plan will, within budget constraints, seek to effectively, efficiently, and quickly address the issues identified as well as allow for a public process to address recommended actions.

A. BOCC hereby directs staff to consider, for inclusion in the action plan, green purchasing and waste reduction measures targeting county facilities. The BOCC directs staff to consider the costs and costs savings associated with these actions; their impact on waste reduction and environmental purchasing practices; their educational value to the community; their operational feasibility; and the appropriate phasing of such actions. Actions to be considered include, but are not limited to:

1. Standardizing county purchasing practices to reduce cost, reduce unwanted surplus items, and increase operational and delivery efficiencies.

2. Revising the county Environmentally Preferable Purchasing (EPP) policy to clarify the county's intent to purchase environmentally friendly products whenever and wherever fiscally possible.

3. Changing procurement instructions to vendors requiring that bids and proposals do not waste paper or reduce paper use and plastic bindings or other packaging.

4. Using "take back" language in procurement documents to require that equipment suppliers take back old equipment for reuse or recycling.

5. Encouraging utilization of re-useable packaging.

6. Making waste reduction and diversion a priority through policies, improving in-house equipment and collection services, and urging employees to conserve energy and save money.

7. Quantifying the county's mass balance of inputs (products and services) to outputs (solid wastes, hazardous wastes, recyclables, compostables).

8. Determining current waste diversion levels for county government and countywide.

9. Assessing construction practices and facility operation and maintenance practices for opportunities to reduce the quantity and toxicity of wastes produced and to increase diversion.

10. Assessing waste reduction opportunities at county meetings and events through the use of durable, recyclable, and compostable food service items.

11. Including in the action plan a requirement for an annual report to the BOCC that evaluates waste reduction efforts, progress in achieving Zero Waste and other efforts as identified in the plan.

B. BOCC hereby declares its intent to pursue green purchasing and Zero Waste countywide through education, regulatory measures, and public policy. The county will consider the impact of these measures on residents, businesses, and communities, and will conduct inclusive public processes incorporating affected parties. Measures to be considered include, but are not limited to:

1. Requiring volume-based residential trash collection and recycling in unincorporated Boulder County and determining opportunities for municipalities and the county to work together to pursue this countywide.

2. Requiring increased diversion of organic waste streams generated in unincorporated Boulder County for beneficial reuse (as wood mulch) or composting into soil amendments and other products; supporting the efforts of public, private, and nonprofit entities in providing infrastructure for organics recovery.

3. Supporting and promoting increased traditional and non-traditional recycling through modification of the recycling center to accept and process single stream materials, education and outreach, and support of facilities providing supplementary recycling opportunities.

4. Supporting increased diversion of construction and demolition waste streams.

5. Requiring new development to provide adequate indoor and outdoor space for recycling and other waste diversion containers.

6. Instigating and supporting legislation at the state and local level that supports Zero Waste.

7. Seeking public and private partnerships to leverage limited public resources to accomplish our Zero Waste goals.

8. Incorporating these principles into updates of the Boulder County Comprehensive Plan.

C. BOCC hereby directs members of the Sustainability Task Force to draft an action plan as outlined in this document, recommend actions for consideration in the upcoming budget cycle, and identify additional activities that merit consideration.

**ADOPTED** this 22nd day of November, 2005.

**BOARD OF COUNTY COMMISSIONERS**

**OF BOULDER COUNTY**

## Thelman, Kassie L.

**From:** Kathy Geary <kathy@kathygeary.com>
**Sent:** Sunday, October 6, 2024 10:09 AM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Greetings

I own a home in Callicoon NY and I oppose a waste-to-energy incinerator in Sullivan County.

The toxicity of these incinerators are well known to pollute the environment with health-damaging results.

I moved here from Manhattan to find a cleaner, better quality of life. This incinerator will discourage people from living in Sullivan county and tourists from finding recreation in our area.

It's unacceptable!

Thanks for your time,

Kathy Geary

212 727-0793 mobile

## Thelman, Kassie L.

**From:** Lori Turoff <lorituroff@gmail.com>
**Sent:** Sunday, October 6, 2024 12:00 PM
**To:** DPW Recycling Web Site Email
**Subject:** Waste Incinerator proposal

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Mr. Witkowski,

We are residents of Sullivan County and vehemently oppose the construction of a waste incinerator. The reasons we oppose are many. Primarily we do not want the PFAS and other toxins that these facilities spew polluting our area. Additionally, the costs simply do not make sense. Do not permit this plant.

Thank you,
Lori & Howard Turoff
114 Split Rock Dr, Barryville, NY 12719

## Thelman, Kassie L.

**From:** JoAnne Omar <joanne.omar@gmail.com>
**Sent:** Sunday, October 6, 2024 12:25 PM
**To:** DPW Recycling Web Site Email
**Cc:** Josie Justice
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I am a retired Biology Teacher who moved to Sullivan County in 1983 from Brooklyn, NY for the beautiful green landscape and pristine air. For years, I continued to take my 3 children to my Brooklyn Pediatrician who remarked how clear their ears and lungs were compared to children living in NYC.
After many years, things are changing in our county. In areas where there is over-development we are having water issues. Summers are getting increasingly hotter. We have seen orange skies and ash due to the flow of Canadian and Western fires blowing into our area.
I am vehemently against the building of an incinerator in Sullivan County. This incinerator will blow toxic forever chemicals into our air and land and require a landfill anyway for toxic ash.
People who live in areas near these incinerators are experiencing serious health issues, Pennsylvania, NYC, Europe etc.
We see the damage when toxic chemicals are released into the air, East Palestine, Ohio, Conyers, Georgia are 2 very recent examples.
Sullivan County is already one of the sickest, poorest counties in NY State.
We need to invest in education, a more thorough recycling, reuse,composting and recovery program.
This would be more cost effective than a million dollar plus incinerator.
We do not want Sullivan County to be the trash capital of the Mid Hudson Valley by importing everyone else's trash and forever chemicals to cover the cost of this project.
There should be no incinerator in Sullivan County.
Thank you.
JoAnne Omar, Liberty, NY

## Thelman, Kassie L.

**From:** ekalter@hvc.rr.com
**Sent:** Sunday, October 6, 2024 12:39 PM
**To:** DPW Recycling Web Site Email
**Subject:** garbage

ITS ADVISES CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Recycling should be mandatory! Rates should reflect volume! Incineration of our garbage would be the worst solution!!

Eileen Kalter

## Thelman, Kassie L.

**From:** Yayoi Koizumi <yayoi@zerowasteithaca.org>
**Sent:** Sunday, October 6, 2024 12:43 PM
**To:** DPW Recycling Web Site Email
**Cc:** Jessica Roff; Rebekah Creshkoff; Tracy Frisch
**Subject:** Re: Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

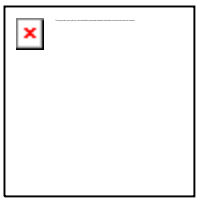
I just noticed I omitted the link to GAIA's 2023 Zero Waste to Zero Emissions, in the reference item #3. Here it is: https://www.no-burn.org/zerowaste-zero-emissions/

On Sun, Oct 6, 2024 at 12:13 PM Yayoi Koizumi <yayoi@zerowasteithaca.org> wrote:

> Dear Sullivan County Planning Board Members,
>
> My name is Yayoi, and I am writing to express my strong opposition to the proposed waste-to-energy (WTE) incinerator in Sullivan County. As the founder of two waste reduction organizations—Zero Waste Ithaca and BYO US-Reduces—I am deeply engaged in waste reduction and zero waste initiatives., I am particularly concerned about the long-term environmental and social impacts of continuing to build solid waste facilities like incinerators. These projects lock us into decades of burning waste, diverting focus from real waste reduction strategies and Zero Waste goals.
>
> Incinerators disproportionately affect disadvantaged rural and urban communities, contributing to environmental injustice. Reports have shown that incinerators emit dangerous pollutants, including PFAS, which can go airborne and accumulate in nearby areas. A 2022 study reported PFAS contamination in regions surrounding WTE incinerators, with serious public health impacts, such as those seen in France, where millions were warned not to eat backyard chicken eggs due to contamination.
>
> Incineration does not eliminate the need for landfills. Zero Waste Europe's 2022 report highlights that incinerators generate millions of tons of hazardous residues, much of which ends up in landfills. Furthermore, the carbon footprint of incinerators is substantial. As documented in a Grist article, European countries are starting to move away from incineration due to its adverse climate impact and the fact that it undermines recycling efforts.
>
> Building more WTE facilities in the U.S. only perpetuates these harmful cycles. As long as we keep expanding waste infrastructure, we will continue to overlook Zero Waste strategies that focus on reducing waste at the source. It is time to stand up and say no to this outdated and damaging practice.
>
> For more information on sustainable alternatives, I encourage you to refer to GAIA's 2023 report on Zero Waste systems and their environmental benefits.
>
> Thank you for considering my comment.
>
> **References:**
>
> 1. Environmental Health News (2022). PFAS going airborne from municipal incinerators. Available at: https://www.ehn.org/pfas-air-pollution-2656977959.html

2. Euronews (2023). Millions in France warned not to eat eggs from backyard chickens due to PFAS contamination. Available at: https://www.euronews.com/green/2023/11/21/millions-in-france-warned-not-to-eat-eggs-from-backyard-chickens-due-to-forever-chemical-p
3. GAIA (2023). Zero Waste to Zero Emissions. Available through GAIA's network.
4. Grist (2021). The fantasy of European WTE incinerators. Available at: https://grist.org/climate-energy/in-europe-a-backlash-is-growing-over-incinerating-garbage/
5. Zero Waste Europe (2022). Incineration residues: the dust under the carpet. Available at: https://zerowasteeurope.eu/press-release/incineration-residues-the-dust-under-the-carpet/

Sincerely,



Yayoi Koizumi
**Zero Waste Ithaca | BYO - US Reduces**
Founder | Co-Founder
zerowasteithaca.org
usreduces.org

Our work is fiscally sponsored by NOPI - Nonprofit Incubator, a program of NOPI INC, a Massachusetts nonprofit corporation and 501(c)(3) organization, EIN 81-5089505. Donations are tax-deductible where allowed by law. Learn more at thenopi.org .

**Thelman, Kassie L.**

---

**From:** Jessica Roff <jessica@no-burn.org>
**Sent:** Sunday, October 6, 2024 12:30 PM
**To:** Priya Sirohi
**Cc:** Yayoi Koizumi; DPW Recycling Web Site Email; Rebekah Creshkoff; Tracy Frisch
**Subject:** Re: [ZWI] Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Thanks Yayoi! These are great!
Priya, here is the information I sent out about submitting comments:

Hello everyone,
As promised, here is the guidance for submitting a comment on the Sullivan County Local Solid Waste Management Plan.

**How do I submit comments?**
**Logistics:**
There are two ways to submit comments **by October 15, 2024.**

- Send your comments via **email** to: **recycling@sullivanny.us**
    - Subject line should read "Comment on Sullivan County's Draft Local Solid Waste Management Plan"
- Send them via **U.S. mail** to:

  Mark Witkowski
  SCDPW Deputy Commissioner
  P.O. Box 5012
  Monticello, NY 12701

It's important for your elected officials to hear what you think about the "Sullivan County Local Solid Waste Management Plan," but don't be dissuaded by the 470 page report. It is helpful to comment on specific points of the Plan, but you can also submit general comments.

- Start by introducing yourself, if you're comfortable, share a little about yourself, tell them why you're commenting now, and why you oppose a so-called waste-to-energy incinerator in Sullivan County; include any experience, knowledge, or credentials you have.
- Base your comments on what you know. That can be your personal experience as a resident or worker in the area, or having a municipal solid waste background, or being a climate scientist, or anything in between. **All comments and all types of expertise are valuable.**
    - Do include any information you have that supports your statements, whether that's reports, studies, data, news articles, direct impacts you will face, etc.
    - Don't feel that you can't say something just because you don't have scientific data to back it up.
    - Be as concise and direct as you can be.
    - You can include ideas on real solutions, but you don't need to have positive alternative suggestions in order to oppose this bad plan.
    - If you know of other people's or organizations' comments that you agree with, you can say so in your comments.

- If you are planning to comment on specifics in the report, but won't have time to read the entire thing, you're in luck! Rebekah Creshkoff, Beyond Plastics Sullivan County, read the whole report and her one-page summary is attached below. And/or you can focus on specific topics in the report (the search function can be very helpful). Key areas to focus on could be Waste Reduction Programs (section 4.10) and Technology Evaluation and Selection (section 7). Both are also found to some degree in other sections.
- Remember to cite the section/page/etc. if you are commenting on a specific provision or language.
- Write as much or as little as you want. A sentence is fine, as are one hundred.

Please join us in submitting comments - we will also be submitting the petition that you all have hopefully signed. And please sign it if you haven't yet! Remember to keep sharing that widely.

We'll be in touch again soon.

Best,
Jessica

You can also hear more about so-called waste-to-energy on the Uptown Chats podcast I was on with Chris Tandazo from New Jersey Environmental Justice Alliance.

---

**Jessica Roff**
she/her
Plastics & Petrochemicals Program Manager - US/Canada
GAIA (Global Alliance for Incinerator Alternatives)
On occupied Lenape / Munsee / Canarsie lands (so-called Brooklyn)

**Sign up for our regional newsletter and follow GAIA US/Canada on Twitter, Facebook, and Instagram!**

On Sun, Oct 6, 2024 at 12:27 PM Priya Sirohi <priyasirohi.rhetoric@gmail.com> wrote:

> Where can we submit comments on the draft? And, can we use your comment as a template for our own?

On Sun, Oct 6, 2024 at 12:14 PM Yayoi Koizumi <yayoi@zerowasteithaca.org> wrote:

> Dear Sullivan County Planning Board Members,
>
> My name is Yayoi, and I am writing to express my strong opposition to the proposed waste-to-energy (WTE) incinerator in Sullivan County. As the founder of two waste reduction organizations—Zero Waste Ithaca and BYO US-Reduces—I am deeply engaged in waste reduction and zero waste initiatives., I am particularly concerned about the long-term environmental and social impacts of continuing to build solid waste facilities like incinerators. These projects lock us into decades of burning waste, diverting focus from real waste reduction strategies and Zero Waste goals.
>
> Incinerators disproportionately affect disadvantaged rural and urban communities, contributing to environmental injustice. Reports have shown that incinerators emit dangerous pollutants, including PFAS, which can go airborne and

accumulate in nearby areas. A 2022 study reported PFAS contamination in regions surrounding WTE incinerators, with serious public health impacts, such as those seen in France, where millions were warned not to eat backyard chicken eggs due to contamination.

Incineration does not eliminate the need for landfills. Zero Waste Europe's 2022 report highlights that incinerators generate millions of tons of hazardous residues, much of which ends up in landfills. Furthermore, the carbon footprint of incinerators is substantial. As documented in a Grist article, European countries are starting to move away from incineration due to its adverse climate impact and the fact that it undermines recycling efforts.

Building more WTE facilities in the U.S. only perpetuates these harmful cycles. As long as we keep expanding waste infrastructure, we will continue to overlook Zero Waste strategies that focus on reducing waste at the source. It is time to stand up and say no to this outdated and damaging practice.

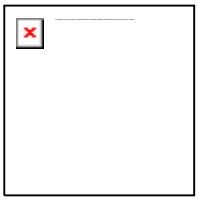
For more information on sustainable alternatives, I encourage you to refer to GAIA's 2023 report on Zero Waste systems and their environmental benefits.

Thank you for considering my comment.

**References:**


1. Environmental Health News (2022). PFAS going airborne from municipal incinerators. Available at: https://www.ehn.org/pfas-air-pollution-2656977959.html
2. Euronews (2023). Millions in France warned not to eat eggs from backyard chickens due to PFAS contamination. Available at: https://www.euronews.com/green/2023/11/21/millions-in-france-warned-not-to-eat-eggs-from-backyard-chickens-due-to-forever-chemical-p
3. GAIA (2023). Zero Waste to Zero Emissions. Available through GAIA's network.
4. Grist (2021). The fantasy of European WTE incinerators. Available at: https://grist.org/climate-energy/in-europe-a-backlash-is-growing-over-incinerating-garbage/
5. Zero Waste Europe (2022). Incineration residues: the dust under the carpet. Available at: https://zerowasteeurope.eu/press-release/incineration-residues-the-dust-under-the-carpet/


Sincerely,




Yayoi Koizumi
**Zero Waste Ithaca | BYO - US Reduces**
Founder | Co-Founder
zerowasteithaca.org
usreduces.org



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You received this message because you are subscribed to the Google Groups "ZWI Discussion Group" group.
To unsubscribe from this group and stop receiving emails from it, send an email to discussions+unsubscribe@zerowasteithaca.org.
To view this discussion on the web visit https://groups.google.com/a/zerowasteithaca.org/d/msgid/discussions/CADy-4k4pMB2h%2Beb5xgqcy96oh9cm0wEVdDL18-VnxGy_jz_Kmg%40mail.gmail.com.

**Thelman, Kassie L.**

**From:** Rosie Starr <rozie.starr@gmail.com>
**Sent:** Sunday, October 6, 2024 4:25 PM
**To:** DPW Recycling Web Site Email
**Subject:** Sullivan county recycling

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please help us make the most intelligent and healthy decisions about waste disposal.

Many folks are aware that, as consumers, we all need to reduce waste, recycle packaging and compost organic materials.

Incinerators don't sound like an option for a healthy environment.

Knowing that the landfills are reaching capacity; what options do we have to change our daily habits of waste management?

I try day by day to change in even small ways to reduce and reuse waste.

--
*rosie starr*

## Thelman, Kassie L.

**From:** Gayla Brown <gaylabrown.sun@gmail.com>
**Sent:** Sunday, October 6, 2024 9:10 PM
**To:** DPW Recycling Web Site Email
**Subject:** Absolutely do not want an incinerator

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please do not destroy our environment with this ridiculous idea of an incinerator. That is backward thinking.

I have been participating in the food recycling program in Sullivan county for over a year and that program should be expanded. It works and so does general recycling. Include yard compost/mulch pickup for residents.

You should seek the knowledge of other states and counties that have successful recycling programs. Check Sunnyvale California SMaRT station for ideas. They've won awards
https://uk01.l.antigena.com/l/Of-EAkuh9EaujFW4L2ouE94zUAY8byW_KlE45KWQsCrrwOEyzLPkcK7MlJQOx6UmulRgdhZVcusz54_mKfnrlH3rGu1zzaYslk044VJ-isgszysxuL1Br3GtTvfmqgh5xF~mz_Uhj067gCj9YZC4L62YahdRpDPpJcFPHxiH1dun55Wyuxm~feMXjFr7byOKvY8s7s8K_A8mlxJYp6jKTyCZ13h00~oVOHmvgX9SGE1M9kvxu0WJbFq9

Be SMaRT not short-sighted.

Thoughtful recycler,
Gayla

## Thelman, Kassie L.

**From:** Gayla Brown <gaylabrown.sun@gmail.com>
**Sent:** Sunday, October 6, 2024 9:21 PM
**To:** Thelman, Kassie L.
**Subject:** Follow up on food recycling program

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Kassie,

I was wondering if you have any results to share from the food recycling program? It's been a year since you launched the program.

I'm very concerned that the county is considering an incinerator, which would destroy our well being in every way imaginable.

I think its time for this area to think forward not backwards. Food recycling, composting, mulch pickup are just a few solutions.

Environmentally hopeful, Gayla

**Thelman, Kassie L.**

**From:** Thelman, Kassie L.
**Sent:** Monday, October 7, 2024 9:43 AM
**To:** 'Giuliano, John'; Witkowski, Mark A; McAndrew, Edward P.; Browne, Tamara L.
**Subject:** FW: Fw: Submitting a Comment on the Sullivan County Local Solid Waste Management Plan
**Attachments:** Sullivan LSWMP summary-Final.pdf

----- Forwarded Message -----
**From:** "Jessica Roff" <jessica@no-burn.org>
**To:**
**Cc:**
**Sent:** Sat, Oct 5, 2024 at 8:00 AM
**Subject:** Submitting a Comment on the Sullivan County Local Solid Waste Management Plan

Hello everyone,
As promised, here is the guidance for submitting a comment on the Sullivan County Local Solid Waste Management Plan.

**How do I submit comments?**
**Logistics:**
There are two ways to submit comments **by October 15, 2024.**

- Send your comments via **email** to: **recycling@sullivanny.us**
  - Subject line should read "Comment on Sullivan County's Draft Local Solid Waste Management Plan"
- Send them via **U.S. mail** to:
  Mark Witkowski
  SCDPW Deputy Commissioner
  P.O. Box 5012
  Monticello, NY 12701

It's important for your elected officials to hear what you think about the "Sullivan County Local Solid Waste Management Plan," but don't be dissuaded by the 470 page report. It is helpful to comment on specific points of the Plan, but you can also submit general comments.

- Start by introducing yourself, if you're comfortable, share a little about yourself, tell them why you're commenting now, and why you oppose a so-called waste-to-energy incinerator in Sullivan County; include any experience, knowledge, or credentials you have.
- Base your comments on what you know. That can be your personal experience as a resident or worker in the area, or having a municipal solid waste background, or being a climate scientist, or anything in between. **All comments and all types of expertise are valuable.**
  - Do include any information you have that supports your statements, whether that's reports, studies, data, news articles, direct impacts you will face, etc.
  - Don't feel that you can't say something just because you don't have scientific data to back it up.
  - Be as concise and direct as you can be.
  - You can include ideas on real solutions, but you don't need to have positive alternative suggestions in order to oppose this bad plan.

    - If you know of other people's or organizations' comments that you agree with, you can say so in your comments.
- If you are planning to comment on specifics in the report, but won't have time to read the entire thing, you're in luck! Rebekah Creshkoff, Beyond Plastics Sullivan County, read the whole report and her one-page summary is attached below. And/or you can focus on specific topics in the report (the search function can be very helpful). Key areas to focus on could be Waste Reduction Programs (section 4.10) and Technology Evaluation and Selection (section 7). Both are also found to some degree in other sections.
- Remember to cite the section/page/etc. if you are commenting on a specific provision or language.
- Write as much or as little as you want. A sentence is fine, as are one hundred.

Please join us in submitting comments - we will also be submitting the petition that you all have hopefully signed. And please sign it if you haven't yet! Remember to keep sharing that widely.

We'll be in touch again soon.

Best,
Jessica

You can also hear more about so-called waste-to-energy on the Uptown Chats podcast I was on with Chris Tandazo from New Jersey Environmental Justice Alliance.

---

**Jessica Roff** | US & Canada Regional Plastics & Petrochemicals Program Manager

On occupied Lenape / Munsee / Canarsie lands (so-called Brooklyn)
| **GAIA**: Global Alliance for Incinerator Alternatives
| **phone:** 202.321.0020
| **gender pronouns:** she/her/hers

---

**Jessica Roff**
she/her
Plastics & Petrochemicals Program Manager - US/Canada
GAIA (Global Alliance for Incinerator Alternatives)
On occupied Lenape / Munsee / Canarsie lands (so-called Brooklyn)

**Sign up for our regional newsletter and follow GAIA US/Canada on Twitter, Facebook, and Instagram!**

Summary of Sullivan County's Draft 10-Year Local Solid Waste Management Plan, July 2024

Folks, I read the Sullivan County Draft Local Solid Waste Management Plan for the next 10 years so you wouldn't have to. It appears to follow the NYS Department of Environmental Conservation's template for developing such plans. Here's a breakdown of what's in the document:

**Introduction.** (1 page)

Description of the **Planning unit**—i.e., Sullivan County. (4 pages)

**Waste generation and materials recovery** estimates the current quantities and composition of the county's overall waste stream. (8 pages)

**Existing solid waste management system** describes the county's existing solid waste management system, including facilities, initiatives, and waste-reduction programs. (26 pages)

Description of the county's existing **Administrative and financial structure** for managing waste. (10 pages)

**Regionalization** reviews a feasibility study conducted in 2017 that looked at joining forces with Greene and Ulster Counties to create a regional Solid Waste Management Authority. This section also looks at a successful model for this approach, the Oneida–Herkimer Solid Waste Authority. (4 pages)

**Technology evaluation and selection** covers potential approaches to waste management, including exporting trash (which we currently do) and creating a local landfill. It also explains a broad range of composting techniques and anaerobic digestion. Of greatest interest to those concerned about a possible incinerator are the 2 pages devoted to so-called **Waste to energy - Thermal conversion (mass burn),** starting on pdf page 85 and document page 7-16. (29 pages)

The **Implementation plan and schedule** spells out what would happen when over the 10-year planning period—specifically, from 2024 through 2033. It consists of brief bullets and is double spaced, so there's not much text on each page. (35 pages)

Appendix A is the county's **Solid waste management rules**, which were passed into law in 1992 and amended in September 2021. (50 pages)

Appendix B is **Organics management**, which is all about collecting and composting food scraps. This program is already under way, and the plan calls for its continued expansion, as outlined in this appendix. (250 pages)

Appendix C is **Alternatives assessment**, and it devotes a page to each of 15 different approaches, many of which could help reduce our waste stream. These include waste reduction, reuse, recyclables recovery and organics recovery programs; education and outreach; and improvement of local and regional markets for recyclables. Reducing the volume of C&D (construction & demolition) debris also would help trim back the amount of waste we need to cope with. (15 pages)

Appendix D is for **Public comments and response**. It is up to us to populate it with our feedback on the plan. Send your comments to **recycling@sullivanny.us**, or to Mark Witkowski, SCDPW Deputy Commissioner, P.O. Box 5012, Monticello, NY 12701. Comments must be received **by October 15**.

*Prepared by Rebekah Creshkoff, Oct. 1, 2024*

## Thelman, Kassie L.

**From:** Andrew Rudd <aarudd@riseup.net>
**Sent:** Monday, October 7, 2024 6:48 PM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

DPW Deputy Commissioner Mark Witkowski,

Dear Commissioner McAndrew and Deputy Commissioner Witkowski,

We do not want a new, expensive, unnecessary incinerator in Sullivan County! Nothing is with poisoning the air of me, my family, my neighbors, and the beautiful nature all around us that drives most of us to want to call Sullivan County home in the first place. Personally, I am an urban planner who has been working in the field of ecology the last 12 years. I know there is a cheaper, less toxic option in reducing waste at the source. Urging you to reject this proposal and consider other options better for everyone—your children and grandchildren included.

Sincerely,
Andrew Rudd

Andrew Rudd
aarudd@riseup.net
274 4th St
Narrowsburg, New York 12764

## Thelman, Kassie L.

**From:** Leonard Friedland <noreply@adv.actionnetwork.org>
**Sent:** Monday, October 7, 2024 7:03 PM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

DPW Deputy Commissioner Mark Witkowski,

Dear Commissioner McAndrew and Deputy Commissioner Witkowski,

I moved to Sullivan County 12 years ago because the air was clean and the water (Delaware River) was clean and vibrant. Surely there is a better than concentrating and spewing pollutant poisons? Nobody likes a landfill, but at least it's contained. The poor people around Paris can't even eat their backyard eggs? How many of us have chickens and prize the local eggs?
It even seems like it's economically inefficient. If Detroit was bankrupted by their incinerators, how could Sullivan County do any better?
Please think a little harder, be a little more creative, and find a better solution.

Sincerely,
Leonard Friedland
Callicoon, NY

Leonard Friedland
benzy845@gmail.com
644 River Road
CALLICOON, New York 12723

## Thelman, Kassie L.

**From:** Miriam Hernandez <noreply@adv.actionnetwork.org>
**Sent:** Monday, October 7, 2024 7:18 PM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

DPW Deputy Commissioner Mark Witkowski,

Dear Commissioner McAndrew and Deputy Commissioner Witkowski,

Incinerators are toxic to the environment, people and animals. Landfills are less toxic and cheaper to maintain.

Who stands to gain from the proposed incinerator in Sullivan County?

Sincerely,
Miriam Hernandez
Resident and homeowner in Jeffersonville, NY 12748

Miriam Hernandez
miriamhernandezart@mac.com
4 Terrace Ave.
Jeffersonville, New York 12748

## Thelman, Kassie L.

**From:** Angela Page <noreply@adv.actionnetwork.org>
**Sent:** Monday, October 7, 2024 9:15 PM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

DPW Deputy Commissioner Mark Witkowski,

Dear Commissioner McAndrew and Deputy Commissioner Witkowski,

I moved to this area because I need clear clean air and have been here over a decade and plan to stay. Ive created a safe space for me and my husband who suffers from early onset parkingson. I was poisoned in 2024 and need a respirator in many buildings or areas. I looked for houseing for many years where I felt the air was good. I use the respirator to drive into NYC, or some bad air situations, near fires for example. TO continue with your idea would make the air I moved here for, unsuitable for me and you should be on notice that I will become very sick, and housebound with my indoor large air filters. Please do not continue with this plan. Our area is pristine and this way of removing waste just changes the pollution to airborne.

Sincerely, Angela Page

Angela Page
folkplus@gmail.com
763 Briscoe Road
Swan Lake, New York 12783

**Thelman, Kassie L.**

**From:** Star Hesse <starhesse@yahoo.com>
**Sent:** Monday, October 7, 2024 10:12 PM
**To:** DPW Recycling Web Site Email
**Cc:** Martin, AnnMarie
**Subject:** Comment on Sullivan County Draft - Local Solid Waste Management Plan
**Attachments:** No incinerator petition signatures 241006 .pdf

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

To: Mark Witkowski, SCDPW Deputy Commissioner, et al - The attached Petition with 26 signatures, calls for County officials to cancel any plans for a feasibility study, construction or use of a trash incinerator anywhere in or around Sullivan County. More than 90% of the people to whom I spoke were totally against the burning of garbage anywhere in Sullivan County and/or the surrounding areas. On Oct. 5th, I was able to collect 17 of the 26 signatures here in less than a half hour. Many of the signers expressly requested County officials to pursue the best recycling method that would reduce the garbage stream going into the transfer stations now, use the safest, minimally polluting method to dispose of that residual waste, while they continue the search for the best, environmentally friendly disposal alternatives.

I ask the Clerk to the Legislature, AnnMarie Martin, to please copy this email and the attachment, to all Legislators, the County Manager Josh Potosek, SCDPW Commissioner Ed McAndrew, Public Health Services Director Karen Holden, Public Safety Commissioner Scott Schulte, Planning & Community Development Commissioner Heather Brown, the Office of Management & Budget (incinerators cost millions to build, sticking taxpayers with egregious expense), and to all other County Officials who might be involved or want to have input on this matter. I ask you all to please heed the wishes of the people of Sullivan County to keep our home a clean, healthy and beautiful place to live. Thank you, Star D. Hesse Narrowsburg

**To: The Sullivan County Legislature**

We, the undersigned, call on the Sullivan County Legislature to cancel plans for a feasibility study for a "waste-to-energy" facility—in other words, a trash incinerator. Incinerators:

**Threaten human health and the environment**
Waste incinerators are major emitters of pollutants, including toxic "forever chemicals," such as PFAS, that cause a host of diseases, including cancers, heart disease, and reproductive disorders, among many others—particularly in low-income neighborhoods and communities of color, where these facilities are disproportionately sited. Per unit of energy, incinerators discharge more air pollution than coal plants and more greenhouse gases than any other power source.

**Are expensive to build and operate**
New incinerators in developed countries cost between $150 million and $670 million, and taxpayers wind up footing the bill. Contracts invariably require municipalities to provide a certain amount of waste each year, leading to a need to import trash. The city's costly incinerator is the primary reason Detroit went bankrupt.

**Do not solve the waste problem**
"Waste to energy" facilities transform waste into more toxic, concentrated forms; waste doesn't disappear. Contaminated ash, wastewater sludge, and filters that capture harmful emissions must be disposed of in expensive landfills certified to handle hazardous waste.

**Do not generate much energy**
Incinerators must burn huge amounts of waste to recover even small amounts of fuel, making them the most inefficient and polluting method to generate electricity.
Gas, coal, and nuclear facilities all generate more energy.

**Damage the economy**
In 2022, visitors and second-home owners contributed nearly $900 million to Sullivan County's economy, generating almost $48 million in local taxes and letting Sullivan County households save $3,370 in taxes, on average. A waste-to-energy incinerator would likely cause air and water pollution, noise, and smells—and erode tourism, tax revenues, and property values.

**Bottom line:** So-called waste-to-energy incinerators come with inherent pollution and health risks, and are financially unfeasible.

**Sullivan County deserves better**
We, the undersigned residents and workers of Sullivan and neighboring counties, ask the Legislature to protect our future, our health, our environment, and our economy, and reject proposals like so-called waste-to-energy facilities that threaten us all. We instead call on the Legislature to move to real, economical solutions based on mitigation, diversion, and waste-reduction strategies.

| Name | Email | Local zip code |
|---|---|---|
| Joanne Letendre | | Narrowsburg NY 12764 |
| Elsa Grosser | | Cochecton NY 12726 |
| Jennifer L Mazzuppo | | Narrowsburg NY 12764 |
| Eileenanne DeVagno | Eileenanne DeVagno | " " 12764 |
| | Angelo DeVagno | " " 12764 |
| | Penka Lessova | Liberty NY 12754 |
| | Dale Conklin | Narrowsburg NY 12764 |
| | JASON SCHWARTZMAN | Narrowsburg 12764 |
| | JANN CHEIFITZ | Callicoon NY 12723 |
| | TONY KARON | Callicoon NY 12723 |
| | Renata Tkocz | Jeffersonville NY 12748 |
| | MICHAŁ BARZDA | Callicoon NY 12723 |
| | Judy Brown | Narrowsburg N.Y. 12764 |
| | ERIC Hector | Narrowsburg NY 12764 |
| AL KURTZ | AKURTZ59@GMAIL.COM | 12723 |
| Amanda Dittner | ALDEJM12@gmail.com | 12726 |
| | BOB MOZEE | Narrowsburg N.Y. 12764 |
| | SPOLATNICK | " 12764 |
| | Kathy Stabile | Callicoon NY 12723 |
| | Roy Croft | Cochecton NY 12726 |
| | Steven Belber | PA. 18415 |
| | GREG IOFANO | Narrowsburg NY 12764 |
| Ron Pollero | RON POLLERO | Fremont Center NY 12736 |
| Elaine Giguere | Elaine Giguere | Narrowsburg NY 12764 |
| Star D. Hesse | STAR D. HESSE | Narrowsburg NY 12764 |
| | Thomas "Mike" Lovelace | " 12764 |

## Thelman, Kassie L.

**From:** Daniel Bower <noreply@adv.actionnetwork.org>
**Sent:** Monday, October 7, 2024 11:49 PM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

DPW Deputy Commissioner Mark Witkowski,

Dear Commissioner McAndrew and Deputy Commissioner Witkowski,

Burning plastic is stupid and harmful.

Sincerely,

Daniel Bower
danielbower58@hotmail.com
371 Brickman Rd.
Hurleyville NY, New York 12747

## Thelman, Kassie L.

**From:** Steve White <swhite12701@gmail.com>
**Sent:** Tuesday, October 8, 2024 9:15 AM
**To:** DPW Recycling Web Site Email

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Mr. Witkowski,
Thank you for your letter in today's S.C. Democrat (10/8/24). Educational and enlightening. Though we are far from being experts in waste management, we are concerned residents of Sullivan County. Doing a 10 year study on how to deal with waste is an important function of responsible government. Identifying the financial and environmental consequences of pursuing an incinerator is equally important.
If your claims of financial and environmental ruin are even close to being accurate (we think they are), reinvesting in infrastructure to reuse and recover IS the logical way to go.
We support your efforts to inform the public and oppose having an incinerator in Sullivan County.
Steve and Suzanne White
Bethel, N.Y.

**Thelman, Kassie L.**

**From:** Steve Porter <noreply@adv.actionnetwork.org>
**Sent:** Tuesday, October 8, 2024 10:06 AM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

DPW Deputy Commissioner Mark Witkowski,

Dear Commissioner McAndrew and Deputy Commissioner Witkowski,
I am a long time resident of Sullivan County and have a small business here.
Incinerators are also typically located in low-income and minority communities and perpetuate poverty and racial injustice. Sullivan County is home to a number of environmental justice communities already and does not deserve to be saddled with even more pollution and negative health impacts.

Sincerely, Steve Porter

Steve Porter
steveinthecar@gmail.com
489 Moore Hill Road
Grahamsville, New York 12740

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

FROM: Victoria Gershik <noreply@adv.actionnetwork.org>
TO:DPW Recycling Web Site Email recycling@sullivanny.us
Comment on Sullivan County's Draft Local Solid Waste Management Plan

DPW Deputy Commissioner Mark Witkowski,

Dear Commissioner McAndrew and Deputy Commissioner Witkowski,

I have spent summers in Sullivan County since 1988 and now I am full-time resident since 2021. I have three young children who are homeschooled. I've been working remotely for the past two years for a small organics hauler called Curbside Compost, who was recently purchased by Natural Upcycling of Linwood, NY. I live in Bethel, 3 miles from the Bethel landfill and believe or not, most of my life, I have lived near a landfill or water treatment plant in Brooklyn, NY. Where are these plants and landfills sited? Near low-income communities. The burden of everyone's waste becomes an environmental justice issue.

Where would you site an incinerator? In the wealthiest part of Sullivan County? I do not believe so.

I have spoken with folks who live in Peekskill, where WIN Waste operates a waste to energy (some refer to a waste of energy) incinerator, where trucks are waiting in long lines, idling with their engines on, waiting to dump. The results are toxic ash and pollutants in the air we breath. There are many aspects of the incinerator process that we should be quite careful to move forward with.

I read an article that said you visited a burn to energy plant down in Long Island that made you want to consider an incinerator plant in Sullivan County. Before you think it's a good idea, please watch some counter information such as this: https://youtu.be/4Y04GK8VPgA?si=pb_Oh2Aa_aXPH_nn from https://uk01.l.antigena.com/l/ZrqIwcvQLLsIwdyN6f-5k2-pW~2ArHbb8qMquYor7Mq3i7IToWjNOMeoyDg33P5dmo8HTf5GafsMyZ4rnfVrHHXhmpYjIM9

xIjQhVHVcVjhmbr9Qd8XewBlSEQvLjFBU9rbLL759jGN1dCyJqi_DqZLxKl-tHZzmxweZHcXu_Nkh3OxS1iKWySbe9mL

I can imagine the heavy challenge and burden you face. I ask the question to myself, what are we going to do with all this trash? We can see it as a burden or we can see it as an opportunity to transform the wrongs of our current system and help Sullivan County be a beacon for New York State as Boulder County is a beacon for Zero Waste Initiatives in Colorado.

Imagine you could not bring your home trash anywhere but your backyard. What would you do? If I had to do that, I would stop buying anything I couldn't bury in my backyard.

I know that there are challenges to come but please consider alternatives. Do you know about the plastic reduction packaging bill to be introduced into the NY legislation? Together we can do the right thing. Thank you.

Sincerely,

Victoria Gershik
vgershik@gmail.com
PO Box 757
KAUNEONGA LAKE, NY, New York 12749

**Thelman, Kassie L.**

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**From:** Star Hesse <starhesse@yahoo.com>
**Sent:** Wednesday, October 9, 2024 10:55 AM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on Sullivan County Draft - Local Solid Waste Management Plan - Public meeting comment 09/19/2024
**Attachments:** WTE Public meeting 1 pg comment 240919 .docx

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

The attached comment was made at a 'public meeting' held on Sept. 19, 2024, for the purpose of soliciting input from the public regarding the County draft of a Local Solid Waste Plan that contained a thoroughly unacceptable suggestion of evaluating an incinerator to address and handle the County's solid waste disposal. Burning does not get rid of garbage. It simply transforms it into a more concentrated toxic sludge that must be disposed of in expensive landfills specially certified to handle hazardous waste that even then remains a hazard to all life forms in and around the area, polluting the air, land and water with forever chemicals. This pollution will also destroy Sullivan County's most lucrative income source, tourism. County officials have a fiduciary responsibility to keep Sullivan County clean, green and economically growing. There are disposal programs that are not as toxic, with Federal, State and other monies available to finance the less toxic processes while looking for better, less destructive alternatives to waste management. You, as representatives of the people, are charged with the responsibility to look for and secure these alternatives to best serve the general good and welfare. Nothing less will suffice. Star D. Hesse, Sullivan resident and taxpayer

## NO Waste Incinerators in Sullivan County or anywhere else!

The Sullivan County Legislature is actively considering building a "waste-to-energy" garbage incinerator to address Sulivan County's waste disposal problems. But incinerators **do not** get rid of garbage, they merely transform it into a more concentrated toxic mixture that must be disposed of in expensive landfills certified to handle hazardous waste. Even then, these 'forever' contaminants continue to damage our lives in many ways.

**Incinerators do not solve waste disposal problems, they just pollute the area in which they operate.** Incinerators **do not** get rid of waste. They simply transform it into a more concentrated, toxic sludge that must be captured and disposed of at expensive landfills specially certified to handle hazardous waste.

**Incinerators threaten human health and the environment.** Incinerators are major emitters of "forever" toxic chemical pollutants, such as PFAS, that cause a host of diseases, including cancers, heart disease, and reproductive disorders, among many others, particularly in low-income neighborhoods where these facilities are often disproportionately sited. Per unit of energy, incinerators discharge more air pollution than coal plants and more greenhouse gases than any other power source.

**Incinerators damage the economy**
In 2022, visitors and second-home owners contributed nearly $900 million to Sullivan County's economy. Tourism generated almost $48 million in local taxes, letting Sullivan County households save $3,370 in taxes, on average. But a waste-to-energy incinerator would likely cause air and water pollution, noise, and smells—and erode tourism, tax revenues, and property values.

**Incinerators are expensive to build and operate.** The one under consideration here is projected to cost about $40,000,000 to start. The contracts for use of their services usually include "put or pay" clauses requiring municipalities to guarantee a certain amount of waste each year or pay the operators additional money to make up the difference.

**Incinerators are financially unfeasible**. Even if their operations run smoothly, incinerators must burn huge amounts of waste to produce even small amounts of energy to sell. This makes it the most inefficient and emission-intensive way to produce fuel. Gas, coal, and nuclear facilities all generate more energy. Waste incineration companies make much more money getting paid to dispose of waste than they do by making and selling energy. And this need for large amounts of waste acts as a disincentive for incinerators to recycle anything. They need to burn it all.

**Bottom Line:** We call on our Legislators to cancel plans for a feasibility study fof this harmful Incinerator proposal and look instead for solutions that protect our health, our environment, our economy, and the wellbeing of our friends and families.

Thank you for your attention to this very serious issue. Star D. Hesse, Resident, Taxpayer and member of the Senior Legislative Action Committee of Sullivan County

**Thelman, Kassie L.**

**From:** Martha Scoppa <coldspringroad1@yahoo.com>
**Sent:** Wednesday, October 9, 2024 10:38 PM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Sullivan County Officials,

As a resident of Sullivan County, I am aware that there is great concern about the possible imminent closure of Seneca Meadows landfill where our solid waste is currently trucked. It is good that the County has drafted a Ten-Year Local Solid Waste Management Plan (July 2024) to address the issue.

I believe strongly in recycling, re-use, and the elimination of plastics, and I participate in the County's composting pilot program. Solid waste managment should go hand-in-hand with the preservation of clean water and pure air. As Sullivan County reviews various waste managment options, the focus should be on a healthy environment.

The so-called "Waste to Energy" proposal is a misnomer. This type of waste management is a hugely expensive incinerator that reduces the waste by thermal conversion (mass burn) to toxic ash, but generates very little energy. The incinerator releases toxic pollutants into the environment and the toxic ash must be trucked to special toxic ash dumps.

In elementary school we learned that air and water are essential to life. Sullivan County must preserve its natural resources so that our people and all living things are not subject to unnecessary deadly pollution. "Waste to Energy" management makes no sense here or anywhere.

Thank you.

Very truly yours,

Martha Scoppa
32 Cold Spring Road
Liberty, NY 12754
845-292-1275

## Thelman, Kassie L.

**From:** Joe Pfister <joe.s.pfister@gmail.com>
**Sent:** Thursday, October 10, 2024 9:23 AM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear SCDPW Deputy Commissioner Witkows:

I am writing to express my STRONG OPPOSITION to the proposed incinerator in Sullivan County. I believe that this project would have a number of negative impacts on our community, including:

* Air pollution: Incinerators emit a variety of harmful pollutants, including dioxins, furans, and heavy metals. These pollutants can cause respiratory problems, cancer, and other health issues
* Water pollution: Incinerators also produce wastewater that can contaminate our waterways. This wastewater can contain toxic chemicals that can harm aquatic life and make water unsafe for drinking or swimming
* Climate change: Incinerators release greenhouse gases, which contribute to climate change. Climate change is already having a number of negative impacts on our planet, including more extreme weather events, rising sea levels, and the loss of biodiversity

In addition to these environmental concerns, I am also concerned that the incinerator would lower property values in Sullivan County, as people would be less likely to want to live near a facility that emits harmful pollutants.

I believe that this project would be a mistake, and I hope that you will join me in OPPOSING it.

Thank you for your time and consideration.

Sincerely,

Joe Pfister

## Thelman, Kassie L.

**From:** rovedonivo@optimum.net
**Sent:** Thursday, October 10, 2024 9:37 AM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Mark Witkowski
SCDPW Deputy Commissioner
P.O. Box 5012
Monticello, NY 12701

I live in the Hudson Valley and I am opposed to the incinerator project for the following reasons. I want clean air, water, and a healthy environment.for all of us in the region, and for future generations.

* Incineration emits toxic substances, including dioxins and furans, which cause cancer and disrupt our hormone and immune systems; heavy metals, including mercury, cadmium and lead; and particulate matter. (GAIA, 2019)

* Incineration is more expensive than landfilling waste. (World Bank, 2018)
* Aging incinerators require significant public funds for upgrades. (The New School, 2019)
* Waste-to-energy incineration is NOT climate-friendly. Burning 1 ton of plastic emits nearly 3 tons of CO2. (Material Economics, 2018)
* Incineration perpetuates socioeconomic and racial injustice. These facilities are disproportionately sited in low-income and marginalized communities. (The New School, 2019)
* Incineration competes with and undermines mechanical recycling. (Nordic Council of Ministers, 2019)

Sincerely,

Nivo Rovedo

## Thelman, Kassie L.

**From:** Joanne Abplanalp <joyalba13@yahoo.com>
**Sent:** Thursday, October 10, 2024 9:38 AM
**To:** DPW Recycling Web Site Email
**Subject:** Recycling

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello, Mr. Witkowski! A letter to the editor was posted on Facebook today explaining that your plan is to use an incinerator. I believe it isn't worth it. The " zero waste" using federal incentives is a much better idea. Please consider this as a much better plan. Joanne Abplanalp

Yahoo Mail: Search, Organize, Conquer

## Thelman, Kassie L.

**From:** Kristin Walsh <cmkwalsh@gmail.com>
**Sent:** Thursday, October 10, 2024 9:54 AM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Opposition to incinerator in Sullivan County

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

To whom it may concern,

Although I am not a resident of Sullivan County, I do live in an adjacent community. In light of the interconnectedness of our air, water and soil, this issue matters to me as well.

I oppose the construction of of the waste to energy incinerator for the following reasons:

- Incineration is more expensive than landfilling waste. (World Bank, 2018)
- Significant costs and associated subsidies that could be used toward more sustainable approaches to waste management
- Aging incinerators require significant public funds for upgrades. (The New School, 2019)
- Incineration emits toxic substances, including dioxins and furans, which cause cancer and disrupt our hormone and immune systems; heavy metals, including mercury, cadmium and lead; and particulate matter. (GAIA, 2019
- Waste-to-energy incineration is NOT climate-friendly. Burning 1 ton of plastic emits nearly 3 tons of CO2. (Material Economics, 2018)
- Incineration perpetuates socioeconomic and racial injustice. These facilities are disproportionately sited in low-income and marginalized communities. (The New School, 2019)
- Incineration competes with and undermines mechanical recycling. (Nordic Council of Ministers, 2019)

I believe it behoves communities to invest in infrastructure for the reuse, recovery and more effective recycling of materials. It would also be important to greatly expand the county's existing composting operation. These strategies all fall under the rubric of "zero waste," and federal grants are available to implement such programs.

The county's draft solid waste management plan acknowledges that such programs could reduce our waste stream by 50 percent. Why then invest monies in an extremely expensive incinerator, when more cost-effective and sustainable solutions exist?

Thank you for your consideration.

Kristin Walsh

Nyack, NY
914-850-4452
cmkwalsh@gmail.com

## Thelman, Kassie L.

**From:** AT&T rgfry <rgfry@att.net>
**Sent:** Thursday, October 10, 2024 9:55 AM
**To:** DPW Recycling Web Site Email
**Cc:** beyondplasticssullivancountyny@gmail.com; plasticsclass@bennington.edu
**Subject:** OPPOSED to "waste-to-energy burner" in Sullivan County

ITS ADVISES CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

My wife and I have spent many summers working in and enjoying Sullivan County, at HASC (Hebrew Academy for Special Children) and elsewhere.

And we keep up our interest by supporting sites such as the Borscht Belt Museum in Ellenville.

In addition to clean-air objections to burning plastics and other refuse, large trucks carrying trash to Sullivan County actively DISCOURAGE TOURISM.

Frankly, I don't know what the solution is to plastics and other trash accumulating here in Westchester and Orange counties. But as a matter of "Environmental Justice" I would rather have it pile up here rather than inflict it on others!

-Rick Fry

## Thelman, Kassie L.

**From:** Sarah Hope <sarahhopedemayo@gmail.com>
**Sent:** Thursday, October 10, 2024 10:04 AM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello,

I appreciate the county's efforts in drafting a solid waste management plan and the intention to reduce waste through recycling, reuse, and composting. However, I must express my strong opposition to the proposal for a "waste-to-energy burner."

Incinerators pose significant financial and environmental risks. The costs associated with building and operating such facilities are astronomical, often requiring substantial government subsidies and resulting in burdensome "put-or-pay" contracts. These have led to financial crises in other cities, forcing them to import waste at the expense of their residents.

Moreover, the environmental implications are alarming. Incineration releases a range of toxic emissions, including lead, mercury, and dioxins, which can contaminate our air, soil, and water. The health risks associated with these pollutants—such as increased cancer rates and reproductive issues—are well documented. Communities near incinerators suffer from long-lasting consequences that we do not need in Sullivan County.

Instead of investing in an outdated and harmful solution, I urge the county to focus on sustainable practices that align with the zero waste philosophy. By enhancing recycling programs, expanding composting initiatives, and investing in infrastructure for material recovery, we can significantly reduce our waste stream—potentially by 50%, as mentioned in the plan.

Let’s prioritize a future that values environmental health and community well-being over costly and risky incineration projects. Thank you for considering this perspective as you move forward with the waste management plan.

Sarah Hope de Mayo

## Thelman, Kassie L.

**From:** Roberta C <robertaaclements@gmail.com>
**Sent:** Thursday, October 10, 2024 10:08 AM
**To:** DPW Recycling Web Site Email; jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan"

ITS ADVISES CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear DPW and Sullivan County legislators, I am writing in opposition to the proposed incinerator for Sullivan County. Completing a feasibility plan for an incinerator to Energy system may be required, but it's a waste of money and senseless. The energy it takes to burn the waste is equal or more than the energy created from burning. It is not economically viable and would not improve the energy needs of the community. Creating toxic waste air pollution is not a viable alternative to solid waste. Sullivan County is a jewel and is one of the few rural places left. People who live in Sullivan County and also those who are in government making decisions treasure that and honor that and serve this incredible natural environment. Tourism is bad enough. We love the social and economic benefits of tourism but we don't like the traffic and the noise and some of the problems that it brings. But that is nothing compared to burning garbage. In the old days, we had cesspools and burnt garbage, and there were just piles and piles of cars dumped in random places with oil and gas leaking into the ground and lakes and streams. We don't do that anymore, and we all appreciate the benefits of these healthier policies. Considering an incinerator is going back to a time when we didn't know any better. Now we know better and there's really not any benefits to this proposal. Yes you're getting rid of the garbage but you're trading it off for something equally bad or worse. We need more creative and sustainable ways to solve our energy problems. Including reducing our use. AI and bitcoin are not even real things which use up more energy than all the people combined. There is a way to figure out better solutions - non-polluting solutions. I am not a resident of Sullivan county but I treasure it's beauty and visit often. I live in neighboring Ulster County and we would be experiencing negative air pollution from this incinerator. Solid waste is a tremendous problem, but an alternative polluting solution is not a solution. It creates another equally bad problem. We need to find ways to reduce reduce energy use and reduce the waste we produce. Nothing is impossible.
Roberta Clements

**Thelman, Kassie L.**

**From:** Sandra Stratton-Gonzalez <sandibklyn2@gmail.com>
**Sent:** Thursday, October 10, 2024 10:13 AM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** NO to Incineration

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Sullivan County officials,

While I live in Dutchess and not Sullivan County, I am well aware that air travels, and that the pollutants a new incinerator emits will impact my health and that of my family and friends. I am currently engaged in a campaign to close the incinerator in Poughkeepsie, and live quite close to the Peekskill Incinerator. Sadly, NYS is home to 10 of the still standing 65 incinerators in the US (down from over 187 in 1991). Given what we know, building a new incinerator is a very bad decision for human health, the environment and our pocketbooks.

Here are the **Top 5 Reasons** not to build a new incinerator:

- Incinerators emit $CO_2$ Nitrogen Oxide, Sulfur Dioxide, Volatile Organic Compounds, Particulate Matter 2.5, Chromium, Lead, Mercury and more. These emissions cause liver and kidney damage, asthma, cancers, heart disease and impair cognition.
- The toxic Incinerator ash will have to be landfilled, spreading the harm.
- Much of what will be burned (up to 40%+) is organic material. Rather than burn it, compost and monetize it!
- Building the incinerator will cost HUNDREDS OF MILLIONS OF DOLLARS.
- There are sustainable alternatives, based on zero waste principles, that lower our carbon footprint, promote reuse and recycling, and create GOOD jobs, jobs that can support a family!

Thank you for the opportunity to comment.

*Sandi Stratton-Gonzalez*

*Member, Mothers Out Front Dutchess County*

*Dance Education Consultant*
sandibklyn2@gmail.com
347-451-8699

*"The true teacher is within us. A good teacher is someone who can help you to go back and touch the true teacher within, because you already have the insight within you." bell hooks*

## Thelman, Kassie L.

**From:** Barbara McKenny <frogcity2000@yahoo.com>
**Sent:** Thursday, October 10, 2024 10:59 AM
**To:** DPW Recycling Web Site Email
**Subject:** incinerator

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it's not in the best interest of sullivan county residents for both health and financial reasons. there are better solutions, some of which are supported by grants and more environmentally sound.

## Thelman, Kassie L.

**From:** Mina Mauerstein-Bail <minambail@gmail.com>
**Sent:** Thursday, October 10, 2024 11:28 AM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Loal Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I grew up in Sullivan County and as a Sullivan County tax payer I want to see my taxes put to good use. I feel strongly that the beauty and clean air of Sullivan County needs to be preserved for future generations. There are environmentally friendly alternatives to a hazardous incinerator and such alternatives should be fully explored.
There are many reports about the cost benefit of incinerators...they simply are too expensive and too costly for the environment. See for example studies about incinerators in Detroit, Michigan and Harrisburg, Pennsylvania. The toxic emissions that such incinerators emit will ruin the ability of Sullivan County to attract businesses, tourists and homeowners. The economic impact can be disastrous for any future economic development of the county and possibly nearby counties.

This is why I OPPOSE a waste to energy facility in Sullivan County.

Thank you

Mina Bail

--

Mina Mauerstein-Bail
Tel. (1) 347 755 6500

## Thelman, Kassie L.

**From:** estelrose@aol.com
**Sent:** Thursday, October 10, 2024 11:47 AM
**To:** DPW Recycling Web Site Email
**Subject:** No incinerator in Sullivan County

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Sent from the all new AOL app for iOS

## Thelman, Kassie L.

**From:** Tracy Roberts <tenicobal@gmail.com>
**Sent:** Thursday, October 10, 2024 12:18 PM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello,

I am writing to vehemently oppose a "waste to energy" incinerator in Sullivan County. While I do not reside in Sullivan County, I live in and am a beneficiary of the rural beauty shared by the entire upstate region in nearby Otsego County, where I am a staff member of our local land trust. Through this work, I know well how insidious and destructive projects like waste incinerators are to our land, waterways, forests, wildlife and bodies. The toxic fallout of such incinerators, through air, water, runoff, and soil pollution, does not recognize county borders, so what happens in Sullivan County affects us all. Everyone in the region, New Yorkers and residents in all surrounding states, should be alarmed at and reject the false claims and ill-conceived aims of Sullivan County's waste incineration proposal.

To name a few, the most glaring problems of the "waste to energy" incinerator are:

* Incineration emits toxic substances, including dioxins and furans, which cause cancer and disrupt our hormone and immune systems; heavy metals, including mercury, cadmium and lead; and particulate matter. (GAIA, 2019)
* Waste-to-energy incineration is NOT climate-friendly. Burning 1 ton of plastic emits nearly 3 tons of CO2. (Material Economics, 2018)
* Incineration perpetuates socioeconomic and racial injustice. These facilities are disproportionately sited in low-income and marginalized communities.

I urge all in Sullivan County to put a stop to this proposal.

Respectfully yours,

Tracy Roberts
Otsego County resident

## Thelman, Kassie L.

**From:** Linda Raj <linda.rajlevsky@gmail.com>
**Sent:** Thursday, October 10, 2024 1:44 PM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello,
As a Sullivan County resident I am against the idea of solving our waste problem by way of building a trash incinerator, euphemistically called a "waste to energy burner" in our County. Here are some reasons why:

1) Super expensive to build and maintain up to one billion dollars of taxpayer money. For that kind of money, we could be investing in reducing our waste stream through other approaches that have proved successful elsewhere.

2) It's harmful to the environment. It is well known that burning waste puts highly toxic chemicals (dioxin, mercury, lead) into the air and water. In other counties where these incinerators have been built the operator does not adequately test or publish the potential hazards of their emissions to the public. (Brookhaven, LI). Do we want to have to fight with the operators for proof of safety all the time?

The area surrounding these incinerators also ends up affecting those most vulnerable to its affects; namely those who live around it who are often of lower income.

3) It's not climate-friendly. Burning 1 ton of plastic emits nearly 3 tons of CO2. (Material Economics, 2018)

4) Affects the tourist economy and home resale values. The regional beauty of the Catskills needs to be preserved for habitat preservation, the health of our communities as well as our booming tourism and also to ensure home sale values.

Let's favor a different approach by reducing packaging, re-using materials and composting food and food waste to greatly reduce the volume that ultimately must go to the landfill.

Thank you for your time,
Linda Rajlevsky
Kenoza Lake, NY

## Thelman, Kassie L.

**From:** Ken Gorzen <ken.gorzen@gmail.com>
**Sent:** Thursday, October 10, 2024 8:12 PM
**To:** DPW Recycling Web Site Email
**Subject:** incinerator proposal

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi,
I want to voice a STRONG OPPOSITION to the idea of an incinerator in beautiful Sullivan County. I moved here 40 years ago from the Detroit area. I see what the Detroit incinerator saga did to the city. Please don't mess with our pristine air and water.
Sincerely,
Ken Gorzen
404 Lake St, South Fallsburg, NY 12779

## Thelman, Kassie L.

**From:** jennifer horowitz <jenhorowitz3@gmail.com>
**Sent:** Thursday, October 10, 2024 8:18 PM
**To:** DPW Recycling Web Site Email; jessica@no-burn.org
**Subject:** Comment on Sullivan County's draft local solid waste management plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I am writing to you oppose an incinerator in Sullivan County. Incineration is more expensive than landfilling waste and aging incinerators require significant public funds for upgrades. They also emit toxic substances, including dioxins and furans, which cause cancer and disrupt our hormone and immune systems; heavy metals, including mercury, cadmium and lead; and particulate matter. Burning 1 ton of plastic emits nearly 3 tons of CO2.

These facilities are also disproportionately sited in low-income and marginalized communities, creating a social justice issue.

Thanks very much for your attention to this important issue.
Jennifer Horowitz

## Thelman, Kassie L.

**From:** bzhickson@gmail.com
**Sent:** Thursday, October 10, 2024 9:41 PM
**To:** DPW Recycling Web Site Email
**Subject:** We oppose the incinerator

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Mr. Witkowski and/or Sullivan County,

I am deeply concerned about the proposal for a waste-to-energy incinerator. I worry about the long-term health effects this facility could have on my children and future generations. Incinerators release dangerous toxins like dioxins, mercury, and other harmful pollutants that can increase the risk of cancer, disrupt immune systems, and harm growing bodies. The idea of my children breathing in these pollutants every day is terrifying. I urge the county to not harm my family in this way.

Sincerely,

Ben Hickson

---

Ben Hickson
bzhickson@gmail.com

**Thelman, Kassie L.**

**From:** Veronica Bassil <dogbuddha@icloud.com>
**Sent:** Thursday, October 10, 2024 10:15 PM
**To:** DPW Recycling Web Site Email
**Subject:** No Incinerator

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I would like to make a public comment that I am opposed to the incinerator idea for waste management in Sullivan County. From what I've read, this is not a healthy alternative because it releases a lot of toxins into the atmosphere and soil. In addition, it's extremely expensive and could bankrupt our county. Mainly I'm opposed to it due to its polluting qualities.

Thank you.

Veronica Bassil
19 Echo Lake Road
South Fallsburg, NY 12779

## Thelman, Kassie L.

**From:** Scott Johnson <skeeter8121@icloud.com>
**Sent:** Thursday, October 10, 2024 10:17 PM
**To:** DPW Recycling Web Site Email
**Subject:** No on building an incinerator!

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I prefer that we try to utilize more of our trash stream for productive purposes…
Thank you and good luck. Scott Johnson, South Fallsburg resident

Sent from my iPad

**Thelman, Kassie L.**

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**From:** Star Hesse <starhesse@yahoo.com>
**Sent:** Thursday, October 10, 2024 11:20 PM
**To:** DPW Recycling Web Site Email
**Cc:** Martin, AnnMarie
**Subject:** Comment on Sullivan County Draft - Local Solid Waste Management Plan-No Incinerator WJFF radio interview

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

To DPW Deputy Commissioner Mark Witkowski, In case you missed the October 7th interview on WJFF, I am forwarding this link, https://wjffradio.org/environmental-advocates-opposed-to-waste-to-energy-facility-in-sullivan-county/ -wherein Rebekah Creshkoff (co-founder of Beyond Plastics) and Barbara Arrindell (Chair and Chief Science Officer of Damascus Citizens for Sustainability) report on and review some of the many reasons why a garbage burning incinerator will never deal with Sullivan County's trash disposal problem because **garbage incinerators do not solve waste disposal problems!** They only make the problem worse by rendering garbage down to a toxic sludge of forever chemical so deadly, it can only be deposed of in expensive landfills that are certified to handle hazardous waste. The facilities themselves are exorbitantly expensive to build, and often drive the municipalities where they are located into bankruptcy. I am asking Clerk to the Legislature AnnMarie Martin to copy County Legislators and various other Count officials who might be involved with this issue so you all may listen to and learn from this interview. Incinerators pollute the area in which they operate and threaten human health, the environment, and will destroy Sullivan County's biggest source of income, Tourism. Bottom line County officials **must look elsewhere** for trash disposal solutions that will protect our health, the environment, our economy and the well being of our friends, our neighbors and our families. Do the right thing here - **No incinerators or trash burning for Sullivan County.** Star D. Hesse, Sullivan resident and member of the Senior Legislative Action Committee of Sullivan County

## Thelman, Kassie L.

**From:** Naomi Zurcher <treerap@sprintmail.com>
**Sent:** Friday, October 11, 2024 7:25 AM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on the Sullivan County Local Solid Waste Management Plan
**Attachments:** arbor aegis logo.tiff

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning:

As a forestry professional, I have spent decades enjoying the Catskills environment - a NY State treasure. I am also someone who is intimately aware of the environmental damage incinerator facilities cause, I am writing to oppose the building of the Sullivan County Local Solid Waste Management Plan.

Incinerators pollute air, water, and soil, damaging human health, the environment, and reducing property values. They are expensive to operate but, at the same time, they don't generate much energy, The volume of waste they supposedly reduce is offset by the waste they create - concentrated toxic waste that must go to a costly, specialized landfill. As a result, incinerator technology has not eliminated the contaminants associated with burning, impacting land air and water.

Given that the end product produces minimal energy while generating a toxic mass that then has to be dealt with via another mechanism, the high cost of operating combined with the lack of benefit must result in denying a permit to build.

The Catskills environment must be protected. NO waste-to-energy incinerator in Sullivan County or anywhere else in the Catskills.

Respectfully submitted
Naomi Zurcher

Naomi Zurcher, ISA, CEnv

Arbor Aegis
Urban Forester / Consulting Arborist /
Chartered Environmentalist / I-Tree team affiliate member

## Thelman, Kassie L.

**From:** Linda Raj <linda.rajlevsky@gmail.com>
**Sent:** Friday, October 11, 2024 10:07 AM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Mr. Witkowski,
As a resident of Sullivan County I am opposed to building a trash incinerator, otherwise known as a "waste-to-energy" burner. My biggest concern is the environmental pollution caused by toxic chemical emissions, known as "forever chemicals". Here are some recent reports of the effects of these toxic chemicals and metals on agricultural products in Europe:

Last fall, millions of people in the region around Paris—which is home to Europe's largest trash (aka "waste-to-energy") incinerator—were warned not to eat eggs from free-range backyard chickens because they contain dangerous levels of PFAS and other "forever" chemicals:
https://www.euronews.com/green/2023/11/21/millions-in-france-warned-not-to-eat-eggs-from-backyard-chickens-due-to-forever-chemical-p

And a couple of years ago, people in Lausanne, Switzerland were told not to eat backyard eggs or *produce from their own gardens* because the soil in the area in contaminated with dioxins from an incinerator that was shut down *in 2005:*
https://www.swissinfo.ch/eng/society/high-levels-of-dioxin-found-in-lausanne-soils/47019036

In Europe, scientists have been testing eggs for dioxins and PFAS. The amounts of chemicals found in eggs is directly related to the hens' distance from an incinerator.
https://www.no-burn.org/waste-burning-exposed/

Sullivan County cannot take this risk to our health, our ag industry or our tourist industry.

Thank you,
Linda Rajlevsky
Kenoza Lake, NY

**Thelman, Kassie L.**

**From:** beth cleary <bethcleary@yahoo.com>
**Sent:** Friday, October 11, 2024 10:45 AM
**To:** DPW Recycling Web Site Email
**Subject:** AGAINST PLAN WHICH INCLUDES INCINERATOR

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Mr. Witkowski and Committee:

I cannot endorse a plan building an incinerator in our county. The detriment@ effects are many and documented. Among many detrimental effects, the expense and much worse, the effects on air quality will be exorbitant. With the obvious and extreme clear cutting of trees that has been allowed in the past few years, the increase in auto pollution due to a growing population, and the effect of smoke due to forest fires in other areas, our air quality MUST BE protected. Already, our children and many in our population are affected by asthma and other lung conditions as documented. As a taxpayer and year-round resident, I DO NOT ENDORSE this plan.

Sincerely,
Elizabeth Cleary
Fallsburg resident

## Thelman, Kassie L.

**From:** Max Micallef <Max.Micallef@lung.org>
**Sent:** Friday, October 11, 2024 10:45 AM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org; Alexis Goldsmith
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan
**Attachments:** 10-24 FINAL - ALA-NY Comment - Sullivan Trash Incinerator.pdf

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Morning,

Below and a. ached you will find the American Lung Association – New York's comment during your public comment period regarding the County's plans to establish a trash incinerator. If you have any questions at all, please let me know. Thank you.

October 11th, 2024
Public Comment – Construction of Sullivan County Trash Incinerator
Max Micallef, NYS Advocacy Manager – Clean Air Initiatives
**E**: Max.Micallef@lung.org
**O**: (518) 545-5045

Applicable SCDPW Representative(s),

The American Lung Association – New York would like to provide the following information for you to consider toward your current plans of establishing a trash incinerator facility.

The disposal of solid waste, specifically plastic packaging material continues to be a serious public health and environmental hazard. It is unfortunately still common practice to dispose of plastic packaging through harmful incineration and combustion, leading to micro-plastics as well as air toxins like PFAs and dioxin contaminating the air we breathe. These micro-plastics produced have also been found to remain long-term, if not life-long in lung tissue.

Inhaling these contaminants can have permanent effects on our respiratory system, only promoting the formation of a wide range of lung disease involving the inflammation and impaired functioning of airways. This includes asthma, COPD, and lung cancer.

We hope you consider the public health of Sullivan County and New York State's residents with regards to any of your planning in the consideration of the construction of this facility.

Thank you.

**Max Micallef** (*any pronouns)*
NYS Advocacy Manager - Clean Air Initiatives
**American Lung Association**
O: (518) 545-5045
Lung HelpLine: 1-800-LUNGUSA
Lung.org | Max.Micallef@Lung.org

October 11th, 2024

Public Comment – Construction of Sullivan County Trash Incinerator

Max Micallef, NYS Advocacy Manager – Clean Air Initiatives

**E**: Max.Micallef@lung.org

**O**: (518) 545-5045

Applicable SCDPW Representative(s),

The American Lung Association – New York would like to provide the following information for you to consider toward your current plans of establishing a trash incinerator facility.

The disposal of solid waste, specifically plastic packaging material continues to be a serious public health and environmental hazard. It is unfortunately still common practice to dispose of plastic packaging through harmful incineration and combustion, leading to micro-plastics as well as air toxins like PFAs and dioxin contaminating the air we breathe. These micro-plastics produced have also been found to remain long-term, if not life-long in lung tissue.

Inhaling these contaminants can have permanent effects on our respiratory system, only promoting the formation of a wide range of lung disease involving the inflammation and impaired functioning of airways. This includes asthma, COPD, and lung cancer.

We hope you consider the public health of Sullivan County and New York State's residents with regards to any of your planning in the consideration of the construction of this facility.

Thank you.

## Thelman, Kassie L.

**From:** Witkowski, Mark A
**Sent:** Friday, October 11, 2024 11:35 AM
**To:** Thelman, Kassie L.
**Subject:** FW: Please transform your draft away from incinerators focus.

Please include this in our comments folder, Not sure if you got it.

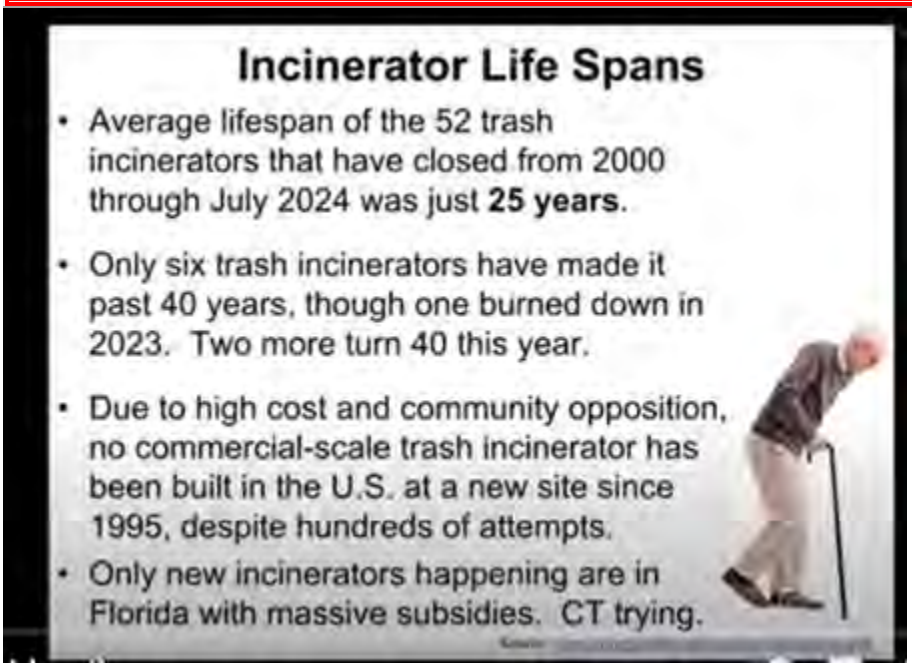

**Mark Witkowski**
*Deputy Commissioner*
Division of Public Works

**County of Sullivan**
***100 North Street***
***Monticello, NY 12701***
office: 845-807-0303 | mobile: 845-645-1184
*mark.witkowski @sullivanny.us* | *www.sullivanny.us*


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**From:** Victoria Gershik <vgershik@gmail.com>
**Sent:** Tuesday, October 8, 2024 5:11 PM
**To:** Witkowski, Mark A <Mark.Witkowski@sullivanny.us>; McAndrew, Edward P. <Edward.McAndrew@sullivanny.us>
**Subject:** Please transform your draft away from incinerators focus.


***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.


Sincerely,

Victoria Gershik-Thompson

## Thelman, Kassie L.

**From:** David Krupka <davidkrupka@me.com>
**Sent:** Friday, October 11, 2024 2:48 PM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on Sullivan County's Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

October 11, 2024

Mark Witkowski
SCDPW Deputy Commissioner
P.O. Box 5012
Monticello, NY 12701

To Whom It May Concern:

As a concerned member of the Sullivan County community, I write to express that I *do not* support an incinerator in our region, as part of Sullivan County's solid waste management plan. Thank you for registering my comment into the record.

Sincerely,

David Krupka
32 Taylor Rd
P.O. Box 82
Jeffersonville, NY 12748
646-706-6788

## Thelman, Kassie L.

**From:** karen luse <kluse319@yahoo.com>
**Sent:** Saturday, October 12, 2024 7:03 AM
**To:** DPW Recycling Web Site Email
**Subject:** NO INCINERATOR IN SULLIVAN COUNTY

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

To Whom It May Concern,
Do NOT put an incinerator in Sullivan County!!!
Karen Luse

## Thelman, Kassie L.

**From:** erica hart <howica@icloud.com>
**Sent:** Saturday, October 12, 2024 10:11 AM
**To:** DPW Recycling Web Site Email
**Subject:** No incinerator for Sullivan County!

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

To whom it may concern,

I am writing to implore you to NOT even consider a “waste to energy burner” for our county.
Aside from the huge costs, most important is the huge amounts of toxic chemicals that would be released into our beautiful environment.

Incinerators have been linked to a slew of negative health effects, from increased risk of miscarriage and pre-term delivery to birth defects and non-Hodgkin's lymphoma, among others.

More cost-effective and sustainable solutions exist. Why put all of us and our children and grandchildren at such terrible risk?

Thank you ,
Erica Hart
Hankins, NY

## Thelman, Kassie L.

**From:** Kathie Aberman <kmaberman@gmail.com>
**Sent:** Saturday, October 12, 2024 10:35 PM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Draft Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I am a forty-five year resident of Sullivan County, and I am deeply concerned about the issue of trash management. My main experience here was as a public school teacher, but over the years, I have been very concerned with the issue of trash and its disposal.

To begin with my basic conviction: management of trash should never include any form of incineration, for many reasons. According to the World Bank, incineration is more costly than using landfills - and yet, we have to find other alternatives as our landfill capacity dwindles. An incinerator is never one and done; it will always require additional funding for upgrades. Incineration emits toxic substances - dioxins, furans, and heavy metals such as mercury cadmium and lead. (I am old enough to remember when fever thermometers contained mercury, and how dangerous that was considered.) And let's not forget PFAS. Burning, of course, would include burning all kinds of plastics, an environmental hazard in itself. The residual ash will be extremely toxic, and present another issue of disposal. And incineration facilities would be located in the low-income and marginalized communities of Sullivan County, further perpetuating socioeconomic and racial injustice.

And yet, we have to do something! Clearly, the most sensible yet most difficult is the idea that the folks who produce all of this un-recyclable and non-compostable stuff should be responsible for dealing with it, although we recognize that we are still pretty far away from that, with the exception of bottle bills. (Astonishingly, there is no such remedy, even for just this, in many other states.) My personal solution is to avoid buying anything contained by plastic, whenever possible - and it's not always possible. I wish more people would do this - the pressure might have an effect on producers if enough people, business and government entities participated in this way.

More immediately, the County has begun a trial composting program, and that should be expanded widely and quickly. There should be massive public education forums to teach people who have appropriate yard space how to compost, and for people who don't to participate in the County's plan. We need to make it EASIER for everyone to deal with being responsible for the organic waste they produce.

Paper, wood products, metal and glass should be recycled or reused in whatever ways possible. And that leaves plastic - which for now, we have to deal with, but it should NOT be burned! But if we really push the options for dealing with non-plastic trash, there would be a lot less trash to need disposal. The Zero Waste approach - until we have found a way to decrease the massive production of plastic waste - is the most sane, economical and environmentally sound approach that the County should take.

Thank you for reading,

Kathie Aberman
37 Delaware Ave
Liberty, NY 12754
845-707-3414

## Thelman, Kassie L.

**From:** Colleen Rizzo <holism07@gmail.com>
**Sent:** Sunday, October 13, 2024 6:36 AM
**To:** DPW Recycling Web Site Email
**Subject:** Sullivan County Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

No to an incinerator for Sullivan County's trash .
Let's look creatively at options that do not include poisoning our air and soil. Incineration in parts of the world does this.

Just say "No"

Colleen Clarke Rizzo
Narrowsburg

Sent from my iPad

## Thelman, Kassie L.

**From:** JOHN DOIG <doigjf@gmail.com>
**Sent:** Sunday, October 13, 2024 8:22 AM
**To:** DPW Recycling Web Site Email
**Subject:** This sounds absolutely insane! Perhaps it will be on Trump's agenda, but we sure hope not!

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

## Thelman, Kassie L.

**From:** Lee Van Put <lvanput@yahoo.com>
**Sent:** Sunday, October 13, 2024 9:01 AM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi there,

As a lifelong Sullivan county resident I am writing to voice my opposition to the incinerator proposal. We have made great strides in improving how our county handles our waste (and that of the many many visitors to the area), while preserving what makes our area so unique - it's pristine natural environment. Burning waste (under the guise of "energy") would be incredibly damaging in many ways and our family is very much opposed.

Thank you for your continued efforts to make our county liveable!

Lee Van Put

Yahoo Mail: Search, Organize, Conquer

## Thelman, Kassie L.

**From:** Leslie Hess <lsrnsj@yahoo.com>
**Sent:** Sunday, October 13, 2024 9:52 AM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

NO incinerator for the Catsklils/Sullivan County!

The link between incinerators and toxins in our environment is dangerous. Incinerators release toxic air and water pollutants, like dioxins, PFAS and mercury, that posion surrounding communities and the entire planet. They also generate hazardous waste in teh form of toxic ash that must be dealt with. They are super polluters and harmful to our neighborhoods!!

Leslie Hess

## Thelman, Kassie L.

**From:** Liz Bucar <breathingpolitical@gmail.com>
**Sent:** Sunday, October 13, 2024 10:04 AM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** "Comment on Sullivan County's Draft Local Solid Waste Management Plan"

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

To: Policy Makers

I'm just flummoxed that such a patently, obviously bad idea is even being floated.

Please review the science. Please don't rush to a dangerous, unhealthy option.

**Liz Bucar**

Website: Breathing Is Political.com

Email: BreathingPolitical@gmail.com

Landline: 845-887-3105

**Thelman, Kassie L.**

**From:** Sophia Medina <sophiaxmedina@gmail.com>
**Sent:** Sunday, October 13, 2024 10:05 AM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello,

My name is Sophia Medina, I am 21, and have lived in the area all my life. I grew up in Loch Sheldrake and attended Liberty Schools graduating Valedictorian in 2021. I am in my last year at Vassar College, and have worked locally all my life. In fact, I plan on living here for the rest of my life.

We should not be building incinerators in our areas to burn trash. It was so frustrating watching the world turn a blind eye to all of the effects of climate change as a young person, and as a slightly older young person I am astounded that the people in power are still considered raping and abusing the land, the air, and the water instead of making a commitment to green and renewable infrastructure. I grew up surrounded by disappointing adults here.

Building an incinerator in our small community poses significant risks that far outweigh any potential benefits. First and foremost, the health and environmental impacts are alarming. Incinerators emit harmful pollutants, including dioxins and particulate matter, which can lead to serious respiratory issues and other health problems for residents.

Additionally, the incineration process undermines our community's commitment to sustainability and waste reduction. Instead of investing in advanced recycling and composting initiatives (which are included in your plan), an incinerator encourages a throwaway culture, diverting attention from more responsible waste management solutions. People are not going to want to use the composting system or recycling system if there's an easy out. There is no such thing as an easy out. As climate disasters rip apart our country, we must do everything, including stopping the incinerator, to prevent further climate chaos.

Furthermore, the potential decrease in property values and the stigma associated with living near an incinerator could deter families and businesses from choosing our community, jeopardizing our economic future. The incinerator on top of the deforestation that has been taking place throughout the county is wrong!

Here is another resource for you to see the issue with the incinerator:https://uk01.l.antigena.com/l/RoMfSljYkkpmvriooDJsEQR_gQWQ68woHTYoRW7Zz_imMuLicdUb8npVq3V7ZR6MPqGNYVyX~w8DHgZET-EKAAGAZ-Tp5-2OX6HnhOnjaSWlETu0UCpzAscwm9aVb9sjspLq4CoZjDIuu1Deoo7bYmGFUHnQUzQOFm6BJS2hQq9nlP9sLwk06j9WbhrEreGqs5MQiSdWgA0i5Ti5unLLVCiY65JW3x_Jg_U_53NWDFhL7sSA2v8qGW1a4kGrJ19xqz7ii0XncGW8eny5

Our children look to you for leadership and vision, and it is our duty to ensure they inherit a world that is safe and sustainable. You do not have to be disappointing adults.

And quite frankly, we cannot afford to be the disappointing adults who neglected the pressing issues of our time.

Embrace renewable energy, promote sustainable practices, and support policies that protect our natural resources. Partner with SUNY Sullivan and other colleges through their sustainability programs to help get more people and ideas involved to ensure we are doing EVERYTHING we can to save our area and our planet. We have a community here who have information about alternative energy - let's bring them in! Together, let's be the leaders who take bold steps toward a cleaner, greener future. The time to act is now. Our community and our planet depend on it.

I say no to the proposed incinerator.

Sincerely,
Sophia Medina

**Thelman, Kassie L.**

**From:** chase smith <chase.smith@outlook.com>
**Sent:** Sunday, October 13, 2024 11:04 AM
**To:** DPW Recycling Web Site Email
**Subject:** No to the incinerator!!!

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi,
My name is Chase Smith and I am a local resident here in Sullivan County.
I am writing to say NO! To the proposed incinerator for our county.
As we face the pressing challenges of climate change and environmental degradation, investing in clean, renewable energy sources is crucial. Incineration not only contributes to air pollution and health risks for our residents but also undermines our efforts to achieve sustainability.
If you weren't already aware, here are all the all **AVOIDABLE** risks that come with an incinerator:

**1. "Waste-to-Energy" Incinerators are 'super polluters'.**
Waste incinerators run giant combustion chambers to burn large amounts of trash, making them the most emission-intensive way of generating electricity, while leaving behind 'forever' POPsS (persistent organic pollutants) in the process. Per unit of energy, incinerators can emit more air pollutants than coal plants, up to 2.5 times more greenhouse gases, 4 times more cadmium and hydrogen chloride, 5 times more carbon monoxide, 6 times more smog-forming nitrogen oxides, 14 times more mercury, 18 times more lead (1), and sometimes more. (2)

**2. ReWorld W to E Company is a top polluter and violator of permit requirements.**
The company is among the worst polluters in New Jersey. All four of ReWorld's remaining "WTE" incinerators are in the top five polluters of all stationary sources in the state. In the last 20 years, Covanta Essex and Covanta Camden have had over 800 and 400 permit violations, respectively, including emissions more than 8 times the permitted limit, and multiple years when a single incinerator had over100 violations. (3)

**3. W to E Incinerators Harm Human Health and the Environment**
Incinerators are major emitters of cancer-causing dioxins and furans, as well as the neurotoxin mercury. Modern incinerators in the EU are a major source of ultra-fine particulate emissions. Incinerators are advancing climate change, creating more CO2 per megawatt-hour than natural gas-, oil-, or coal-fired power plants. (4) The persistent organic pollutants (POPsS) they emit don't break down but are transported by wind and rain all over the planet, building up in wildlife and people as far away as the Arctic. (5) This pollution can increase the risk of miscarriages, preterm birth, and non-Hodgkin's lymphoma in adults, and wheezing/fatigue in children who live or go to school nearby. (6)

**4. W to E Incinerators Do Not Solve the Waste Problem**
So-called "WTE" facilities do not get rid of waste, they merely transform it into different and more toxic forms of waste. These emissions create concentrated toxins found in filters, fly, bottom, and other types of ash; and wastewater sludge, all of which must be disposed of usually in a landfill, but now in a landfill certified to handle hazardous waste (more expensive disposal) and the transport of hazardous waste is much more dangerous. (3), (4)

**5. W to E Incinerators - Expensive to Build and to Run**
Studies show the waste incineration industry has the highest ratio of negative economic impacts from air pollution compared to the financial value added by the industry. (7) In large incinerator facilities, more than half the total construction cost and recurring operating cost come from pollution control structures and systems. The latest incinerator facilities in developed countries can cost upwards of ***$150 million***. **Operations and maintenance costs are 4 times the cost of nuclear plants and 10 times the cost of coal plants.** (8) According to Rhode Island's law banning incineration in the state, (State Senate Act 92-S 2502), "**Incineration of solid waste is thecostliest method of waste disposal with known and unknown escalating costs, which wouldplace substantial and unreasonable burdens on both state and municipal budgets to the point of jeopardizing the public's interest."** (Emphasis added.) Alternatives to W to E, see point 8.

**6. W to E Incinerators Use More Energy Than They Produce**
Some incinerators use the heat from incinerated waste to produce steam to generate electricity, in a way similar to coal plants. But because this waste doesn't contain much energy, and wet materials don't burn well, incinerators can only produce small amounts of energy by burning large amounts of waste, waste that contains what could be reuseable, recyclable materials. Older incinerators with an efficiency rating of only 19-27%; are actually somewhat more efficient than new W to E incineration facilities. (8)

**7. Municipalities Responsible For Waste and/or Financial Shortfalls** When parties enter into contract with a "WTE" facility, they must commit to a minimum amount of waste to burn to produce a stated dollar amount of energy (electricity) to sell. If there is not enough profit to be made from the amount of waste burned, then the contracted party must make up the monthly shortfall in lost profit by paying this difference to the "WTE" company. This is called a "put or pay" contract. (8)(9)

**What if there's no incinerator (or Waste to Energy incinerator) then WHAT TO DO?**
Besides instituting as many recycling and other 'zero waste' activities as possible in each community and in the county, the TrashBOT made by TrashCON (https://uk01.l.antigena.com/l/TaeFdcjUOuu0HT3cFPm4gNG4o_jds7swYPCBmGBOR7capSsDEqHvvDV8e6QSlC5qBsD7idBU81-ajiOlvaP15FAYFhcq1pVS2jVwdiUwE3iQC3N35l79daFW06sUKTungmuFnKo-xxcHynrL1ZG-vSht6JmMS6mixXaZ_BKeALrStm which has a 2 to 3 year payback would vastly decrease the total volume of trash to be dealt with. The WTE plant would take about 4 years to set up and as covered above be much more expensive and polluting. 'Zero waste' also takes about 1 to 2 years to set up. (All references for the above found here: damascuscitizensforsustainability.org ).
The incineration process undermines our community's commitment to sustainability and waste reduction. Instead of investing in advanced recycling and composting initiatives (which are included in your plan), an incinerator encourages a throwaway culture, diverting attention from more responsible waste management solutions. People are not going to want to use the composting system or recycling system if there's an easy out. There is no such thing as an easy out. As climate disasters rip apart our country, we must do everything, including stopping the incinerator, to prevent further climate chaos.
I encourage you to consider the long-term impacts of your decisions. By turning to green energy options, we can create jobs, stimulate our local economy, and protect our community's health and environment. Supporting renewable energy initiatives will position our community as a leader in sustainability and set a positive example for future generations.
Sincerely,
Chase smith
chase.smith@outlook.com

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**Thelman, Kassie L.**

**From:** Lulu Freeland <lulufreeland@gmail.com>
**Sent:** Sunday, October 13, 2024 11:08 AM
**To:** DPW Recycling Web Site Email
**Subject:** No incinerator!

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi,
My name is Lulu Freeland
I am writing to say NO! To the proposed incinerator for our county.
As we face the pressing challenges of climate change and environmental degradation, investing in clean, renewable energy sources is crucial. Incineration not only contributes to air pollution and health risks for our residents but also undermines our efforts to achieve sustainability.
If you weren't already aware, here are all the all **AVOIDABLE** risks that come with an incinerator:

**1. "Waste-to-Energy" Incinerators are 'super polluters'.**
Waste incinerators run giant combustion chambers to burn large amounts of trash, making them the most emission-intensive way of generating electricity, while leaving behind 'forever' POPsS (persistent organic pollutants) in the process. Per unit of energy, incinerators can emit more air pollutants than coal plants, up to 2.5 times more greenhouse gases, 4 times more cadmium and hydrogen chloride, 5 times more carbon monoxide, 6 times more smog-forming nitrogen oxides, 14 times more mercury, 18 times more lead (1), and sometimes more. (2)

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The company is among the worst polluters in New Jersey. All four of ReWorld's remaining "WTE" incinerators are in the top five polluters of all stationary sources in the state. In the last 20 years, Covanta Essex and Covanta Camden have had over 800 and 400 permit violations, respectively, including emissions more than 8 times the permitted limit, and multiple years when a single incinerator had over100 violations. (3)

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**4. W to E Incinerators Do Not Solve the Waste Problem**
So-called "WTE" facilities do not get rid of waste, they merely transform it into different and more toxic forms of waste. These emissions create concentrated toxins found in filters, fly, bottom, and other types of ash; and wastewater sludge, all of which must be disposed of usually in a landfill, but now in a landfill certified to handle hazardous waste (more expensive disposal) and the transport of hazardous waste is much more dangerous. (3), (4)

**5. W to E Incinerators - Expensive to Build and to Run**
Studies show the waste incineration industry has the highest ratio of negative economic impacts from air pollution compared to the financial value added by the industry. (7) In large incinerator facilities, more than half the total construction cost and recurring operating cost come from pollution control structures and systems. The latest incinerator facilities in developed countries can cost upwards of ***$150 million***. **Operations and maintenance costs are 4 times the cost of nuclear plants and 10 times the cost of coal plants.** (8) According to Rhode Island's law banning incineration in the state, (State Senate Act 92-S 2502), "**Incineration of solid waste is thecostliest method of waste disposal with known and unknown escalating costs, which wouldplace substantial and unreasonable burdens on both state and municipal budgets to the point of jeopardizing the public's interest."** (Emphasis added.) Alternatives to W to E, see point 8.

**6. W to E Incinerators Use More Energy Than They Produce**
Some incinerators use the heat from incinerated waste to produce steam to generate electricity, in a way similar to coal plants. But because this waste doesn't contain much energy, and wet materials don't burn well, incinerators can only produce small amounts of energy by burning large amounts of waste, waste that contains what could be reuseable, recyclable materials. Older incinerators with an efficiency rating of only 19-27%; are actually somewhat more efficient than new W to E incineration facilities. (8)

**7. Municipalities Responsible For Waste and/or Financial Shortfalls** When parties enter into contract with a "WTE" facility, they must commit to a minimum amount of waste to burn to produce a stated dollar amount of energy (electricity) to sell. If there is not enough profit to be made from the amount of waste burned, then the contracted party must make up the monthly shortfall in lost profit by paying this difference to the "WTE" company. This is called a "put or pay" contract. (8)(9)

**What if there's no incinerator (or Waste to Energy incinerator) then WHAT TO DO?**
Besides instituting as many recycling and other 'zero waste' activities as possible in each community and in the county, the TrashBOT made by TrashCON (https://uk01.l.antigena.com/l/tUn0FzDxk88aEDqw-BB4NU6MZsY94BWkDMrFqmsbtwa6bKU-g-h_Jj44AtugLrZhCAr5WopgLWlddTrzCf4GM-8vqHtrARbUOJYUdBPzujVvlju0i02_raHoI9xeiNKh0Gw08R6v2Ib6sOMf-PfVlKiUdf~nwHlpML9sZvhlKUr9nJs9 which has a 2 to 3 year payback would vastly decrease the total volume of trash to be dealt with. The WTE plant would take about 4 years to set up and as covered above be much more expensive and polluting. 'Zero waste' also takes about 1 to 2 years to set up.
(All references for the above found here: damascuscitizensforsustainability.org ).
The incineration process undermines our community's commitment to sustainability and waste reduction. Instead of investing in advanced recycling and composting initiatives (which are included in your plan), an incinerator encourages a throwaway culture, diverting attention from more responsible waste management solutions. People are not going to want to use the composting system or recycling system if there's an easy out. There is no such thing as an easy out. As climate disasters rip apart our country, we must do everything, including stopping the incinerator, to prevent further climate chaos.
I encourage you to consider the long-term impacts of your decisions. By turning to green energy options, we can create jobs, stimulate our local economy, and protect our community's health and environment. Supporting renewable energy initiatives will position our community as a leader in sustainability and set a positive example for future generations.
Sincerely,
Lulu Freeland

## Thelman, Kassie L.

**From:** Rita Bergen <ritavbergen@gmail.com>
**Sent:** Sunday, October 13, 2024 12:04 PM
**To:** DPW Recycling Web Site Email; jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Incineration emits toxic substances. It is not climate friendly.

## Thelman, Kassie L.

**From:** LoGiudice, Kathleen <logiudik@union.edu>
**Sent:** Sunday, October 13, 2024 1:42 PM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

To the Sullivan County Leadership:
As a former Sullivan County land owner and lifelong New York State resident, I am deeply concerned about your plans to build a new waste-to-energy plant in Sullivan County. The waste stream is heavily contaminated with lead, mercury and other toxins, and it is well established that burning plastics produces dioxin and other dangerous and long lasting compounds. While I acknowledge that we have both a waste crisis and a clean energy crisis, burning waste will solve neither and will create new crises instead. Our water, farmland and food supply will be threatened by your shortsightedness if you go ahead with this plan.

Please follow the precautionary principle and resist the temptation to burn your way out of one crisis and into another. Say NO to waste-to-energy technologies. There are no 'clean' waste-to-energy solutions, just greenwashed ones.

Thank you,

Kathleen LoGiudice, PhD
Professor Emerita of Biological Sciences
Union College
Schenectady, NY 12308
518-727-0252
Pronouns: She/Her/Hers

**Thelman, Kassie L.**

**From:** SHARON ADESMAN FURLONG <sfurlong5@verizon.net>
**Sent:** Sunday, October 13, 2024 2:10 PM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@noburn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan"

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

As Spokesperson for the Bucks Environmental Action, a group dedicated to monitoring for local, State and regional environmental issues, it has come to our attention that Sullivan County is planning to build a large waste to energy facility, aka a waste incinerator, in the glorious Catskills. it is not coincidental that studies here and in Europe have found dioxins in domestic animals located near such incinerators. It is not coincidental that dioxins have been found in soil that is also near such facilities. It is not coincidence because there is no scrubbing technology out there that can guarantee complete success in keeping a facility from spewing toxic gaseous emissions.

But this is not the only problem with this kind of facility:

What does one do with other of its byproducts:

Like: Toxic Ash?
Or: Mercury?
Or: PFAS chemical emissions?

I don't think I need to remind you that the Catskill region of New York is not only home to generations of people, but to countless non humans, and flora and fauna that is increasingly having difficulties due to the rapidly accelerating climate change disaster. In addition, it is the playground of millions of people. How do you think your tourists are going to respond when such a facility is built in the middle of the nearest paradise of Nature they have? Think they will come running and spend lots of dollars to breathe the same polluted air they came from??

Think larger, think longer, think more carefully. Do not do this.
Thank you for your attention to this email.

Yours,
Sharon Furlong, Spokesperson
Bucks Environmental Action

## Thelman, Kassie L.

**From:** mkhunt@libertyandjusticewv.org
**Sent:** Sunday, October 13, 2024 3:32 PM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

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the use of air for toxic disposal is just the criminal dispersal of poison... marilyn hunt, 2619 whitehaven blvd,steubenville. ohio 43952 mkhunt@libertyandjusticewv.org

## Thelman, Kassie L.

**From:** Janet F <nickysmom4562@msn.com>
**Sent:** Sunday, October 13, 2024 3:44 PM
**To:** DPW Recycling Web Site Email
**Subject:** Fw: Comment on Sullivan County's Draft Local Solid Waste Management Plan

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Sent from my T-Mobile 5G Device
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**From:** Janet F <nickysmom4562@msn.com>
**Sent:** Sunday, October 13, 2024 12:58:31 PM
**To:** recycling@sullivanny.us <recycling@sullivanny.us>
**Cc:** jessica@noburn.irg <jessica@noburn.irg>; Patti Greco Sunshine <pattigrecosunshine@gmail.com>
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

Hi,

My name is Janet Fishman-Palmer. I have been a resident of Kiamesha Lake for the past 8 years. Though I grew up in Brooklyn, I spent my entire life up in this area, from the time I was 2 years old because I had family in hotel business. I love the fresh air and beautiful country we have here in Sullivan County!

I am writing to say NO! To the proposed incinerator for our county.

As we face the pressing challenges of climate change and environmental degradation, investing in clean, renewable energy sources is crucial. Incineration not only contributes to air pollution and health risks for our residents but also undermines our efforts to achieve sustainability.

If you weren't already aware, here are all the all AVOIDABLE risks that come with an incinerator:

1. "Waste-to-Energy" Incinerators are 'super polluters'.
Waste incinerators run giant combustion chambers to burn large amounts of trash, making them the most emission-intensive way of generating electricity, while leaving behind 'forever' POPsS (persistent organic pollutants) in the process. Per unit of energy, incinerators can emit more air pollutants than coal plants, up to 2.5 times more greenhouse gases, 4 times more cadmium and hydrogen chloride, 5 times more carbon monoxide, 6 times more smog-forming nitrogen oxides, 14 times more mercury, 18 times more lead (1), and sometimes more. (2)

2. ReWorld W to E Company is a top polluter and violator of permit requirements.
The company is among the worst polluters in New Jersey. All four of ReWorld's remaining "WTE" incinerators are in the top five polluters of all stationary sources in the state. In the last 20 years, Covanta Essex and Covanta Camden have had over 800 and 400 permit violations, respectively, including emissions more than 8 times the permitted limit, and multiple years when a single incinerator had over100 violations. (3)

3. W to E Incinerators Harm Human Health and the Environment

Incinerators are major emitters of cancer-causing dioxins and furans, as well as the neurotoxin mercury. Modern incinerators in the EU are a major source of ultra-fine particulate emissions. Incinerators are advancing climate change, creating more CO2 per megawatt-hour than natural gas-, oil-, or coal-fired power plants. (4) The persistent organic pollutants (POPsS) they emit don't break down but are transported by wind and rain all over the planet, building up in wildlife and people as far away as the Arctic. (5) This pollution can increase the risk of miscarriages, preterm birth, and non-Hodgkin's lymphoma in adults, and wheezing/fatigue in children who live or go to school nearby. (6)

4. W to E Incinerators Do Not Solve the Waste Problem
So-called "WTE" facilities do not get rid of waste, they merely transform it into different and more toxic forms of waste. These emissions create concentrated toxins found in filters, fly, bottom, and other types of ash; and wastewater sludge, all of which must be disposed of usually in a landfill, but now in a landfill certified to handle hazardous waste (more expensive disposal) and the transport of hazardous waste is much more dangerous. (3), (4)

5. W to E Incinerators - Expensive to Build and to Run
Studies show the waste incineration industry has the highest ratio of negative economic impacts from air pollution compared to the financial value added by the industry. (7) In large incinerator facilities, more than half the total construction cost and recurring operating cost come from pollution control structures and systems. The latest incinerator facilities in developed countries can cost upwards of $150 million. Operations and maintenance costs are 4 times the cost of nuclear plants and 10 times the cost of coal plants. (8) According to Rhode Island's law banning incineration in the state, (State Senate Act 92-S 2502), "Incineration of solid waste is thecostliest method of waste disposal with known and unknown escalating costs, which wouldplace substantial and unreasonable burdens on both state and municipal budgets to the point of jeopardizing the public's interest." (Emphasis added.) Alternatives to W to E, see point 8.

6. W to E Incinerators Use More Energy Than They Produce
Some incinerators use the heat from incinerated waste to produce steam to generate electricity, in a way similar to coal plants. But because this waste doesn't contain much energy, and wet materials don't burn well, incinerators can only produce small amounts of energy by burning large amounts of waste, waste that contains what could be reuseable, recyclable materials. Older incinerators with an efficiency rating of only 19-27%; are actually somewhat more efficient than new W to E incineration facilities. (8)

7. Municipalities Responsible For Waste and/or Financial Shortfalls When parties enter into contract with a "WTE" facility, they must commit to a minimum amount of waste to burn to produce a stated dollar amount of energy (electricity) to sell. If there is not enough profit to be made from the amount of waste burned, then the contracted party must make up the monthly shortfall in lost profit by paying this difference to the "WTE" company. This is called a "put or pay" contract. (8)(9)

What if there's no incinerator (or Waste to Energy incinerator) then WHAT TO DO?
Besides instituting as many recycling and other 'zero waste' activities as possible in each community and in the county, the TrashBOT made by TrashCON
(https://uk01.l.antigena.com/l/tUnBFyDod88_7uGafxjREkHQ44X8kwYoD6qdSIM3J0EeshRC4pLh6_KwWDf~Bn-haKEYFa3qIoLBedHJzHsvyls-sOWt3XXVQeouZA8H82JV0Tu8DFH_cmI8u_d9oBCqzYikuQ0xVzmhTs5m29bw3kOfIEufO9jbc4ZRKHgLn5BIf_zF which has a 2 to 3 year payback would vastly decrease the total volume of trash to be dealt with. The WTE plant would take about 4 years to set up and as covered above be much more expensive and polluting. 'Zero waste' also takes about 1 to 2 years to set up.

(All references for the above found here: https://www.damascuscitizensforsustainability.org/wp-content/uploads/2024/09/W-to-E-talking-points-240901-with-BA-comments.pdf).

The incineration process undermines our community's commitment to sustainability and waste reduction. Instead of investing in advanced recycling and composting initiatives (which are included in your plan), an incinerator encourages a

throwaway culture, diverting attention from more responsible waste management solutions. People are not going to want to use the composting system or recycling system if there's an easy out. There is no such thing as an easy out. As climate disasters rip apart our country, we must do everything, including stopping the incinerator, to prevent further climate chaos.
I encourage you to consider the long-term impacts of your decisions. By turning to green energy options, we can create jobs, stimulate our local economy, and protect our community's health and environment. Supporting renewable energy initiatives will position our community as a leader in sustainability and set a positive example for future generations.
Sincerely,

Janet Fishman-Palmer
Nickysmom4562@msn.com

Sent from my T-Mobile 5G Device
Get Outlook for Android

**Thelman, Kassie L.**

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**From:** Star Hesse <starhesse@yahoo.com>
**Sent:** Sunday, October 13, 2024 8:27 PM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on Sullivan County Draft-Local Solid Waste Management Plan- Public Comment Special County Legislature Meeting - 08/08/24
**Attachments:** W to E PComment 240807 .docx

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Attached is a public comment I made at the County Legislature Special Meeting on 08/08/24 expressing my concerns that County Legislators seek **unbiased** sources of information before considering, let alone selecting so called Waste to Energy incinerator to address the County's trash disposal problems. Waste to Energy/incinerators do not solve waste disposal problems. Rather they are an incredibly expensive scam that produces virtually no usable energy and irreversibly pollutes with forever chemical the area on and around that they are located. They are corrosive to human health and the environment, and will destroy Sullivan County's largest source of income, tourists seeking the clean and pristine surroundings that heretofore were the signature feature of our County. Clean air, nature's beauty, DON'T MESS IT UP! Star D. Hesse, Sullivan County resident and taxpayer

Public Comment: Special Meeting County Legislature 8/8/2024

Request **Careful** Re-Assessment of Dangerous Downside to W to E.

On another equally urgent matter, I implore County Legislators to hear from an alternative, unbiased source of information before electing to go with any kind of Waste to Energy garbage proposal scam. You cannot in good conscience, or in due diligence, take the assessment of a waste to energy option, from a company whose business it is to promote their process strictly for their own profit, without regard to crippling pollution, at exorbitant cost, and oh by the way no demonstrable, sustainable proof that the system does anything but befoul the air land and water anywhere around the facility. You end up with a toxic sludge you can't use or bury to be rid of it. Not another Hughs waste fiasco!

Star D. Hesse, Sullivan resident, taxpayer and member of the Senior Legislative Action Committee,

## Thelman, Kassie L.

**From:** Jo Anne Barrish <jbarrish@hvc.rr.com>
**Sent:** Monday, October 14, 2024 6:41 AM
**To:** DPW Recycling Web Site Email
**Subject:** incinerator comment

ITS ADVISES CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

The outcome of having an incinerator built for Sullivan County would be devastating for the physical environment and for the health of the community.
I believe the amount of money spent on such an endeavor would be more wisely spent on seriously educating the residents of Sullivan County on the need to properly recycle. Composting containers not only reduce food wastes but also help build a healthy soil. Whereas the fallout of incinerators is not compatible with good health for the population and for the earth. Composting is easy and convenient to use in family households, as well as in restaurants and school and business cafeterias.
Sullivan county is not a wealthy community and would need to take on a serious debt for an incinerator. Sullivan County could be a healthier community by teaching the people the benefits of recycling and composting. The waterways in Sullivan County are a precious commodity. To keep these waterways clean and healthy the public needs to understand how fortunate we are to have them. They need to understand how we need to care for them for the water to stay clean and useable. The spill off that goes into the waters needs to be monitored.
Jo Anne Barrish jbarrish@hvc.rr.com
Sent from my iPhone

## Thelman, Kassie L.

**From:** Derick Melander <derickmelander@gmail.com>
**Sent:** Monday, October 14, 2024 8:10 AM
**To:** DPW Recycling Web Site Email; jessica@no-burn.org
**Subject:** NO INCINERATOR

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi, I oppose the incinerator, it will bring very little energy and hurt the air quality of the area, which is one of the crown jewels of the area. That will hurt tourism, a major income source for the region and negatively impact public heath, especially for those near the plant. Do the right thing and pass legislation to end single-serve plastics, reduce paper waste, and increase recycling rates. Iron-based metals and glass are infinitely recyclable.

With Regards, Derick

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Clothing sculptures that explore the intersection between global consumerism and the intimate relationship we have with what we wear.
derickmelander.com
917-533-4748

## Thelman, Kassie L.

**From:** Derick Melander <derickmelander@gmail.com>
**Sent:** Monday, October 14, 2024 8:13 AM
**To:** DPW Recycling Web Site Email; jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

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With Regards, Derick

---

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derickmelander.com
917-533-4748

## Thelman, Kassie L.

**From:** Marion Kaselle <marika@pronetisp.net>
**Sent:** Monday, October 14, 2024 11:53 AM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Sullivan county's Draft Waste Management Plan: Comments in Opposition

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I am adamantly opposed to this plan. I have been a full-time resident of Sullivan county since 1984. My most urgent reasons are as follows:

1. Incineration emits toxic substances, including dioxins and furans which cause cancer and disrupt our hormone and immune systems, heavy metals including mercury, cadmium and lead, and particulate matter.

2. Waste-to-energy incineration is NOT climate-friendly. Burning 1 ton of plastic emits nearly 3 tons of CO2.

Sincerely,
Marion Kaselle
North Branch, NY 12766

## Thelman, Kassie L.

**From:** Annie Maurer <anniegmaurer@gmail.com>
**Sent:** Monday, October 14, 2024 12:44 PM
**To:** DPW Recycling Web Site Email
**Subject:** "Waste to Energy Burner"

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

To whom it may concern,

Good afternoon.

I'm writing to submit my sincere request that the county not pursue the construction of a "waste to energy burner", also known as a trash incinerator. I have learned about the negative impact of such incinerators--the impact on people's health, the environment, and on the finances of the locations where these incinerators are built.

The aspect that concerns me most is the health of people, including myself and my family. As you must know, trash incinerators release toxic chemicals into the environment. As someone who is planning to have children, I deeply wish to secure a healthy environment for my children's upbringing. If the trash incinerator were built, I would seriously have to consider whether I would feel safe raising my children in this area.

Please do take my request seriously as a long time resident of Sullivan County and someone who wishes to stay here for the long term. I know that I echo the sentiments of many.

Thank you for your time,
Annie Maurer

**Thelman, Kassie L.**

**From:** Annie Maurer <noreply@adv.actionnetwork.org>
**Sent:** Monday, October 14, 2024 1:07 PM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

DPW Deputy Commissioner Mark Witkowski,

Dear Commissioner McAndrew and Deputy Commissioner Witkowski,

I am writing to submit my request that the county please not pursue the construction of a "waste to energy incinerator".

I have been living and working in Sullivan County for 10 years at a not for profit organization. I intend to have children and raise them here in Sullivan County, so I am deeply invested in the environment--the air and land--continuing to be healthy for the inhabitants of Sullivan County.

I have learned that incineration creates a toxic hazard: it emits toxic chemicals, including cancer-causing, endocrine- and immune-disrupting dioxins and furans; heavy metals including mercury, cadmium and lead; particulate matter. (GAIA, 2019)

This is one of the main reasons I am deeply opposed to having a trash incinerator in Sullivan County. If one were to be built I would have to seriously consider whether I would want to stay in this area, out of concern for the health of my family and my future children.

Please take this request seriously.

Sincerely,
Annie Maurer

Annie Maurer
anniegmaurer@gmail.com
15 Echo Lake Road
South Fallsburg, New York 12779

## Thelman, Kassie L.

**From:** Celia Oset <oset.celia@gmail.com>
**Sent:** Monday, October 14, 2024 4:05 PM
**To:** DPW Recycling Web Site Email
**Subject:** No to the incinerator!

ITS ADVISES CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi,

My name is Celia Golden and I am a life long resident of Sullivan County.

I am writing to say NO! To the proposed incinerator for our county.

As we face the pressing challenges of climate change and environmental degradation, investing in clean, renewable energy sources is crucial. Incineration not only contributes to air pollution and health risks for our residents but also undermines our efforts to achieve sustainability.

If you weren't already aware, here are all the all AVOIDABLE risks that come with an incinerator:

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Waste incinerators run giant combustion chambers to burn large amounts of trash, making them the most emission-intensive way of generating electricity, while leaving behind 'forever' POPsS (persistent organic pollutants) in the process. Per unit of energy, incinerators can emit more air pollutants than coal plants, up to 2.5 times more greenhouse gases, 4 times more cadmium and hydrogen chloride, 5 times more carbon monoxide, 6 times more smog-forming nitrogen oxides, 14 times more mercury, 18 times more lead (1), and sometimes more. (2)

2. ReWorld W to E Company is a top polluter and violator of permit requirements.
The company is among the worst polluters in New Jersey. All four of ReWorld's remaining "WTE" incinerators are in the top five polluters of all stationary sources in the state. In the last 20 years, Covanta Essex and Covanta Camden have had over 800 and 400 permit violations, respectively, including emissions more than 8 times the permitted limit, and multiple years when a single incinerator had over100 violations. (3)

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4. W to E Incinerators Do Not Solve the Waste Problem So-called "WTE" facilities do not get rid of waste, they merely transform it into different and more toxic forms of waste. These emissions create concentrated toxins found in filters, fly, bottom, and other types of ash; and wastewater sludge, all of which must be disposed of usually in a landfill, but now in a landfill certified to handle hazardous waste (more expensive disposal) and the transport of hazardous waste is much more dangerous. (3), (4)

5. W to E Incinerators - Expensive to Build and to Run Studies show the waste incineration industry has the highest ratio of negative economic impacts from air pollution compared to the financial value added by the industry. (7) In large incinerator facilities, more than half the total construction cost and recurring operating cost come from pollution control structures and systems. The latest incinerator facilities in developed countries can cost upwards of $150 million. Operations and maintenance costs are 4 times the cost of nuclear plants and 10 times the cost of coal plants. (8) According to Rhode Island's law banning incineration in the state, (State Senate Act 92-S 2502), "Incineration of solid waste is thecostliest method of waste disposal with known and unknown escalating costs, which wouldplace substantial and unreasonable burdens on both state and municipal budgets to the point of jeopardizing the public's interest." (Emphasis added.) Alternatives to W to E, see point 8.

6. W to E Incinerators Use More Energy Than They Produce Some incinerators use the heat from incinerated waste to produce steam to generate electricity, in a way similar to coal plants. But because this waste doesn't contain much energy, and wet materials don't burn well, incinerators can only produce small amounts of energy by burning large amounts of waste, waste that contains what could be reuseable, recyclable materials. Older incinerators with an efficiency rating of only 19-27%; are actually somewhat more efficient than new W to E incineration facilities. (8)

7. Municipalities Responsible For Waste and/or Financial Shortfalls When parties enter into contract with a "WTE" facility, they must commit to a minimum amount of waste to burn to produce a stated dollar amount of energy (electricity) to sell. If there is not enough profit to be made from the amount of waste burned, then the contracted party must make up the monthly shortfall in lost profit by paying this difference to the "WTE" company. This is called a "put or pay" contract. (8)(9)

What if there's no incinerator (or Waste to Energy incinerator) then WHAT TO DO?
Besides instituting as many recycling and other 'zero waste' activities as possible in each community and in the county, the TrashBOT made by TrashCON
(https://uk01.l.antigena.com/l/TaeFkcjmOuu0HEYVyqeVrWzJbw7~ajw6kApqze335TRtDEtiO1H7ezV8Lees7tIxqzZ09kVZgRMNW-tD_IymVFWvmWed9zX_VyjQwEhbkGvBdJF0T0GW3kr~3nFO1nywJu-1b4iDnDx--b2NFVX6CaNzRnu~Ci0sGJ26CBz0zlP4u3 which has a 2 to 3 year payback would vastly decrease the total volume of trash to be dealt with. The WTE plant would take about 4 years to set up and as covered above be much more expensive and polluting. 'Zero waste' also takes about 1 to 2 years to set up.

(All references for the above found here:
https://uk01.l.antigena.com/l/aV0zFl5hfEOwM37mw8SgpUgzFF6s9iuPBkElEUQrX3MH3NjiYN05VWI1V7oc8pgOoJQd-yYI8pV8NweH8NF3pnjrZj7ONXH0ZsPu2bVEJiLlazXOGh1UIyEkeoq6Le0h-SqgvlSZvMSGfgn-6Uu-vAn7mT5RqT5Rp0N51sRQmmFfOKK2Rw-jHl-b1h7Xk2lhuIT3Y5reYfH0esKWwzCO8wu2gsen6j1WHVKqtQoG0vdNs_jtyicIIDGj1VxfGiV6KyKIPFrdNTurpXgDSq6

The incineration process undermines our community's commitment to sustainability and waste reduction. Instead of investing in advanced recycling and composting initiatives (which are included in your plan), an incinerator encourages a throwaway culture, diverting attention from more responsible waste management solutions. People are not going to want to use the composting system or recycling system if there's an easy out. There is no such thing as an easy out. As climate disasters rip apart our country, we must do everything, including stopping the incinerator, to prevent further climate chaos.
I encourage you to consider the long-term impacts of your decisions. By turning to green energy options, we can create jobs, stimulate our local economy, and protect our community's health and environment. Supporting renewable energy initiatives will position our community as a leader in sustainability and set a positive example for future generations.
Sincerely,
Celia Golden
oset.celia@gmail.com

## Thelman, Kassie L.

**From:** Patti Greco Sunshine <pattigrecosunshine@gmail.com>
**Sent:** Monday, October 14, 2024 4:21 PM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** NO INCINERATOR for Sullivan County!

ITS ADVISES CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

> I am a life long resident of Sullivan County. I left and came back because the one thing I missed more than anything was the air! It is the purest and cleanest. Our water and air has already been compromised by the permitted excessive building and clearing of all our trees, now you are proposing a Toxic Incinerator for our county! This should not even be something that is remotely considered for our pure pristine natural county.. We are a community of full time residents as well as a thriving second home market. We have been touted to have the BEST and CLEANEST AIR and the purest water. This doesn't belong here. there is no benefit only horrific consequences to the health of our population.

> My guess is that it has not reached the pages of our local papers because it will no doubt cause outrage in our community as well as putting a sever damper on the influx of new homeowners and visitors to our area.

> We cannot let this happen! This kind of project does not in any way benefit our county. If they want to do something to benefit our county, how about spending the money on a feasibility study that will look into the benefits of using the méthane gas that is currently being produced and just burned off, in our landfill and wasted and turn that into useful energy. That would make sense, not a feasible study on how to burn wastes in our county causing noxious fumes to spew info our pure clean atmosphere

> I am opposed and say NO to any kind of trash Incinerator in Sullivan County.

Patti Greco Sunshine,
679 Resorts World Drive Monticello NY

## Thelman, Kassie L.

**From:** Susie Cleaver <banbury@frontiernet.net>
**Sent:** Monday, October 14, 2024 5:38 PM
**To:** DPW Recycling Web Site Email
**Cc:** Jessica Roff
**Subject:** Fw: Solid waste plan draft comments
**Attachments:** Classic Letter.pdf

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please find my comments o the draft solid waste attatched.
Thank you

Sent from Yahoo Mail for iPhone

# Susan Cleaver

P O Box 411
Goshen NY 10924
845 321 9054


**Mark Witkowski**
**SCDPW Deputy Commissioner**
**PO Box 5012**
**Monticello**
**NY 12701**

**Re: Draft Local Solid**
**Waste Plan comments-waste to energy**

**Dear Deputy Commissioner Witkowski ,**

**I hope this letter finds you well. I am writing to express my deep concern regarding the environmental impact of garbage incineration proposed practices in Sullivan County, especially in areas classified as environmental justice and disadvantaged communities. The continued -long term use- of incineration as a method of waste disposal poses significant risks to the health and well-being of these communities, which are already disproportionately affected by environmental hazards.**

**Incineration releases harmful pollutants, including dioxins, heavy metals, and particulate matter, all of which contribute to air pollution and have been linked to serious health issues, such as respiratory problems, cancer, and cardiovascular disease. Furthermore, incinerators emit large quantities of carbon dioxide, exacerbating the climate crisis. It is alarming that these incineration plants are often sited in communities that already bear the brunt of environmental burdens, thereby compounding the injustices they face.**

**Has the county looked into the ash/slag disposal that would be the end result from these processes and how hey will dispose of, cost associated with disposal? Isnt the end product considered hazardous waste?**

**Given the urgent need to protect the health of our environment and communities, I urge local leaders and policymakers to reconsider the reliance on incineration. Instead, I advocate for a more sustainable and environmentally friendly approach, such as enhancing recycling programs. Recycling not only diverts waste from landfills and incinerators but also conserves natural resources, reduces greenhouse gas emissions, and creates green jobs, providing both environmental and economic benefits to disadvantaged communities.**

**By expanding access to recycling programs and investing in waste reduction initiatives, Sullivan County could lead the way in promoting a cleaner, healthier environment. I encourage you to consider the long-term benefits of recycling and to take decisive action to reduce the environmental impact of waste management practices in our county.**

**I am submitting these comments and concerns, as I have quite a few members of my family having property and homes located in Sullivan County.**

**Thank you for your attention to this critical issue.**

**Sincerely,**
**Susan Cleaver**

## Thelman, Kassie L.

**From:** JoAnne Kriskowski <jkriskowski@gmail.com>
**Sent:** Monday, October 14, 2024 7:07 PM
**To:** DPW Recycling Web Site Email
**Subject:** Waste incinerator in Sullivan County

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Regarding the proposal for siting a toxin spewing, fabulously expensive, and unsustainable 'waste to energy' green-washing facility in Sullivan county, I am wholeheartedly against it.

Please support the truly sustainable proposals included in the existing proposal and reject the incinerator as the false solution that it is. Please act to protect our health and precious resources.

Thank you for your consideration,
JoAnne Kriskowski
Callicoon Center, NY

## Thelman, Kassie L.

**From:** artist1alice@gmail.com
**Sent:** Monday, October 14, 2024 10:57 PM
**To:** DPW Recycling Web Site Email
**Cc:** 'Jessica Roff'
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Because my home is Sullivan County often, and I also have many friends who live there, I am very concerned about your proposed plan to build a W-to-E incinerator. Please do NOT build it!

ReWorld W to E Company is a top polluter and violator of permit requirements.
The company is among the worst polluters in New Jersey. All four of ReWorld's remaining "WTE" incinerators are in the top five polluters of all staı onary sources in the state. In the last 20 years, Covanta Essex and Covanta Camden have had over 800 and 400 permit violaı ons, respecı vely, including emissions more than 8 ı mes the permiı ed limit, and mulı ple years when a single incinerator had over100 violaı ons. (see footnote)

Footnote:
See Leı er from lronbound Community Corporaı on-et al. to New Jersey Dep't of Env'tl. Protecı on et al. (Apr. 30, 2020), Aı achment 3 (updated Sept. 28, 2020),
hı ps://earthjusı ce.org/sites/default/files/files/2020-04-30_ icc_njeja_leı er_bpu_dep.pdf.
4hı ps://uk01.l.anı gena.com/l/oSqwgkEh44m-TZnJzMIaKtuep3CdmMuK43Pc4P6RLX1LGiRPhjKntobKjjWq6rN6zwI7ROcyPgv9-2ifpsjTir9YKP2VOjVI72FR63-H9lCmA4jpAMh2zX3uXDcJoxfFlbzhMe9vCmiDEQh-m5udy_CkE_Zz_kJP1UdXCqBOrs7SgWjxg1w2mL6szLVoUbGubDqK4Qvd-FtFSavu1-bFtWQPow5_fJ2R~cnAYDVbX8hJ3RJRXEQ3ga-4-D_bypk

Sincerely,
Alice Fitzgerald
18 C Meyer Road
Cochecton, NY 12726
neil.fitzgerald845@gmail.com
(I am writing from a friend'as computer because mine doesn't work.)

## Thelman, Kassie L.

**From:** Alice Zinnes <azinnes@mindspring.com>
**Sent:** Monday, October 14, 2024 10:58 PM
**To:** DPW Recycling Web Site Email
**Cc:** 'Jessica Roff'
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Because my home is just across the Delaware River, I go to Sullivan County often, and have many friends who live there. I therefore am very concerned about your proposed plan to build a W-to-E incinerator. Please do NOT build it!

ReWorld W to E Company is a top polluter and violator of permit requirements.
The company is among the worst polluters in New Jersey. All four of ReWorld's remaining "WTE" incinerators are in the top five polluters of all staı onary sources in the state. In the last 20 years, Covanta Essex and Covanta Camden have had over 800 and 400 permit violaı ons, respecı vely, including emissions more than 8 ı mes the permiı ed limit, and mulı ple years when a single incinerator had over100 violaı ons. (see footnote)

Footnote:
See Leı er from lronbound Community Corporaı on-et al. to New Jersey Dep't of Env'tl. Protecı on et al. (Apr. 30, 2020), Aı achment 3 (updated Sept. 28, 2020),
hı ps://earthjusı ce.org/sites/default/files/files/2020-04-30_ icc_njeja_leı er_bpu_dep.pdf.
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Sincerely,
Alice Zinnes
1255 Milanville Road
Milanville, PA 18443

## Thelman, Kassie L.

**From:** artist1alice@gmail.com
**Sent:** Monday, October 14, 2024 10:58 PM
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Sincerely,
Neil Fitzgerald
18 C Meyer Road
Cochecton, NY 12726
neil.fitzgerald845@gmail.com
(I am writing from a friend'as computer because mine doesn't work.)

## Thelman, Kassie L.

**From:** artist1alice@gmail.com
**Sent:** Monday, October 14, 2024 11:06 PM
**To:** DPW Recycling Web Site Email
**Cc:** 'Jessica Roff'
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

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I live in Sullivan County, I go there often. Please do NOT build the W-to E incerator.

W to E Incinerators Harm Human Health and the Environment.
Incinerators are major emitters of cancer-causing dioxins and furans, as well as the neurotoxin mercury. Modern incinerators in the EU are a major source of ultra-fine parı culate emissions. Incinerators are advancing climate change, creaı ng more CO2 per megawaı -hour than natural gas-, oil-, or coal-fired power plants. (4) The persistent organic pollutants (POPsS) they emit don't break down but are transported by wind and rain all over the planet, building up in wildlife and people as far away as the Arcı c. (5)
This polluı on can increase the risk of miscarriages, preterm birth, and non-Hodgkin's lymphoma in adults, and wheezing/faı gue in children who live or go to school nearby. (6)

Footnotes:
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5. 5 Jean-Franyois Viel et al., Soft-tissue Sarcoma and Non-Hodgkin's Lymphoma Clusters Around a Municipal Solid Waste Incinerator with High Dioxin Emission Levels, 152 Am. J. Epidemiology 13-19 (2000), https://pubmed.ncbi.nlm.nih. gov/10901325/; Silvia Candela et al., Air Pollution from Incinerators and Reproductive Outcomes: A Multisite Study, 24 Epidemiology 863-70 (2013), https://pubmed.ncbi.nlm.nih.gov/24076993/; Silvia Candela et al., Exposure to Emissions from Municipal Solid Waste Incinerators and Miscarriages: A Multisite Study of the MONITER Project, 78 Environ. Int. 51-60 ( 2015), https://pubmed.ncbi.nlm.nih.gov/25765761/; Yoshihiro Miyake et al., Relationship Between Distance of Schools !rom the Nearest Municipal Waste Incineration Plant and Child Health in Japan 20 European J. Ep1dem1ology 1023-29 (2005), https://pubmed.ncbi.nlm.nih.gov/16331434/· Baptista& ' Perov,ch supra note 2 at 37. 8 See Letter from lronbound p s : ww .w n r fc. o rg / b io / d a niel-ros
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Sincerely,
Alice Fitzgerald
18 C Meyer Road
Cochecton, NY 12726

neil.fitzgerald845@gmail.com

## Thelman, Kassie L.

**From:** artist1alice@gmail.com
**Sent:** Monday, October 14, 2024 11:07 PM
**To:** DPW Recycling Web Site Email
**Cc:** 'Jessica Roff'
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

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5. 5 Jean-Franyois Viel et al., Soft-tissue Sarcoma and Non-Hodgkin's Lymphoma Clusters Around a Municipal Solid Waste Incinerator with High Dioxin Emission Levels, 152 Am. J. Epidemiology 13-19 (2000), https://pubmed.ncbi.nlm.nih. gov/10901325/; Silvia Candela et al., Air Pollution from Incinerators and Reproductive Outcomes: A Multisite Study, 24 Epidemiology 863-70 (2013), https://pubmed.ncbi.nlm.nih.gov/24076993/; Silvia Candela et al., Exposure to Emissions from Municipal Solid Waste Incinerators and Miscarriages: A Multisite Study of the MONITER Project, 78 Environ. Int. 51-60 ( 2015), https://pubmed.ncbi.nlm.nih.gov/25765761/; Yoshihiro Miyake et al., Relationship Between Distance of Schools !rom the Nearest Municipal Waste Incineration Plant and Child Health in Japan 20 European J. Ep1dem1ology 1023-29 (2005), https://pubmed.ncbi.nlm.nih.gov/16331434/· Baptista& ' Perov,ch supra note 2 at 37. 8 See Letter from lronbound p s : ww .w n r fc. o rg / b io / d a niel-ros
e n b e rg /bu m ed -w h y-w a s te-in cin e ra tio n-h a rm fu l# :- :te xt =T he s e % 2 0c he rucals ¼20and ¼20pollutants%20enter,and%20other"/o20adverse%20health%20impacts.
Mull r, 1cholas -, Robert Mendelsoh , and _William Nordhaus. 2011."Environmental Accounting for follut,on in the United States Economy. Amencan Economic Review, 101(5): 1649-75.
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Sincerely,
Neil Fitzgerald
18 C Meyer Road
Cochecton, NY 12726

neil.fitzgerald845@gmail.com

## Thelman, Kassie L.

**From:** artist1alice@gmail.com
**Sent:** Monday, October 14, 2024 11:13 PM
**To:** DPW Recycling Web Site Email
**Cc:** 'Jessica Roff'
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please do NOT build the W-to E incerator. Since I live in Sullivan County, I care greatly about the county.

W to E Incinerators - Expensive to Build and to Run:
Studies show the waste incineration industry has the highest ratio of negative economic impacts from air pollution compared to the financial value added by the industry. In large incinerator facilıı es, more than half the total construcı on cost and recurring operaı ng cost come from polluı on control structures and systems. The latest incinerator facilıı es in developed countries can cost upwards of $150 million. Operaı ons and maintenance costs are 4 ı mes the cost of nuclear plants and 10 ı mes the cost of coal plants. (8) According to Rhode Island's law banning incineraı on in the state, (State Senate Act 92-S 2502), "Incineraı on of solid waste is the costliest method of waste disposal with known and unknown escalaı ng costs, which would place substanı al and unreasonable burdens on both state and municipal budgets to the point of jeopardizing the public's interest." (Emphasis added.)

There are many alternaı ves to W to E. Besides insı tuı ng as many recycling and other 'zero waste' acı vii es as possible in each community and in the county, the TrashBOT made by TrashCON (hı ps://uk01.l.anı gena.com/l/EUeukcDNd881HsrsOs6VcCOJioSuOGe5yIrMTkE_4-DzSXHTsKGqk2woAcl-gvegMx7wf5F1PgeumSze_JkVscCKq99B51ickQ5tvUmXOOBLO8uuI-tRJmfNdo~LbFrHvNdnmErS6rBKd7jjHmXiYznjQUePoQDvZyhRBZHW~zrw1m8 which has a 2 to 3 year payback would vastly decrease the total volume of trash to be dealt with. The WTE plant would take about 4 years to set up and as covered above be much more expensive and pollkuı ng. 'Zero waste' also takes about 1 to 2 years to set up.

Sincerely,

Alice Fitzgerald
18 C Meyer Road
Cochecton, NY 12726
neil.fitzgerald845@gmail.com

## Thelman, Kassie L.

**From:** artist1alice@gmail.com
**Sent:** Monday, October 14, 2024 11:14 PM
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**Cc:** 'Jessica Roff'
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neil.fitzgerald845@gmail.com

## Thelman, Kassie L.

**From:** artist1alice@gmail.com
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**To:** DPW Recycling Web Site Email
**Cc:** 'Jessica Roff'
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

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I ask that you NOT build the W-to-E incinerator plant proposed for Sullivan County. As I live in Sullivan County, I care greatly about it.

W to E Incinerators Use More Energy Than They Produce. Some incinerators use the heat from incinerated waste to produce steam to generate electricity, in a way similar to coal plants. But because this waste doesn't contain much energy, and wet materials don't burn well, incinerators can only produce small amounts of energy by burning large amounts of waste, waste that contains what could be reuseable, recyclable materials. Older incinerators with an efficiency ra. ng of only 19-27%; are actually somewhat more efficient than new W to E incineration facilities.

Sincerely,
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Sincerely,
Alice Zinnes
1255 Milanville Road
Milanville, PA 18443

## Thelman, Kassie L.

**From:** artist1alice@gmail.com
**Sent:** Monday, October 14, 2024 11:24 PM
**To:** DPW Recycling Web Site Email
**Cc:** 'Jessica Roff'
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

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The W-to-E incinerator proposed for Sullivan County must not be built. Since my home is in Sullivan County, I care about its welfare.

Municipali. es are responsible for waste and/or financial shortfalls when parties enter into contract with a “WTE” facility. Municipalities must commit to a minimum amount of waste to burn to produce a stated dollar amount of energy (electricity) to sell. If there is not enough profit to be made from the amount of waste burned, then the contracted party must make up the monthly shortfall in lost profit by paying this difference to the “WTE” company. This is called a “put or pay” contract.

Sincerely,
Alice Fitzgerald
18 C Meyer Road
Cochecton, NY 12726
neil.fitzgerald845@gmail.com

## Thelman, Kassie L.

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Sincerely,
Neil Fitzgerald
18 C Meyer Road
Cochecton, NY 12726
neil.fitzgerald845@gmail.com

## Thelman, Kassie L.

**From:** Alice Zinnes <azinnes@mindspring.com>
**Sent:** Monday, October 14, 2024 11:24 PM
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**Cc:** 'Jessica Roff'
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Sincerely,
Alice Zinnes
1255 Milanville Road
Milanville, PA 18443

## Thelman, Kassie L.

**From:** Jan Ranck <jranckg@gmail.com>
**Sent:** Tuesday, October 15, 2024 8:40 AM
**To:** DPW Recycling Web Site Email
**Subject:** Waste management Incinerator - NO

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

**NO** incinerator in Sullivan County, NY.

Jan Ranck
Parksville, NY

## Thelman, Kassie L.

**From:** Graham May <yangomh@yahoo.com>
**Sent:** Tuesday, October 15, 2024 8:40 AM
**To:** DPW Recycling Web Site Email
**Subject:** Waste management Incinerator - NO

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

No incinerator in Sullivan County NY.

R Graham May
Parksville, NY

## Thelman, Kassie L.

**From:** Alexa Simonelli <alexarae61489@gmail.com>
**Sent:** Tuesday, October 15, 2024 10:55 AM
**To:** DPW Recycling Web Site Email
**Subject:** Opposition to Waste-to-Energy Incinerator in Sullivan County

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Sullivan County Solid Waste Management Team,

I am writing to express my strong opposition to the inclusion of a waste-to-energy incinerator in the county's solid waste management plan. While I understand the need to find effective solutions for managing waste, I believe that incineration poses significant environmental and health risks, including air pollution, toxic emissions, and potential harm to the local community and wildlife.

Sullivan County is known for its natural beauty, and I urge the county to prioritize sustainable, environmentally friendly waste management strategies such as expanding recycling programs, composting, and waste reduction initiatives. We should focus on solutions that protect the health and well-being of our residents and preserve the environment for future generations.

Thank you for considering my concerns

Sincerely,

Alexa Simonelli

Glen Spey NY

## Thelman, Kassie L.

**From:** Elizabeth Greig <aegreig18@gmail.com>
**Sent:** Tuesday, October 15, 2024 11:12 AM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Sullivan County Legislative Team,

I am 100% opposed to building a solid waste incinerator in Sullivan County where I live.

I have practiced as a nurse practitioner for more than 40 years in a variety of health care settings including the occupational and environmental health clinic at Yale University in the past. I see many people with hazardous and otherwise unhealthy environmental health exposures every day that they have no choice in avoiding. The incinerator emissions would be disastrous ones to add to their list. Emissions from incinerators include dioxins and furans which not only are on the carcinogens list but are endocrine disruptors. Endocrine disruptors are particularly harmful to children and unborn children because of the havoc they wreak on endocrine maturation and gender development, but I also see these frequently as menstrual and fertility issues in women of childbearing age. These chemicals have effects at the molecular level which means even nano amounts can have disastrous effects. In addition to these dangerous emissions, there are particulates that are dangerous to our lungs, and odors that are in fact chemicals that when breathed in have to be detoxified by our liver. Heavy metals such as lead and mercury are also incineration by products and are toxic to humans. There are so many other deleterious byproducts of incineration. The older the incinerator gets, the more environmental hazards it spews. Burning our waste is not the answer to its disposal!

I would like to see the emphasis in Sullivan County put on more publicizing of how to reuse, recycle and reduce consumption. The county has a great composting program but so few people I talk to even know about it--what about ads on the radio, billboards, the newspapers? Food waste typically makes up almost a quarter of municipal waste so this could be a big reduction in the county's garbage problem. What is the county doing to ensure everyone is actually recycling what can be recycled--I don't see any public education in Sullivan County on this front either.

Please do the right thing and don't buy a solid waste incinerator for Sullivan County.

Sincerely yours,
Elizabeth Greig
Liberty, New York

## Thelman, Kassie L.

**From:** kirkafrost@yahoo.com
**Sent:** Tuesday, October 15, 2024 11:55 AM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Sullivan County Solid Waste Management and Recycling,

I have to say, it was fascina. ng going through the Sullivan County Local Solid Waste Management Plan (LSWMP). Cornerstone PLLC did a fairly good job in presenting the Sullivan County Sold Waste Management current status and details in a fairly straight forward report. The report is well laid out and presents the data points that I would guess are either accurate or close to accurate. I would suspect that granularity of actual waste management processing measurement is limitedly available.

From what I see in the report, Sullivan County Waste Management and Recycling is a lean county entity that has a small organization dedicated to doing Waste Management and Recycling well within Sullivan County.

**Observations:**

- Residents, tourists and businesses wastes are increasing when there needs to be a strategy in place to contain and even reduce waste. Cornerstone's 'plan' does not offer any direction on this.

- There are many aspects in waste management and recycling that are outside the scope and control of Sullivan County Waste Management and Recycling division. Yet, NYSDEC is trying to put the pressure and onus back on counties in "Building the Circular Economy Through Sustainable Materials Management." I believe there is opportunity with this.

- Agencies utilize consulting 'environmental' firms to increasingly influence and even prescribe an agency's direction, objectives and even funding going forward. I believe the straight forward and honest aspects of this 'plan' presentation is mostly due to Sullivan County's staff input.

- In briefly researching Cornerstone LLC, they are large, growing in many states other than NY and have interests that might be in conflict with what is beneficial for Sullivan County. I see this as a major risk to the integrity and best management of the tough road ahead for Sullivan County Waste Management and Recycling Division.

- Suspicion that Cornerstone LLC and other consulting firms are becoming an increasing component of the Sullivan County Waste Management and Recycling Annual Budget. From the budget in the report, it looks like this cost falls under the category "Contract Other," which has increased to $10,302,000 per year.

- The current state with Sullivan County Waste Management and Recycling (SC-WM&R)is that it has enough staff to continue current operations and servicing the residents, businesses and tourists; but it doesn't have the internal structure to develop or initiate change in waste management.

- The Cornerstone "Plan" does not present a strategy, doesn't present realistic or tangible objectives for SC-WM&R to evolve. It isn't a plan, it is full of considerations and some environmentally toxic approaches.

Waste Management and Recycling is a tough job because it is where States project changes while the public refuses to change and continue to cause increased waste. From what I see from this report, **Sullivan County strives to do the best possible job given the constraints.**

The constraints are the most significant risks and mitigation planning that Sullivan County should emphasize in a strategy plan. Yet, it is cursory in the Cornerstone Plan.

**Suggesı ons:**

1. Rule out incineration plants at all costs. Claremont New Hampshire had an incineration plant in operation and it was cited with many toxic emissions fees that came about after community complaints(https://uk01.l.antigena.com/l/Rn-R6kiINCFtddXyokqSKVJW1M_U5HWWyQXsOEvs3SKv9CsDBUQsyax3KEJaO4IkQqnRmoGssPcJssDx47F-8uAusxHI4CoaXsFR6igastMOuLzOXapw9UOXaSMHqcegl5caSVO4n6abIMv9DS5Mom4i~Rt7SECihP_mWQua_uAHEheRuMwexdUGO7tNr2cwlFgGAuNmDa7Z~MlX-Nv8Gm ). Claremont incinerator emitted 228.75 tons of airborne pollutants in 2010, for which the company paid DES almost $34,000 in emission fees. By the time toxic emissions are noticed by the community is an indicator that the damage has already been done to the community. Incineration sounds nice and leaves a small pile of ash, but the unknown contaminations emitted into the air are toxic, no matter how anyone tries to claim otherwise. Incineration isn't a solution, it creates a more inhospitable living environment, which is critical to the Catskill Mountain communities.

2. Consider forming a regional organization board, but don't consider rolling up several counties into one super Waste Management and Recycling Division. Sullivan County has its own residents to consider and unique application of Waste Management and Recycling Services.

   There is greater opportunity for innovation and change in the waste management and recycling, that can be seized if each county contributed to an operational board that employs an innovation center. Cutting back on the consulting services spend by each county can free up funding for each county to provide staff to this regional Waste Management Innovation board. This way, each county has a stake, a voice and joint control in enabling innovation to take place. There are many new technology companies with innovative approaches for reducing waste. One such company is PureCycle Technologies, Inc. (PCT). Additionally, the regional waste management and recycling board will build the internal knowledge and integrity for each county, including Sullivan County.

3. Technology innovation is rapidly changing. The ideas and trends of today will be short lived as less toxic innovative solutions become available. I don't believe it practical for Sullivan County to yet latch onto any 'solution' at this point in time that presents a positive reduction in waste.

4. Waste to energy (WTE) is a great disinformation marketing slogan, but carries with it many hidden costs. The most notable is health, environment and climate change costs. We are witnessing dramatic changes in health, environmental and climate change, and I would suggest that Sullivan County Waste Management and Recycling Division should have a principle that attempts to mitigate and reduce impacts to health, environmental and climate change. Waste to energy is an initiative that a regional board could review, test and evaluate the numerous methods and approaches for accomplishing. WTE are super polluters. WTE directly harm human health, environment and increase climate change. WTE create the illusion that the waste disappeared down to 90% of the original size, but that isn't true. Instead, WTE transformed waste into more toxic air pollutants. Incineration and WTE should be avoided and instead focus on more reliable means of reducing waste that don't result in toxic byproducts.

5. Sullivan County's biggest contributors to waste can be Sullivan County's biggest asset – Residents, Tourists and Businesses. In the report, it highlights activities/initiatives that Sullivan County has taken with the public. Forming a coalition or orchestrating continued pledges from businesses and residents to create an outreach and active engagement to reduce waste is the single largest source for reducing waste. From separating and locally composting food waste, to actively pushing communities to purchase products that

reduce packaging waste, to actively separating all types of recyclables at the home/business. The onus is on the public to reduce waste.

I went through this Waste Management Report because a nonprofit notified me that Sullivan County is considering incineration. It isn't a plan forward. It is a report. If I could help you build a plan, I would love to do it as a volunteer. I have helped NJ and federal agencies in the past and more than willing to do that for Sullivan County.

I hope you will consider my observations and suggestions.

Sincerely,

Kirk Frost
(732) 801-7800

## Thelman, Kassie L.

**From:** Christine Niver <ckniver@gmail.com>
**Sent:** Tuesday, October 15, 2024 12:09 PM
**To:** DPW Recycling Web Site Email
**Subject:** comment on Sullivan County incinerator

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Mr Witkowski et al,
I love living here in the Catskills. The air is still pretty clean except when we got smoke from long-distance fires blowing in.
As people who suffer from asthma, my husband and I REALLY appreciate it. It could potentially affect the number of people living in Sullivan county. Who wants to live near a garbage incinerator? Certainly not peopleWe have lived around the world in places with extreme air conditions - like in India where they burn coal to create electricity and your white clothes would turn permanent shade of gray after a few months and you had to rinse your nose daily. To living in Ottawa, Canada, where they recycle just about everything including food waste which goes to a depot where it is composted and farmers use it to fertilize their fields.

I realize also that in today's world, with the need for safe packaging of food and the online ordering culture, lots of garbage and recycle is created. We recycle. In fact, we recycle almost 2x as much stuff as we throw out.

I am not in favor of an incinerator for our trash. I do understand the need for something especially during the summer months with the influx of summer residents. I also know that even recycle stuff in many places ends up in landfills and oceans. And now that the US can't ship its trash elsewhere in the world it is a growing dilemma.

Here are some reasons to reconsider:

- It is very costly.
- It will affect the air quality.
- It is not a long-term Green solution to the problem. And what if in 10 years a polluter's tax is placed on garbage incinerators? Have you considered that as a future expense for the county?
- How about the increase in medical treatment needed for those affected by burn pollution. Will these incinerators have scrubbers in their smokestacks that remove all the particulates etc. in the smoke? Then there is the heat. too.
- Do you have alternative solutions that would not cost any more?

I don't know enough about what happens to offer useful suggestions. And I prefer not to just complain. But, if one of the reasons this is becoming urgent is during the summer months with all these summer developments popping up everywhere, why not charge summer residents extra for trash removal? They put a tremendous demand on the area's infrastructure. And they make a lot of trash - I've seen it since I live near quite a few established developments. OR, perhaps they would need to hire a trash removal company while they are in town. Most of them come from densely populated locations so they may not realize how much they affect a rural area. I know that during the summer months, the waste and recycle trucks often don't make it to my neighborhood until the morning after my pick-up days due to all the extra demands on them.

Finally, I would not want to be in a situation where I have to leave the area because of my health. A very real consideration for my husband and me. I have been coming up here since I was a teen and have lived here on and off since the 1970s. And even after living in the Outer Banks of North Carolina, we came back here.

Thank you for taking the time to read this. And for all you do to keep our county clean and beautiful. Let's keep it that way.

Kindly,

*Christine*

Christine K. Niver
Woodbourne, NY 12788
ckniver@gmail
845-798-0626 mobile

## Thelman, Kassie L.

**From:** Lucas Wentworth <lwentworth1020@gmail.com>
**Sent:** Tuesday, October 15, 2024 12:38 PM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Sullivan County Planning Board Members,

My name is Lucas Wentworth, and I am writing to express my strong opposition to the proposed waste-to-energy (WTE) incinerator in Sullivan County. As a member of Zero Waste Ithaca

I am deeply engaged in waste reduction and zero waste initiatives., I am particularly concerned about the long-term environmental and social impacts of continuing to build solid waste facilities like incinerators. These projects lock us into decades of burning waste, diverting focus from real waste reduction strategies and Zero Waste goals.

Incinerators disproportionately affect disadvantaged rural and urban communities, contributing to environmental injustice. Reports have shown that incinerators emit dangerous pollutants, including PFAS, which can go airborne and accumulate in nearby areas. A 2022 study reported PFAS contamination in regions surrounding WTE incinerators, with serious public health impacts, such as those seen in France, where millions were warned not to eat backyard chicken eggs due to contamination.

Incineration does not eliminate the need for landfills. Zero Waste Europe's 2022 report highlights that incinerators generate millions of tons of hazardous residues, much of which ends up in landfills. Furthermore, the carbon footprint of incinerators is substantial. As documented in a Grist article, European countries are starting to move away from incineration due to its adverse climate impact and the fact that it undermines recycling efforts.

Building more WTE facilities in the U.S. only perpetuates these harmful cycles. As long as we keep expanding waste infrastructure, we will continue to overlook Zero Waste strategies that focus on reducing waste at the source. It is time to stand up and say no to this outdated and damaging practice.

For more information on sustainable alternatives, I encourage you to refer to GAIA's 2023 report on Zero Waste systems and their environmental benefits.

Thank you for considering my comment.

**References:**

1. Environmental Health News (2022). PFAS going airborne from municipal incinerators. Available at: https://www.ehn.org/pfas-air-pollution-2656977959.html
2. Euronews (2023). Millions in France warned not to eat eggs from backyard chickens due to PFAS contamination. Available at: https://www.euronews.com/green/2023/11/21/millions-in-france-warned-not-to-eat-eggs-from-backyard-chickens-due-to-forever-chemical-p
3. GAIA (2023). Zero Waste to Zero Emissions. Available through GAIA's network.
4. Grist (2021). The fantasy of European WTE incinerators. Available at: https://grist.org/climate-energy/in-europe-a-backlash-is-growing-over-incinerating-garbage/

5. Zero Waste Europe (2022). Incineration residues: the dust under the carpet. Available at: https://zerowasteeurope.eu/press-release/incineration-residues-the-dust-under-the-carpet/

## Thelman, Kassie L.

**From:** Gary Koutcher <garykoutcher@yahoo.com>
**Sent:** Tuesday, October 15, 2024 12:40 PM
**To:** DPW Recycling Web Site Email
**Subject:** Plastic incinerator in Sullivan

ITS ADVISES CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi,

I am writing to let you know that both my wife, Lyn, and I are against having a plastics incinerator in SULLIVAN County. First of all virtually no one I know has heard about this idea. Was it in the newspapers?? Second, this is the second most unhealthy county in New York. This will not help make people healthier and will likely increase the amount of lung disease in Sullivan.

Poor idea!!!!

Gary Koutcher M.D (Emergency Medicine)

## Thelman, Kassie L.

**From:** joe_hannan@mindspring.com
**Sent:** Tuesday, October 15, 2024 1:03 PM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Mark Witkowski
SCDPW Deputy Commissioner
PO Box 5012
Monticello, NY 12701

Dear Commissioner Witkowski:

I recently learned that Sullivan County, where I have owned a home for the past 25 years, is considering a plan by ReWorld/Covanta to install a giant trash incinerator in the County.
The net "worth" of such a proposal is less than ZERO, in light of the severe environmental costs of such an operation.

Most critically, the citizens of Sullivan County do not want our water, air, and soil contaminated with deadly pollutants such as mercury, dioxins, and PFAs, which are the by-products of trash incineration projects.

We do not need other counties in the region shipping their trash to Sullivan County for incineration.

We must not allow the farmlands, forests, lakes, and rivers of Sullivan County, which lie at the heart of our primary industries of tourism and agriculture, to be blighted by the installation of an industrial incinerator.

The amount of useful energy generated by a behemoth incinerator is truly negligible.

The County is completely unequipped to deal with the toxic waste ash from such an incinerator.

In light of these dismaying drawbacks, I urge you to do everything in your power to stop the advancement of the ReWorld/Covanta proposal, or indeed any similar plan in Sullivan County. Now is the time to end this foolish approach to waste disposal.

Sincerely,

Joseph Hannan
845/898-0618

## Thelman, Kassie L.

**From:** Meryl Novick <mehsys@gmail.com>
**Sent:** Tuesday, October 15, 2024 1:43 PM
**To:** DPW Recycling Web Site Email
**Subject:** Plastics incinerator

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Sullivan County has been an outstanding gem for the people who live here and visit.
We have always taken an active and concerned part in protecting the quality of air, water, and green space here.
I have lived here for many years, and have always appreciated the very special blessing and responsibility we have to our ecology.
There is no way that a plastics incinerator will not have a detrimental effect on the air, water, and people who have long appreciated the treasure we have here.

I understand recycling, and have been involved in efforts for many years. We have other options to consider. For instance, we could conduct a feasibility study on the possibility of turning the methane gas produced in our landfills into energy.

I live in the hamlet of Loch Sheldrake, town of Fallsburg, in Sullivan County. I turn to you and absolutely implore that the unavoidable pollution generated by a plastics incinerator will not be placed in this county. The damage it would cause to us is painful to even consider.

Meryl Novick

## Thelman, Kassie L.

**From:** Nelson Novick <nnovickmd@gmail.com>
**Sent:** Tuesday, October 15, 2024 1:52 PM
**To:** DPW Recycling Web Site Email
**Subject:** from Nelson Lee Novick, M.D. 47 Lakeside Drive, Loch Sheldrake, NY 12759

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

To Whom This May Concern:

Please consider this email my official response to the proposed plan to build a plastics incinerator in Sullivan County/

We cannot let this happen! This kind of project does not in any way benefit our county.by spewing noxious fumes into our pure clean air. If you want to do something to benefit our county, consider spending the money on a feasibility study that will look into the benefits of using the méthane gas that is currently being produced and just burned off in our landfill and wasted and instead turn that into useful energy. That would make sense. This plastics incinerator project has the potential to destroy the pure and fresh air that has attracted us to purchase our homes in Sullivan County. The plastics incinerator must not happen.

Sincerely,

Nelson Lee Novick, M.D.

**Thelman, Kassie L.**

**From:** Rebekah Creshkoff <rcreshkoff@gmail.com>
**Sent:** Tuesday, October 15, 2024 2:08 PM
**To:** DPW Recycling Web Site Email
**Cc:** mark.witkowski@co.sullivan.ny.us
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I own a home in the Town of Delaware, where I have lived for the past 11 years. I co-founded Beyond Plastics Sullivan County and am a public speaker on the problems with plastics. I've also been working to pass New York's Packaging Reduction and Recycling Infrastructure Act, which would significantly reduce the amount of waste we need to manage.

## The good

So I was glad to see that the county's draft Local Solid Waste Management Plan (LSWMP) includes a section on Waste Reduction Programs (Sec. 4.10, pp. 4-17–27/pdf pp. 41-51). I also wholeheartedly support plans to expand the county's organics composting program.

Other useful ideas include increased outreach and education about recycling (Sec. 1.0, *Introduction,* p. 1-1/pdf p. 11), along with increased enforcement (Sec. 4.9 *Recycling Markets,* p. 4-1/pdf p. 41).

Especially pragmatic are proposals to compact materials prior to hauling (Sec. 7.9.1.3 *Efficiency review of existing facilities and operations,* p. 7-25/pdf p. 94) and to supply waste transporters with fuel instead of paying a surcharge for theirs (Sec. 4.8 *Transportation and Disposal,* p. 4-17/pdf p. 41). Similarly, regionalization (Sec. 7.9.2.1, p. 7-26/pdf p. 95) also makes a lot of sense.

## The bad

However, a feasibility study for a "waste-to-energy" facility—which the LSWMP itself acknowledges is commonly known as an incinerator (7.5 *Waste To Energy – Thermal Conversion (Mass Burn) - Basics,* p. 7-16, pdf p. 85) is a very bad idea indeed.

I appreciate that recovering energy "in an environmentally acceptable manner from solid waste that cannot be economically and technically reused or recycled" is the third tier of the NYSDEC's preferred waste management hierarchy (Sec. 1.0 *Introduction*, p. 1-1/pdf p. 11).

However, that hierarchy is based on the EPA's waste management hierarchy, which the agency developed several decades ago. For the past two years, the EPA has been publishing their hierarchy graphic with this disclaimer:

"EPA is now in the process of reviewing the waste hierarchy to determine if potential changes should be made based on the latest available data and information."

In fact, the EPA has acknowledged that they have no scientific data to support ranking incineration as preferable to landfill on their hierarchy.

Why would the EPA revise its position on incineration? Because it pollutes the environment and harms human health.

Even in Europe, where standards are higher than in the U.S., state-of-the-art municipal waste incinerators outfitted with the most advanced pollution control equipment emit highly toxic pollutants and release immense amounts of CO2.

Incineration inevitably creates dioxins, the most toxic chemicals known to science, as well as mercury, lead and PFAS.* **No level of any of these substances is safe.** They become airborne and travel everywhere, and they are persistent.

**The ugly**

Just how persistent? Three years ago, people in Lausanne, Switzerland, were told they can no longer eat eggs from backyard hens or vegetables from their own gardens, because the soil is contaminated with dioxins released from an incinerator that was shuttered in *2005*.

This is not an isolated incident. Last November, millions of people in the entire region of Paris, France, were warned not to eat eggs from backyard chickens because they, too, are contaminated with toxic "forever chemicals"—dioxins, furans and PFAS—emitted from Europe's largest incinerator.

Even the Netherlands' newest "waste-to-energy" plant—touted as state of the art when it came online in 2011—has contaminated grass and eggs up to 10 km away with high levels of dioxins.

Moreover, emissions aren't limited to "forever chemicals." Altogether, more than 200 chemicals come out of incinerator smokestacks. Only a handful have been tested for safety.

Incinerators have been directly linked to a host of negative health effects, from increased risk of miscarriage and pre-term delivery to birth defects and non-Hodgkin's lymphoma, among others.

Finally, municipal solid waste incinerators—even the most modern, state-of-the-art "waste-to-energy" facilities in Europe—are not immune to accidents. Fires and explosions commonly occur due to various factors—typically, damaged lithium-ion batteries, which are a frequent cause of waste fires at these facilities. Local firefighters need specialized training to prepare for these blazes, which create dangerous levels of toxic pollutants and chemical contaminants.

**The expense**

Because their construction is extremely costly, building a "waste-to-energy" incinerator requires significant government subsidies. The price tag is in the hundreds of millions, and can climb as high as a billion dollars.

They're also expensive to operate. Accordingly, incineration companies invariably protect their bottom line by including a "put-or-pay" clause in the contract, meaning the client promises to supply a minimum amount of trash every year.

Such a clause forced Detroit to import garbage from surrounding suburbs. In other words, Detroit residents subsidized their wealthy neighbors to send their trash to the city's incinerator.

The "put-or-pay" clause in Detroit's incinerator contract is the primary reason that city went bankrupt.

Similarly, staggering debt payments to upgrade Harrisburg's incinerator drove that city into bankruptcy, too.

Fully half the cost of an incinerator goes to pollution control equipment, which concentrates pollutants in filters, residual ash and wastewater. These toxic byproducts need to get sent to a special landfill designed to handle hazardous waste. Both the transportation costs and the tipping fee for hazardous waste are significantly higher than for ordinary municipal solid waste.

All this means incineration is the most expensive and polluting way to deal with waste, as well as the most inefficient way to generate energy.

**A better way**

There is no easy, off-the-shelf solution that will magically make our waste problem go away. Rather than a polluting incinerator, the county would be better off investing in infrastructure to increase the reuse, recovery and more effective recycling of materials. This includes greatly expanding the county's existing composting operation, as outlined in the plan.

These strategies all fall under the rubric of "zero waste," and the LSWMP appears to acknowledge that such programs could reduce our waste stream by 50 percent (Appendix C, *Alternatives Assessment,* pdf pp. 453-462). Federal grants are available to implement such programs. So are professionals who have developed "zero waste" plans for other communities and counties across the nation.

Sullivan can also pass legislation to reduce the county's waste stream. One example is a "skip the stuff" policy. Targeted to restaurants and any other food or beverage establishments, this law makes disposable takeout accessories—cutlery, straws, condiment packets, napkins, and the like—available only upon customer request. Three dozen cities, including New York, Washington, D.C., and Denver, along with the states of California and Oregon, have enacted such a law.

With luck, next spring the New York State Legislature will pass the Packaging Reduction and Recycling Infrastructure Act and a companion bill that would modernize the state's 41-year-old container-deposit-return law. Once enacted, these laws will appreciably reduce our waste stream—as well as the litter we see in the environment—over the next 12 years.

By implementing "zero waste" strategies, the county could shrink the size of its post-diversion waste stream by as much as 80 percent. However, even after our best efforts, there will always be some materials that cannot otherwise be reduced or diverted from the waste stream.

Zero-waste advocates maintain that a local landfill is preferable to incineration for this residual waste. Personally, I support creating, together with neighboring counties, a regional landfill for the materials that remain after we have reduced, diverted, reused, repaired, recycled, and composted as much as we possibly can.

Thank you for the opportunity to comment on the county's draft local solid waste management plan.

**Additional relevant links:**

1. What is particle pollution? American Lung Association
2. How Communities Have Defined Zero Waste. Environmental Protection Agency
3. Burned: Why Waste Incineration Is Harmful. NRDC, the National Resources Defense Council
4. Solid Waste Infrastructure for Recycling Grants for Communities. Environmental Protection Agency
5. Defense Council Points to Downside of Waste Incineration. NRDC
6. How polluting is the Wheelabrator trash incinerator in Peekskill? Energy Justice Network (2 pages)
7. Facts About "WTE" Facilities. GAIA (8 pages)
8. High Cost of Waste Incineration. GAIA (12 pages)
9. Zero Waste DC Plan, February 2024 (18 pages)
10. New Jersey's Dirty Secret. Earth Justice (20 pages)
11. Closing Montgomery County's Incinerator and Implementing Zero Waste, March 2023 (84 pages)
12. No incinerator for the Catskills! GAIA webinar (1:08:05)
13. Burn Baby Burn? Why Incinerations "Waste-to-Energy" Is a False Solution. Energy Justice Network webinar (1:30:03)

**Submitted by:**

Rebekah Creshkoff
644 River Road
Callicoon, NY 12723
845-887-3056

*These are just *some* of the toxic pollutants incinerators emit; there are dozens more. Yet here in the U.S., the industry is required to monitor and report on only nine of them.

## Thelman, Kassie L.

**From:** Michael Huber <michael@nyheartwood.com>
**Sent:** Tuesday, October 15, 2024 3:34 PM
**To:** DPW Recycling Web Site Email
**Subject:** LSWMP

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Sullivan County waste managers,

Thank you for your work in publishing the LSWMP and for taking the time to review public comments.

I'm sure you have received many comments pointing out the environmental hazards of waste incinerators. Just today, the BBC published an article that the UK government has found incinerators (link) to be its dirtiest, least efficient source of energy, worse than coal. I know the alternatives are challenging, but I do hope we can do better for the next generation of Sullivan County children. Along with our people, our beautiful environment is our county's most valuable attribute.

Regarding alternatives, I would hope that our companies could help in managing the diversion of organic waste from our waste stream. Our businesses have been composting 100% of our organic waste for several years at our commercial-grade composting facility located between Jeffersonville and North Branch. Our facility is a passive aeration composting facility that could handle much more feedstock than it does today, and it could also be expanded to accommodate even more.

I will reach out to county representatives and hope that we can be a small part of a larger, environmentally friendly solution.

Kind regards,
Michael Huber

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**Michael Huber**

Heartwood
Jeffersonville Bake Shop | Tavern on Main | 52 & Vine | The Furniture Re Store | The Vintage House | Jeff Works | heartwood360

**Thelman, Kassie L.**

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**From:** Star Hesse <starhesse@yahoo.com>
**Sent:** Tuesday, October 15, 2024 3:19 PM
**To:** DPW Recycling Web Site Email
**Cc:** Martin, AnnMarie
**Subject:** Re: Comment on Sullivan County Draft - Local Solid Waste Management Exxon Mobil at the crossroads

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

As a last hurrah comment, I am forwarding this documentary on Exxon Mobil's after the fact attempt to address and correct the horrendous plastic glut their company's practices have caused. I am sending this so that those who are interested might appreciate the magnitude of the pollution burning this amount of plastic will cause. https://www.youtube.com/watch?v=uq-1E6D2b4w Please watch and consider carefully NO Trash Incinerator in Sullivan County or anywhere else.

I ask the Clerk to the Legislature, AnnMarie Martin, to please copy this email and the attachment, to all Legislators, the County Manager Josh Potosek, SCDPW Commissioner Ed McAndrew, Public Health Services Director Karen Holden, Public Safety Commissioner Scott Schulte, Planning & Community Development Commissioner Heather Brown, the Office of Management & Budget (incinerators cost millions to build, sticking taxpayers with egregious expense), and to all other County Officials who might be involved or want to have input on this matter. I ask you all to please heed the wishes of the people of Sullivan County to keep our home a clean, healthy and beautiful place to live. Thank you, Star D. Hesse Narrowsburg

**Thelman, Kassie L.**

**From:** Rebekah Creshkoff <beyondplasticssullivancounty@gmail.com>
**Sent:** Tuesday, October 15, 2024 2:49 PM
**To:** Thelman, Kassie L.
**Cc:** Mark Witkowski
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

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The following petition was posted online on September 18, and has received 816 signatures to date. In addition, another 135+ people have signed the petition in hard copy. A total of >950 signatures have been gathered so far, and more signatures continue to be added to the petition in both formats.

## To: The Sullivan County (NY) Legislature

We, the undersigned, call on the Sullivan County Legislature to cancel plans for a feasibility study for a "waste-to-energy" facility—in other words, a trash incinerator that:

THREATEN HUMAN HEALTH AND THE ENVIRONMENT
Waste incinerators are major emitters of pollutants, including toxic “forever chemicals,” such as PFAS, that cause a host of diseases, including cancers, heart disease, and reproductive disorders, among many others—particularly in low-income neighborhoods and communities of color, where these facilities are disproportionately sited. Per unit of energy, incinerators discharge more air pollution than coal plants and more greenhouse gases than any other power source.

ARE EXPENSIVE TO BUILD AND OPERATE
New incinerators in developed countries cost between $150 million and $670 million, and taxpayers wind up footing the bill. Contracts invariably require municipalities to provide a certain amount of waste each year, leading to a need to import trash. The city's costly incinerator is the primary reason Detroit went bankrupt.

DO NOT SOLVE THE WASTE PROBLEM
“Waste to energy” facilities transform waste into more toxic, concentrated forms; waste doesn’t disappear. Contaminated ash, wastewater sludge, and filters that capture harmful emissions must be disposed of in expensive landfills certified to handle hazardous waste.

DO NOT GENERATE MUCH ENERGY
Incinerators must burn huge amounts of waste to recover even small amounts of fuel, making them the most inefficient and polluting method to generate electricity.
Gas, coal, and nuclear facilities all generate more energy.

DAMAGE THE ECONOMY
In 2022, visitors and second-home owners contributed nearly $900 million to Sullivan County's economy, generating almost $48 million in local taxes and letting Sullivan County households save $3,370 in taxes, on average. A waste-to-energy incinerator would likely cause air and water pollution, noise, and smells—and erode tourism, tax revenues, and property values.

Bottom line: So-called waste-to-energy incinerators come with inherent pollution and health risks, and are financially unfeasible.

SULLIVAN COUNTY DESERVES BETTER
We, the undersigned residents and workers of Sullivan and neighboring counties, ask the Legislature to protect our future, our health, our environment, and our economy, and reject proposals like so-called waste-to-energy facilities that threaten us all. We instead call on the Legislature to move to real, economical solutions based on mitigation, diversion, and waste-reduction strategies.

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**Rebekah Creshkoff**
Beyond Plastics Sullivan County NY

One million plastic bottles were sold worldwide in the time it took you to read this message. We need to reduce plastic production **now.**

**Thelman, Kassie L.**

**From:** Bill Cutler <billcutler2@icloud.com>
**Sent:** Tuesday, October 15, 2024 3:42 PM
**To:** Witkowski, Mark A; DPW Recycling Web Site Email
**Subject:** Public Comments for Draft SWMP

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Mark and Kassie: Whew! I almost forgot to send these comments in; nothing too elaborate, just a few clarifications from the (lengthy) Draft SWMP text! Cornerstone should be able to address these easily.

Sullivan Co. Draft 2024-2033 SWMP Public Comments, 15 October 2024:

New York State has prioritized six sustainable materials management focus areas for Planning Unit (PU) consideration over end disposal of solid waste (burial or combustion) in the State's current (2023) Solid Waste Management Plan (SWMP). Waste reduction, reuse, recycling, and composting top this list. This 11 chapter Draft Sullivan County SWMP identifies a 2020 population of 78,624, exporting 83,075.8 tons of waste (2021 data) at an annual cost of some $16 million for disposal. Sullivan County has been without a NYSDEC-approved SWMP since 2010.

Tipping fees paid by users of the County SWM system fund operations ("PAYT") in lieu of taxes. Historically, Sullivan Co. managed to hold property taxes in check by importing revenue-generating solid waste from neighboring PUs for disposal in its once-active landfill. The County maximized its NYSDEC-permitted waste tonnage limits to accomplish this and its landfill reached capacity prior to its design lifespan. Baring an attempt to expand future local landfill operations, a waste export model was developed to ship trash and recyclables out of the PU for disposal. Thus, significant resources have been utilized over decades to find a "home" for the County's unwanted materials. As predicted in this Draft (e-page 23 of 470, print page 3-7), waste quantities and disposal costs will climb without a significant investment in waste reduction initiatives indicated by New York State.

Housekeeping Comments:

This Draft technically addresses PU formatting requirements set forth by the NYS SWM Planning initiative. It is however lengthy, at times confusing to the user and lean on planning elements, data and solutions. For instance, a good summary table of waste and recycling data for 2021 is presented in Chapter 4 (e-page 37 of 470, print page 4-13,14). However, data for SWMP-absent years 2011-2020, 2022 and 2023 are not presented. These would be especially useful during required Biennial Plan Updates, where better solutions to ever-growing waste quantities will require additional attention. These data were previously submitted to NYSDEC via required annual facility reports and should be available via the County's SWM software program WasteWorks. Incorporate these data into the final Plan.

Additionally, on e-page 25 of 470 (print page 4-1) and e-page 58 of 470 (print page 5-5) reference is made to the County managing two closed, capped landfills. In fact, Sullivan Co. manages three closed landfills, including the former Village of Monticello site at 91 Landfill Drive, Monticello. The VOM site was previously identified as a possible Organics Facility location.

The Export Facility at Monticello Transfer Station is presently operated by contracted IESI employees. Sullivan County does not have a compliance or "gatekeeper" function present at this facility in real

time, so ‘rejection’ of costly restricted materials like scrap metal or other recyclables is unlikely on the tip floor, especially during busy times. Likewise, daily County Staff load inspections of both solid waste (to check for unauthorized materials such as scrap metal, hazardous materials and recyclables in waste loads) and single stream (unacceptable materials; solid waste present in loads of recyclables) should be performed, with documentation provided for biennial Plan updates. Compliance and verification are useful.

Technology Selection/Feasibility Studies (e-pages 94-95 of 470), including Privatization, Combustion and reviews of existing operations may prove controversial. What methods of communication will the Plan utilize, to engage a skeptical public that sustainable, cost-effective and safe options are being evaluated for consideration by the County?

In closing, this Plan should prioritize sustainable NYS materials management goals first, and well ahead of landfilling or combustion considerations. Proactive additions to County staffing, reinvestment of funds to improve recycling facilities, timely construction and use of a Countywide organics processing facility, routine transfer station safety and efficiency inspections, and additional Plan compliance efforts should reach far toward future evaluations to be made in the 2033 SWMP.

Respectfully submitted,

Bill Cutler,

Sullivan County Recycling Coordinator, Retired.

Sent from my iPad

**Thelman, Kassie L.**

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**From:** Randi Halpern <randihalpern@gmail.com>
**Sent:** Tuesday, October 15, 2024 3:51 PM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Sullivan County,
I Say NO to the Proposed Sullivan County Incinerator.
Since incinerators have been known to release toxic air and water pollutants, like dioxins, PFAS, and mercury, that poison surrounding communities and the entire planet, and generate hazardous waste in the form of toxic ash, why would we consider implementing this in our county?

An incinerator would threaten our health, our environment and our economy.This does not seem to be in our best interest for the health of people and the planet. There has got to be a safer way.
Sincerely,
Randi Halpern

Interior Design & Development
917.921.5745
randihalpern.com
NCIDQ . IDEC . ASID

**Thelman, Kassie L.**

**From:** Amy Yoes <ayoes@saic.edu>
**Sent:** Tuesday, October 15, 2024 4:32 PM
**To:** DPW Recycling Web Site Email

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I don't want an incinerator in our region! This is a terrible idea!
Thanks for listening to me.
Amy Yoes
Narrowsburg NY

## Thelman, Kassie L.

**From:** Taylor Jaffe <taylor@catskillmountainkeeper.org>
**Sent:** Tuesday, October 15, 2024 5:12 PM
**To:** DPW Recycling Web Site Email
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan
**Attachments:** Catskill Mountainkeeper Comment on Sullivan County's Draft Local Solid Waste Management Plan.pdf

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello,

We hope this email finds you well. Attached please find Catskill Mountainkeeper and New York Lawyers for the Public Interest's joint comments re: Sullivan County's Draft Local Solid Waste Management Plan.

Please either reach out to myself, Taylor Jaffe (taylor@catskillmountainkeeper.org) or Wes Gillingham (wes@catskillmountainkeeper.org), with any questions or concerns, and thank you for this opportunity to submit our comments.

All the best,
Taylor Jaffe

--

**Taylor Jaffe**, she/her
Environmental Justice Coordinator
Catskill Mountainkeeper
taylor@catskillmountainkeeper.org
(646) 841-2523

*Help Catskill Mountainkeeper protect wild lands, empower communities and free New York from dangerous fossil fuels. Donate today.*

October 15, 2024

**TO: Mark Witkowski,** SCDPW Deputy Commissioner

From: Catskill Mountainkeeper, New York Lawyers for the Public Interest
Re: Comment on Sullivan County's Draft Local Solid Waste Management Plan

Dear Deputy Commissioner Witkowski,

Thank you for this opportunity to submit comments related to Sullivan County's Draft Local Solid Waste Management Plan. Catskill Mountainkeeper is a nationally recognized advocate for the Catskill Region. Working with a diverse network of more than 25,000 concerned citizens and strategic partners, Mountainkeeper protects our region's forests and wild lands; safeguards air and water; nurtures healthy, equitable, and sustainable communities; empowers environmental justice communities; and accelerates the transition to a 100% clean and just energy future in New York State and beyond. We submit the following comments on behalf of the communities and citizens we represent, in collaboration with New York Lawyers for the Public Interest.

New York State is uniquely positioned to be a nation-wide leader on climate and climate justice, and Sullivan County stands to capitalize on this by driving needed benefits to local communities via transitioning from an extractive to a circular economy. In 2019, New York State passed the historic Climate Leadership and Community Protection Act (the Climate Act, or CLCPA), setting mandates to slash greenhouse gas emissions by 2050, creating a framework to begin implementing a Just Transition across the state, and providing that at least 35% of the benefits of climate spending are directed to New York State identified disadvantaged communities (DACs). Following the Climate Act, New Yorkers also voted in 2022 to approve the New York State Environmental Bond Act, or Green Amendment, enshrining every New Yorker's right to clean air, clean water, and a healthful environment within the NYS Constitution. Across the state and across our communities, New Yorker's are aware of the threats of the climate crisis, and fatigued by a business-as-usual approach that sacrifices community well-being for corporate profit via an extractive economy. In these comments, **we urge the county to develop a circular, regional approach towards its management of solid waste that aligns with the Climate Act, protects Sullivan County's disadvantaged communities, and protects and enhances residents' rights under the new Green Amendment.**

**Comment Re. Sullivan County Local Solid Waste Management Plan and CLCPA Compliance**

To comply with the New York State Solid Waste Management Plan (NYS SWMP), Sullivan County's Local Solid Waste Management Plan (LSWMP) must incorporate the requirements of the Climate Leadership and Community Protection Act (CLCPA).

Among its provisions, the CLCPA requires New York State agencies, including the New York State Department of Environmental Conservation (NYSDEC) to reduce greenhouse gas (GHG) emissions and halt disproportionate burdens on historically Disadvantaged Communities (DACs) while redistributing benefits. Under the CLCPA, state agencies must conduct CLCPA assessments to ensure alignment with state climate goals. Recent litigation in key cases reinforces NYSDEC's responsibility to substantively evaluate GHG emissions and other impacts on disadvantaged communities when issuing permits or making regulatory decisions.[1]

The NYS SWMP was created to guide the state's actions over the next decade to reduce waste and advance New York's transition to a circular economy. Within its stated goals to promote this transition, Goal 6.5 aims to minimize GHG emissions from solid waste management facilities. It requires NYSDEC to "implement policies, procedures, and regulatory revisions to apply the CLCPA evaluation requirements to [solid waste manufacturing facilities] permitting activities" and to "[i]nvestigate mitigation methods at landfills that would reduce the impact on CLCPA goals, including identification of methane-generating wastes and pre-processing to reduce potential for GHG emissions or redirection of those wastes to alternative facilities (e.g., organics composting, Municipal Solid Waste (MSW) composting, anaerobic digestion, etc.) where GHG emissions are reduced." Within New York's municipalities, LSWMPs are developed to reflect the specific characteristics and needs of each community that are consistent with the state-wide interest in overall waste reduction. Each LSWMP must be reviewed and accepted by NYSDEC before implementation. However, despite NYSDEC's crucial role in approving both facility permits and municipal LSWMPs, only 39 of the 69 local planning units have NYSDEC approved LSWMPs. Additionally, of the approved LSWMPs revised since the CLCPA's implementation, no approved plan is fully compliant with CLCPA § 7(2) and 7(3).

To comply with the CLCPA and New York State SWMP, Sullivan County's LSWMP must explicitly integrate CLCPA requirements. At a minimum, proper CLCPA assessment should assess GHG emissions and the impacted DACs' burdens and benefits.

**1. New York State Solid Waste Management**[2]

The New York State Solid Waste Management Plan, created to reduce waste and build up New York's circular economy, takes a statewide view of solid waste management practices. The SWMP directs New York State's waste reduction, reuse, recycling, collection, transportation, and disposal investments, policy, and practices.[3] The SWMP is designed to move New York State to an 85% total waste stream recycling rate by 2050.[4]

**2. Local Solid Waste Management Plans**

While the New York State Solid Waste Management directs state-wide initiatives, it affords municipal local planning units the responsibility of crafting self-sufficient plans to manage the remaining waste streams.[5] However, by 2010, nearly 70% of the local planning units had either expired LSWMPs or had never achieved an approved LSWMP.[6] Although the approval program has been restructured and the number of approved LSWMPs has increased, by May 2024, only 39 planning units out of 69 planning

units have NYSDEC approved Local State Management Plans. This means roughly only 56% of jurisdictions have a NYSDEC-approved LSWMP.[7]

LSWMPs are required to have a 10-year planning period and have updates submitted and approved by DEC every two years.[8] Every LSWMP must have evaluation by the local government and the implementation of programs that promote waste prevention and reuse of materials, education and outreach, volume-based pricing structures, recovery of organics, and other materials, enforcement, and other initiatives.[9] Moreover, the planning units must include a description of the solid waste management facilities and programs, including facility size, location, capacity, and type of waste generation.[10] The LSWMP must also demonstrate consistency with New York State's Solid Waste Management Plan for both new permits and renewals.

### 3. CLCPA Overview

The CLCPA was created to promote New York State's reduction of statewide GHG emissions by eighty-five percent by 2050 and net-zero emissions in all sectors of the economy and prevent further environmental injustices.[11] To accomplish this goal, the act creates the Climate Action Council, GHG emissions limits and reporting requirements, provisions to address potential impacts on disadvantaged communities, and establishes renewable energy programs.[12]

### 4. 2022 Scoping Plan

The Climate Action Council published the 2022 Scoping Plan which addresses every economic sector with a customized plan for reducing each sector's emissions. The Plan recommends actions to achieve a 40% economywide reduction in GHG emissions by 2030 and 85% by 2050.[13] The Plan prioritizes Disadvantaged Communities and the creation of jobs for New Yorkers. The Plan advocates for the investment of over $35 billion for large-scale renewable and transmission projects, $6.8 billion to reduce building emissions, $1.8 billion to scale up solar, more than $1 billion for clean transportation initiatives, and over $1.6 billion in NY Green Bank commitments.

The Scoping Plan fundamentally recognizes that "reducing waste volumes will also reduce the need for transfer facilities and will reduce truck traffic from transportation of waste that can impact Disadvantaged Communities."[14] The Plan explicitly opposes the expansion or permitting of new disposal facilities and notes that :

> The strategies in this theme recognize that combustion and landfilling of some components of the waste stream will continue beyond 2050, although the amount of material disposed will be dramatically reduced, and ultimately facilities needed for disposal will be few. **No new solid waste combustion facilities are envisioned**, but the existing combustors, held to high environmental performance standards pursuant to 6 NYCRR Part 251's case-specific limits, may be needed to handle waste that cannot otherwise be reused, reduced, or recycled (residual waste).[15]

The Scoping Plan further notes that waste combustion facility permits must comply with the CLCPA:

> [T]he Climate Leadership and Community Protection Act (CLCPA) Chapter 106 of the Laws mandates that New York State agencies, including New York State's Department of Environmental Conservation ("NYSDEC"), develop and implement strategies that lower greenhouse gas emissions and other co-pollutants.[16] Under CLCPA, codified at Article 75 of the Environmental Conservation Law:

The Climate Action Council, co-chaired by the NYSDEC, oversees statewide waste emissions regulations and local waste plan oversight. These dual responsibilities provide evidence that the CLCPA applies to local solid waste management plans, and that NYSDEC retains authority to regulate their implementation (see Action Item 6.5.4 of NY State Solid Waste Plan).

**5. Local Plans Must Align with State Plan and the CLCPA**

Pursuant to § 27-0107, a planning unit "may" create a local solid waste management plan for at least each decade, suggesting discretion in plan development.[17] However, each LSWMP must "take into account, and as appropriate, incorporate the goals and objectives of the current State solid waste management plan."[18]

The New York Solid Waste Management Plan from December 2023 highlights that waste significantly contributes to GHG emissions. Consequently, the CLCPA directs NYSDEC to establish GHG emission limits, aiming for a 40% reduction from 1990 levels by 2030 and an 85% reduction by 2050.[19] Additionally, New York State's SWMP includes Action Item 6.5.4, which mirrors the requirements of CLCPA § 7(2). This action item requires that policies, procedures, and regulatory revisions apply the CLCPA evaluation requirements to SWMP permitting activities. This includes identifying methane-generating waste, pre-processing waste for GHG redirection, and diverting waste to alternative facilities.[20] NYSDEC is responsible for implementation.

Once developed, the plans must address several mandatory duties including:

- Characterizing the solid waste stream including waste diversion tactics.
- Assessing existing waste management programs; discuss proposed alternatives
- Addressing "to the maximum extent practicable" comments governing public interest.[21]
- Identifying implementation responsibilities
- Setting implementation times
- Summarizing written suggestions received from neighboring districts, measures taken to secure participating neighboring districts, limitations of proposed alternatives, and any alternatives that would be available.

Due to Part 360 revisions, NYSDEC now reviews, approves, and funds local solid waste management plans. These plans require planning units to incorporate the state solid waste management plan objectives. The plans span a 10 year period, must incorporate the state plan objectives, and must be updated every two years. [22] Failure to incorporate state plan objectives should result in permit denial.[23] The LSWMP assesses various types of facilities in its jurisdiction including exempt facilities, registered facilities, and permitted facilities (SEQRA and UPA apply). Every other year planning units submit the

"required elements" to NYSDEC for approval including updated summary reports, updated solid waste and recyclable data, and any significant updates to the implementation schedule.[24]

Under the CLCPA § 7(2), NYSDEC must determine whether permits, licenses, grants, or contracts align with statewide GHG emission limits and provide justifications and mitigation measures if they do not. Although the CLCPA does not specifically reference LSWMPs, the statutory language is clear that *agencies* must consider consistency with GHG emission targets in their decision-making. As a state agency, NYSDEC must evaluate proposed plans and approve activities based on CLCPA standards, allowing NYSDEC to guide municipalities in achieving their solid waste management goals.

According to NYSDEC's Program Policy guidance issued May 8, 2024, §7(3) of the CLCPA must be considered when making a final decision on a permit application.[25] NYSDEC's LSWMP processes depend on the presence of a DAC within the planning unit's jurisdiction. NYSDEC may conduct preliminary screenings, require disproportionate burden analyses, incorporate enhanced public participation, and guide applicants in analyzing and reducing such burdens.[26] Where disproportionate burdens or disadvantaged communities are identified, applicants must propose enforceable project design measures to quantifiably reduce GHG and co-pollutant emissions.[27] The NYSDEC's policy guidance applies to any waste facility permit applications that involve sources and activities resulting in direct or indirect GHG, or co-pollutant emissions pursuant to Article 75.[28]

While such policy guidance requires GHG accounting and the assessment of possible DACs, the NYSDEC's most recent (2023) Emission Statement's Instructions documents for waste facilities does not mention the CLCPA. Rather, it requires compliance with the Federal Clean Air Act, and Section 72-0303 of the Environmental Conservation Law, along with 6 NYCRR Subpart 202-2 "Emissions Statements."

**6. Sullivan County's LSWMP Must Comply with the CLCPA**

Although there are ten CLCPA-designated DACs within Sullivan County, the draft LSWMP makes only one token reference to DACs.[29] Moreover, this reference is only made within Chapter 5.2.22 Planning Initiatives: Bicycle and Pedestrian Infrastructure Master Plan—a section that is not at all comprehensive or emblematic of the overall LSWMP as required by the CLCPA. There is no mention of the CLCPA at all within the 470-page document. Although there is a section dedicated to Local Environmental Justice, it only acknowledges that "three of the six County transfer stations are located within environmental justice communities" without actually advocating for any additional protections or changes.[30]

***Waste to Energy Facility***

The Sullivan County LSWMP dedicates a section of its plan to describing the decision to build a new incinerator to dispose of waste. Within the plan, there is a section dedicated to "environmental justice and other impacts," in which it mentions that an evaluation of the environmental justice impacts must be performed" in accordance with the regulatory guidance for the preparation of the LSWMP."[31] However, there is no explanation of what will be included in this assessment.

The LSWMP further notes that the incineration "process produces emissions that require proper treatment and management," and that incinerators face a "high level of public opposition due to air

pollution concerns" but does not detail the projected amounts of emissions, the proper treatment and management practices, and the threats this pollution poses.[32] Incineration produces carbon dioxide and other harmful co-pollutants (N2O, NOx, NH3, and organic C).[33]

While marketed as creating energy (including in Sullivan's LSWMP), these incinerators produce very little energy. Incinerators emit more GHG per unit of electricity produced than any other power source, and also emit more air pollutants than natural gas.[34]

Additionally, incinerators only have a lifespan of about 31 years, which means most in operation today are coming to the end of their lifespans. **Therefore, to avoid undermining the state's 2050 GHG emissions targets, no new incinerators, waste to energy plants, or combustion units should be permitted.**

The placement of incinerators and other waste processing facilities in environmental justice communities is a product of historical residential racial segregation and expulsive zoning laws, which allowed wealthier, predominantly white communities to push industrial infrastructure to neighborhoods concentrated with lower income people of color. The result has been the creation of waste processing hot spots, where one facility's presence can set a precedent for concentrating additional waste-related facilities in the area, often leading to depressed land values and further environmental injustices.[35]

**Conclusion**

The Environmental Conservation Law Article 75 mandates the preparation of local solid waste management plans and a statewide solid waste management plan. Once developed, the plans must address several mandatory duties and incorporate the state plan objectives.

**Since Sullivan County must develop its LSWMP consistent with New York state's SWMP objectives and goals, it must integrate CLCPA objectives into the LSWMP's objectives, goals, and implementation methods.**

The CLCPA's 2022 Scoping Plan outlines five broad goals for waste management:

1. **Reduce Waste Generation:** encourage waste reduction through education, incentives, and regulations.
2. **Increase Recycling and Organics Recycling:** enhance recycling infrastructure and programs, especially for organic waste.
3. **Combustion and Landfilling:** improve waste-to-energy processes and landfill management to minimize emissions.
4. **Promote Extended Producer Responsibility:** hold producers accountable for the lifecycle of their products.
5. **Support Markets for Recycled Materials:** Develop and sustain markets for recycled products to ensure economic viability.

The recommendations below, in addition to meeting the CLCPA 7(2) and 7(3) mandates and analysis, suggest how Sullivan County's LSWMP could be revised to be CLCPA compliant:

1. **Reduce Waste Generation and Emissions**
    a. Education and Outreach: Implement comprehensive educational programs to promote waste reduction at the source, targeting both residents and businesses.
    b. Incentives and Regulatory Measures: Create incentives for waste reduction practices, such as rewarding businesses that achieve significant waste reduction targets. Implement a pay-as-you throw model that institutes usage pricing rather than tipping fees for MSW.
    c. Regulatory Measures: Introduce regulations that require waste producers to minimize waste generation, such as packaging reduction mandates and single-use plastic bans. Independently contracted trucking / transportation arrangements must be included in CLCPA 7(2) and 7(3) implementation decisions.
    d. Pursue Alternative Strategies: Pursue alternative strategies, such as anaerobic digestions, within a framework of reducing air and water contamination from waste management and preventing emissions of carbon dioxide and methane.
2. **Increase Recycling and Organics Recycling**
    a. Enhance Recycling Infrastructure: Invest in and upgrade recycling facilities to increase their capacity and efficiency. Expand curbside recycling programs to include a wider range of recyclable materials.
    b. Organics Recycling Programs: Develop and enhance city-wide composting programs for food and yard waste. Support the establishment of local composting sites to handle organic waste (such as on public park lands). Develop incentives for food supply chain recycling. Over 35% of residential waste for 2023 was organic material.
3. **Eliminate Waste-to-Energy**
    a. Cumulative Impacts: While the scoping plan acknowledges some components of combustion will continue beyond 2050, existing combustors must consider cumulative impacts to avoid burdening existing DACs in all aspects of waste management. Additionally, the county must rule out approaches that generate concentrated waste that is highly toxic.
    b. Combustion: To comply with the CLCPA, Sullivan County and waste operators should remove any “put or play” clauses from existing contracts.
    c. Landfill Management: Implement best practices in landfill management to minimize methane emissions, such as improved landfill gas capture systems. Utilize a regionalized approach, such as GUS (Section 6.5 GUS Feasibility Study) to offer increased options for siting a regional landfill and additional recycling and composting facilities, rather than creating a so-called “waste to energy” facility.
4. **Enhance Producer Responsibility**
    a. Extended Producer Responsibility Programs: Develop and enforce EPR regulations requiring producers to take responsibility for their products' end-of-life practices. Collaborate with manufacturers to design products that are easier to recycle or reuse.
    b. Product Redesign: Encourage manufacturers to modify products or services so less toxic and / or less difficult to recycle materials are included.

c. Original Producer Responsibility Programs: Develop and enforce regulations requiring producers cease production of all toxins, hazardous wastes, or radioactive materials, including PFAFs.

5. **Support Markets for Recycled Materials**
    a. Invest in research and development to identify new uses for recycled materials and support the creation of a robust market. Provide incentives for businesses that use recycled materials in their production processes.
    b. Strategic Use of Biogas: Promote the use of biogas captured from landfills and anaerobic digestion facilities for local energy needs. Support the development of infrastructure to utilize biogas in fuel cells and other non-combustion applications.
    c. Funding and Support for Infrastructure: Allocate funding to develop and improve organics recycling infrastructure, including composting sites and anaerobic digestion facilities. Explore innovative energy pricing models to support biogas and renewable natural gas (RNG) production.
    d. Research and Monitoring: Conduct comprehensive studies on landfill gas and wastewater emissions to better understand and mitigate their impact, including a feasibility study of conducting a local landfill, with and without regionalized input of materials (re: Section 7.9.1). Develop robust systems for monitoring waste management practices and their environmental impact, ensuring continuous improvement.
    e. Equitable Investment: Ensure that at least 35%, with a goal of 40%, of investments from the cap-and-invest proceeds benefit disadvantaged communities. Engage with DACs to identify their specific needs and incorporate their feedback into the LSWMP. Advance community benefits agreements to ensure future development does not displace local residents.
    f. Pollution Prevention: Implement measures to prevent the concentration of pollution in disadvantaged communities, ensuring fair distribution of environmental benefits and burdens. Additionally, any site consideration for waste management purposes should have geology, hydrology, and geography that allow separation of environmental, human, and social impacts from sensitive and/or disadvantaged communities.

Thank you for considering our comments. Please don't hesitate to reach out with any questions to wes@catskillmountainkeeper.org or 845-693-5110.

Sincerely,

Wes Gillingham, Associate Director
Catskill Mountainkeeper

[1] *See Danskammer Energy, LLC v. New York State Dept. of Envtl. Conservation*, 76 Misc. 3d 196 (2022) and *Matter of Clean Air Coalition of W. N.Y., Inc., v. New York State Pub. Serv. Commn.*, 226 A.D.3d 108, 207 N.Y.S.3d 221 (2024)

[2] "New York State Solid Waste Management Plan: Building the Circular Economy through Sustainable Materials Management," *New York State Department of Environmental Conservation*, (Dec 2023): 1, https://dec.ny.gov/sites/default/files/2024-05/finalsswmp20232.pdf.

[3] *Id.* at 1.

[4] *Id.*

[5] *Id.* at Appendix B.

[6] *Id.*

[7] *Id.* at Appendix E.

[8] *Id.* at Appendix B.

[9] *Id.*

[10] N.Y. Comp. Codes R. & Regs. Tit. 6 § 366-2.3 Existing solid waste management system. https://www.law.cornell.edu/regulations/new-york/6-NYCRR-366-2.3.

[11] "Senate Bill S6599: Relates to the New York State CLCPA," *New York State Senate*, (2019-2020), https://www.nysenate.gov/legislation/bills/2019/S6599.

[12] *Id.*

[13] "Scoping Plan: Full Report," *New York State Climate Action Council*, (Dec 2022): 1, https://climate.ny.gov/resources/scoping-plan/.

[14]"*Id.* at 323.

[15] *Id.*

[16] "Consider Whether Agency Decisions are Inconsistent with Goal of Achieving GHG Limits," *Columbia Law School & Columbia Climate School Sabin Center for Climate Change*, https://climate.law.columbia.edu/content/consider-whether-agency-decisions-are-inconsistent-goal-achieving-ghg-limits#:~:text=CLCPA%20%C2%A7%207%20(2)%3A,are%20inconsistent%20with%20or%20will

[17] N.Y. Envtl. Conserv. Law § 27-0107(a)

[18] NYCRR 366-1.1

[19] NY State SWMP pg 23

[20] "New York State Solid Waste Management Plan: Building the Circular Economy through Sustainable Materials Management," *New York State Department of Environmental Conservation*, (Dec 2023): 55, https://dec.ny.gov/sites/default/files/2024-05/finalsswmp20232.pdf.

[21] NY CLS ECL § 27-0107(b)(iii)

[22] NY state waste plan appendix B6; 6 NYCRR Part 366-5.1

[23] *Id.* § 78.11 Establishing Solid and Hazardous Waste Joint Planning Units

[24] *Id.* § 366-5.1(b)

[25] DEP 24-1 - Permitting and Disadvantaged Communities (ny.gov) p. 6

[26] *Id.*

[27] https://dec.ny.gov/sites/default/files/2024-05/prgrmpolicy24dash1.pdf p 3

[28] *Id.*

[29] "Sullivan County: Local Solid Waste Management Plan: Final Draft for Public Comment," *Sullivan New York County Catskills*, (Jul 2024): 63. https://www.sullivanny.us/Departments/SolidWasteRecycling.

[30] *Id.* at 64.

[31] *Id.* at 95.

[32] *Id.* at 86

[33] *Id.*

[34] Johnke, Hoppaus, Lee, et. al., *Emissions from Waste Incineration*, Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories (1999), https://www.ipcc-nggip.iges.or.jp/public/gp/bgp/5_3_Waste_Incineration.pdf

[35] *See, e.g.,* Younes, Kofman, Shaw, and Song, *Poison in the Air*, Pro Publica ( Nov. 2, 2021), https://www.propublica.org/article/toxmap-poison-in-the-air

## Thelman, Kassie L.

**From:** Jessica Roff <jessica@no-burn.org>
**Sent:** Tuesday, October 15, 2024 9:25 PM
**To:** DPW Recycling Web Site Email
**Cc:** Martin, AnnMarie
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan
**Attachments:** Draft Local Solid Waste Management Plan Comments JRoff for GAIA.pdf

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Mark and AnneMarie,
Attached please find comments on Sullivan Country's Draft Local Solid Waste Management Plan from the Global Alliance for Incinerator Alternatives (GAIA). AnneMarie, I ask that you please forward this to all of the county legislators.

Thank you,
Jessica

---

**Jessica Roff**
she/her
Plastics & Petrochemicals Program Manager - US/Canada
GAIA (Global Alliance for Incinerator Alternatives)
On occupied Lenape / Munsee / Canarsie lands (so-called Brooklyn)

**Sign up for our regional newsletter and follow GAIA US/Canada on Twitter, Facebook, and Instagram!**

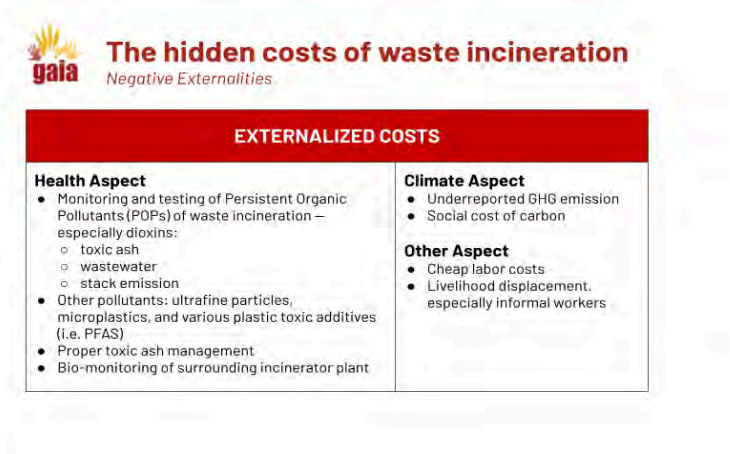
October 15, 2024

To: Mark Witkowski, SCDPW Deputy Commissioner
From: Global Alliance for Incinerator Alternatives (GAIA)

The Global Alliance for Incinerator Alternatives (GAIA) is a worldwide alliance of more than 1000 grassroots groups, non-governmental organizations, and individuals in 92 countries. GAIA's mission is to catalyze a global shift towards environmental justice by strengthening grassroots social movements that advance solutions to waste and pollution. We envision a just, zero waste world built on respect for ecological limits and community rights, where people are free from the burden of toxic pollution, and resources are sustainably conserved, not burned or dumped.

Sullivan County is in the process of reevaluating its approach to municipal solid waste, looking for alternatives to landfilling in Seneca Meadows. Cornerstone PLLC's Local Solid Waste Management Plan (LSWMP) for the next ten years, recommends pursuing a feasibility study for a so-called "waste-to-energy" facility; a greenwashed name for an incinerator. This path would be a waste OF energy, and a waste of time and money.

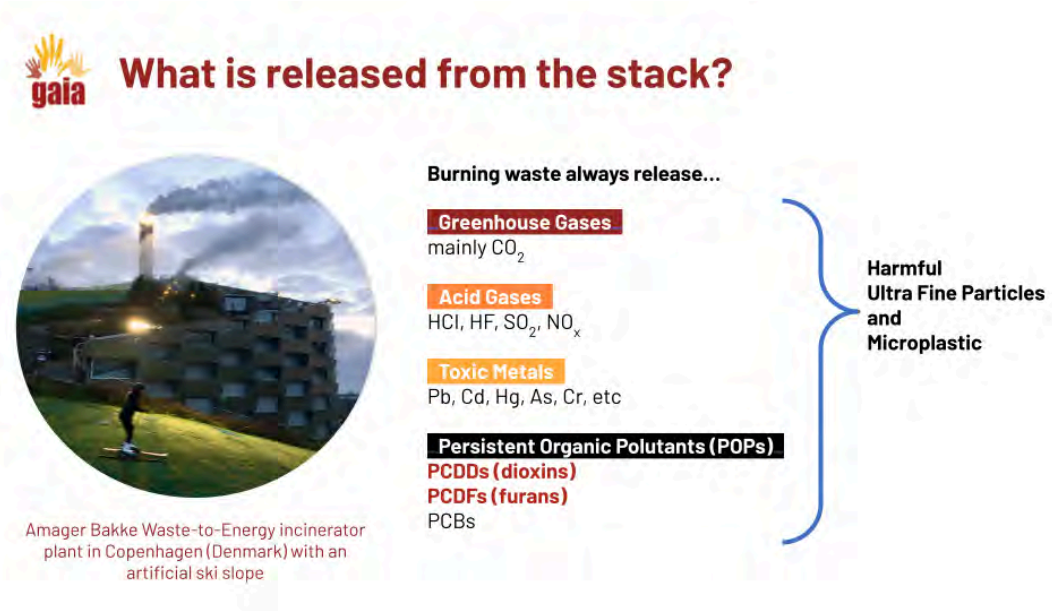
Even under the best of circumstances, so-called waste-to-energy incineration—the most carbon intensive and polluting way to create energy, which also contaminates air, water, and soil with toxic materials—is the wrong direction for future waste management. These, and other, problems will also be exacerbated if the county contracts with Reworld (formerly Covanta), which has a terrible safety record. Over just six years, Reworld has thousands of violations in New Jersey alone, and almost 300 violations at only one of the (then) four incinerators it operates in the state. Reworld currently operates incinerators in 15 states.




GAIA has member organizations fighting these incinerators in many of those states across the country and can connect the Sullivan County legislators with any number of community members and community-based organizations to provide first-hand information about what it means to live in a so-called incinerator "host community." Two of those member organizations—the Ironbound Community Corporation and New Jersey Environmental Justice Alliance—along with Earthjustice

and the Vermont Law School coordinated on "New Jersey's Dirty Secret," a report on how the state's four incinerators (Reworld/Covanta operates three) harm and violate the rights of New Jerseyians, predominantly communities of color and low income communities, and racked up 1,700 air permit violations in 17 years.

Incinerators are major emitters of pollutants, including toxic "forever chemicals," such as PFAS––that cause respiratory disease; cancers; nervous system damage; heart disease; and reproductive problems, including impotence, infertility, miscarriage, and pre-term birth, among many other illnesses and disorders; cancer-causing dioxins and furans; particulate matter; as well as the neurotoxin mercury.[1]

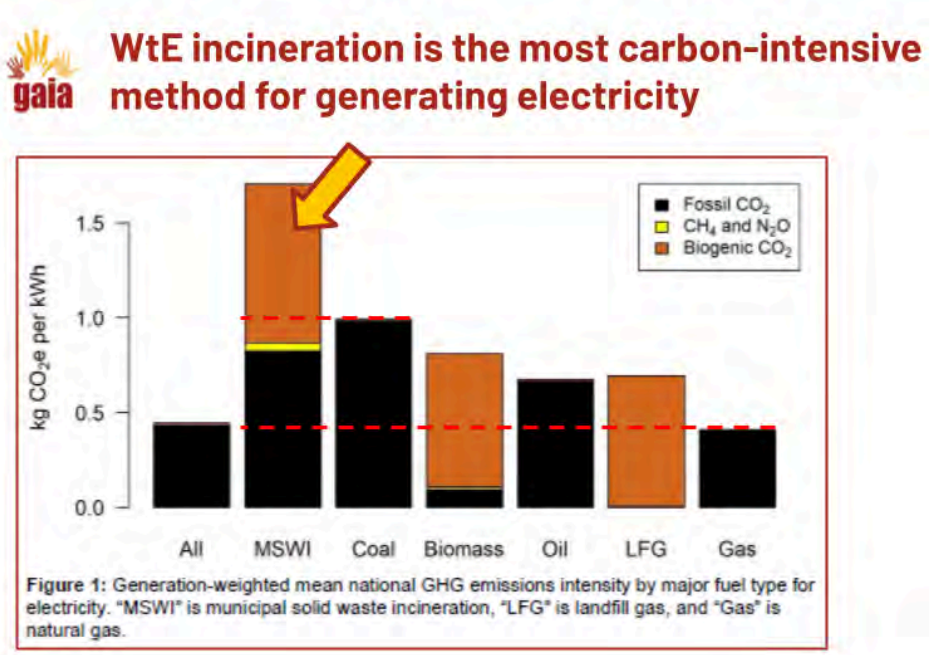



These contaminants are widely spread and cause harms at many levels. GAIA's european group—Zero Waste Europe—has been testing eggs from backyard chickens and is finding the concentrations of toxins in those eggs are greatest nearest to the incinerators and diminish as the distance increases. Most eggs around incinerators exceed the EU action limits for food safety and a high percentage of eggs exceed the safe level for consumption.[2] The French government has advised all residents of the greater Paris area not to eat eggs from chickens in the area. Zero Waste Europe has also undertaken other types of biomonitoring research on incinerator emission including persistent organic compounds (POPs).

Incinerators are also advancing climate change, emitting more CO2 per megawatt -hour than power plants fired with natural gas-, oil-, or coal-fired power plants.[3] And, these facilities undermine clean

[1]https://www.no-burn.org/wp-content/uploads/2021/03/GAIA-Facts-about-WTE-incinerators-Jan2018-1.pdf
[2] https://zerowasteeurope.eu/project/the-true-toxic-toll/
[3]https://www.no-burn.org/wp-content/uploads/2021/03/GAIA-Facts-about-WTE-incinerators-Jan2018-1.pdf

energy goals by diverting annually over $40 million in subsidies from cleaner energy sources.[4] As Catskill Mountainkeeper and New York Lawyers for the Public Interest detailed in their comments, these massive greenhouse gas emissions make incinerators incompatible with New York's climate goals, benchmarks, and timelines as outlined in the Community Leadership and Climate Protection Act. Now is the time to move away from climate change exacerbating technologies, not investing in 30 year infrastructure products that continue to harm the climate.




The oversight and regulatory system as it currently exists to monitor incinerators is insufficient at best, and a real failure at worst. And, much of it depends on self-reporting. Reworld is also currently being sued over the hundreds of violations at their Hempstead, NY, facility and the company's actions to falsify their ash samples for monitoring. And, it is critical to note that ash is one of the places where contaminants are most concentrated[5] in incinerator operations, which then gets trucked through communities, on small rural roads, spreading ash all along the way to the landfill.

More and more reports and studies are coming about about the harmful environmental impacts of incineration. Arnika – Toxics and Waste Programme, IPEN, TFA, CREPD, and CEJAD recently produced a comprehensive report: "Waste Incineration and the Environment," which found that waste incineration, through greenhouse gas emissions, global chemical pollution, biogeochemical flows, and biodiversity loss, contributes to disrupting the Planetary Ecosystem. And the report particularly warns about dioxins and their serious harmful effects on human health including reproductive and immune systems damage, development defects, and cancer among many others; waste incinerators are responsible for almost one fifth of all dioxins released into the EU's air, even

[4]https://www.semanticscholar.org/paper/Waste-Incinerators-Undermine-Clean-Energy-Goals-Tangri/546ef0fcce3c704e2928813158c5705105e566a2
[5] https://www.no-burn.org/wp-content/uploads/Pollution-Health_final-Nov-14-2019.pdf

LSWMP, this report is more than 250 pages long, but the Final Summary contains a wealth of important information that should be read before any decisions to build an incinerator are made.

The report also strongly supports implementing more waste prevention and diversion practices and programs. The alternatives discussed in section 7.11 of the LSWMP are all necessary and urgent programs for the county not only to continue to operate, but to expand, improve, and prioritize for the human, environmental, and economic health and welfare of Sullivan County and the Catskills, as well as the rest of New York State, the country, and the planet. This is true regardless of any other plans that are implemented.

Investing in feasibility studies to implement zero waste systems will bring huge returns to Sullivan County. Systems of non-toxic reuse, refill, redesign for more efficient recycling, composting, waste diversion plans - are the winning investment - they cost less to develop and maintain; create more jobs - clean, safe, and local jobs; invest and keep more money in the local economy and community (and not in the pocket of a multinational corporation). These real solutions are also more effective because they address the upstream root of the problem as opposed to having to battle a never-ending stream of trash.

Incinerators billed as "waste-to-energy" are also the least efficient, most expensive, and most polluting way to produce energy. They are financially viable only because by greenwashing incinerators as energy producers, they are eligible for renewable energy credits in many states, but still only produce .3% of the grid, a rounding error. Producing energy this way costs more per unit of energy than most existing sources of energy production: more than twice as much as natural gas and nearly four times more than solar power and onshore wind energy, and is 25% more expensive than coal.[6] Plus, the waste isn't just turned into energy - it is concentrated and changed into other, mostly more toxic, forms of waste.[7]

The financial implications are vast: there have been proposals for up to a billion dollars for some of the newest incinerators, that will then lock the county into a dangerous and polluting piece of infrastructure for at least the next 30 years. This combined with high hazardous waste landfill tipping fees and the contracts to provide specific amounts of trash to the incinerator (put or pay provisions) essentially incentivize more trash production, which will either become a massive additional annual cost of operation, or require importing more trash on top of Sullivan County's trash, or both.

Cornerstone greatly minimizes the dangers of incinerators for their "host" communities and beyond. The dismissive way the LSWMP cites "air pollution concerns and public opposition" as the primary reason for closures ignores the widely documented science, public health, regulatory, and legal problems with incinerators around the world. This should raise important questions for any

[6]https://www.no-burn.org/wp-content/uploads/2021/11/The-High-Cost-of-Waste-Incineration-March-30.pdf
[7] https://www.no-burn.org/wp-content/uploads/Pollution-Health_final-Nov-14-2019.pdf

elected official concerned with the health and well-being of the communities and the environment they represent and serve, as well as the economic well-being of their municipalities.
GAIA encourages all members of the legislature to watch this webinar (hosted by GAIA, Catskill Mountainkeeper, Beyond Plastics–Sullivan County, and Damascus Citizens for Sustainability) with experts on incineration and Zero Waste and community members from incinerator "host" communities, as well as Sullivan County residents. GAIA is also available to help answer any questions or to provide more resources and connections, both about the problems with incineration, and best practices to implement zero waste systems including non-txoci reuse and refill systems, and composting and other diversion systems. When the legislature has reviewed and evaluated all the materials that have been submitted, it will be clear that the only thing that will come from pursuing even a feasibility study for a "waste-to-energy" incinerator, is a waste of energy, time, money, and resources. An incinerator will just undermine the health, environment, and economy of Sullivan County and be a toxic legacy of a dying industry.

## Thelman, Kassie L.

**From:** Doug Rogers <doug_rogers@outlook.com>
**Sent:** Tuesday, October 15, 2024 10:07 PM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

ITS ADVISES CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Don't do it. We don't want an incinerator. It defies common sense. It's unconstitutional. The solution? Uninvent trash.

Doug Rogers
Long Eddy, NY 12760

Sent from my iPad

**Thelman, Kassie L.**

**From:** Kathy Morawski <godivakathy@yahoo.com>
**Sent:** Tuesday, October 15, 2024 10:09 PM
**To:** DPW Recycling Web Site Email
**Cc:** jessica@no-burn.org
**Subject:** Comment on Sullivan County's Draft Local Solid Waste Management Plan

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Imagine not being able to eat from your own garden or eat local free-range eggs because toxic emissions have contaminated your water, your soil and your health. The toxic emissions from incinerators - forever chemicals, of which there are NO safe levels - have contaminated communities around the world. Why would we want to bring that madness here to Sullivan County?

According to the research and studies on existing incinerators (see link at very end) the proposed incinerator is the most inefficient, most expensive AND the most environmentally toxic option for Sullivan County.

But it simply isn't even a feasible option to consider - because it is illegal!

NY State recently passed the Environmental Bill of Rights, guaranteeing all New York residents the right to clean air, water and a healthy environment. Since protecting environmental rights is now an inalienable right in NY, this simply makes toxic incinerators unconstitutional.
https://earthjustice.org/press/2021/environmental-rights-amendment-passes-in-new-york

In some other communities, residents sort their own recyclables, so the recyclables can then be sold to be reused. What if there were recycling and compost bins set up in every Sullivan County town for its residents? Instead of everyone individually having to drive to the recycling center, a sanitation truck could pick up the towns' separated recycling on a weekly or monthly schedule and then sell the recyclables (instead of paying for mixed recyclables to be mechanically sorted which also creates unusable waste.)

There ARE better ways that are less costly and environmentally sustainable. Let's do what humans do best - being creative and innovative! All our solutions must support and protect nature. It's our duty and inalienable right.

Article in The River Reporter containing many links to multiple reports and studies on incinerators and ideas for sustainable alternatives.
https://riverreporter.com/stories/no-incinerator-for-sullivan,165763?#comments

Kathy Morawski

**Thelman, Kassie L.**

---

**From:** Star Hesse <starhesse@yahoo.com>
**Sent:** Tuesday, October 15, 2024 10:25 PM
**To:** B. Arrindell; DPW Recycling Web Site Email
**Cc:** Jessica Roff
**Subject:** Re: Comment on

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Wow Barbara, you nailed it six ways from Sunday. Really well done! Congratulations. Star

On 10/15/2024 4:50 PM, B. Arrindell wrote:

> from
>
> Barbara Arrindell (Chair and Chief Science Officer of Damascus Citizens for Sustainability)
>
> Please see attached pdf comment

## Thelman, Kassie L.

**From:** Linda 845.439.5433 _ <LReik@outlook.com>
**Sent:** Tuesday, October 15, 2024 11:47 PM
**To:** DPW Recycling Web Site Email
**Cc:** Martin, AnnMarie; Thelman, Kassie L.; Linda 845.439.5433 _
**Subject:** Disadvantaged Community, Statewide Environmental Burden and Population Vulnerability comparisons.
**Attachments:** Disadvantaged Community, Statewide Environmental Burden, and Population Vulnerability_ 2024.10.15.pdf

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello,
This email has a pdf file attached.
It is from Linda Reik, Town of Callicoon.
LReik@outlook.com
Thank you!
Linda
Mobile phone 201-251-7574

To: Mark Witkowski, SCDPW Deputy Commissioner,

From: Linda Reik (LReik@outlook.com), Town of Callicoon

New York State's 2019 nation-leading climate agenda is the most aggressive climate and clean energy initiative in the nation. The New York Climate Act will build on its progress and reduce greenhouse gas emissions by 85 percent from 1990 levels by 2050, *while ensuring that at least 35 percent, with a goal of 40 percent, of the benefits of clean energy investments are directed to disadvantaged communities.*

New York's Climate Justice Working Group is ongoing and consists of representatives from 8 environmental justice groups from across the state and New York state agency representatives. Draft criteria of 11 identifying factors of disadvantaged communities were allowed public review. Disadvantaged communities are not scored on individual indicators but a combination of all of them as determined by the Climate Justice Working Group. Disadvantaged Communities Criteria - New York's Climate Leadership & Community Protection Act (ny.gov)

(Ctrl+Click)

The notion of building a trash incinerator within our County, or joining another county's trash incinerator, is untenable. Burning waste will not make our waste problems disappear. The terminology of "waste-to-energy" by incineration is a fallacy; incineration transforms waste into other forms of waste such as toxic ash, toxic air and polluted water. No siting has been publicaly proposed for an incinerator. Who will be affected by prevailing winds directions? Residents and visitors don't want unknown, toxic, and partially burned substances on their lands. This includes our New York State forests, famous mountains, recreational areas, and bodies of recreational waters. Incineration is NOT acceptable. Our Sullivan County Legislators should be protecting our air, our water bodies, our famous forests, the health of people. For these valuable assets, we depend on our Legislators to demonstrate aggressive climate protections and clean energy initiatives.

An alarming review of tracts designated as Disadvantaged Communities (DAC) comes with numerical calculation of the Environmental Burden there. For example, this tract:

1. Has an Environmental Burden that is 55% higher than Census Tracts statewide.
2. Has a Population Vulnerability higher than 97% of Census Tracts statewide.

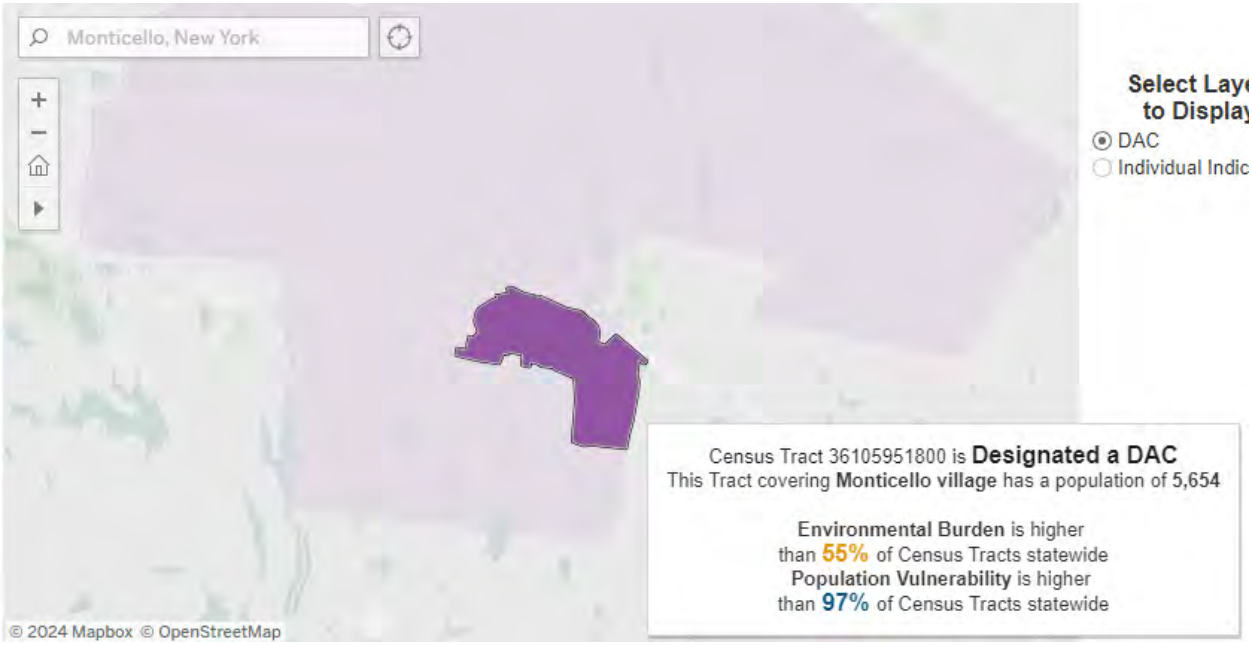
This tract, as you can see, is Monticello.

Disadvantaged Communities must be protected by Sullivan County Government.

NO dumping toxic waste, or air-bound toxins from trash incineration can be tolerated.

Disadvantaged Communities Criteria - New York's Climate Leadership & Community Protection Act (ny.gov)

Using Monticello as a reference community, find the Population Vulnerability**; it's 97% higher than Census Tracts statewide. The Environmental Burden of Monticello is higher than 55% of Census Tracts statewide.**




Try using this data tool for towns in Sullivan County. Our "Environmental Burden" AND our "Population Vulnerability" Census Tracts need care, not unknown, toxic, and partially burned substances.

## Thelman, Kassie L.

**From:** Witkowski, Mark A
**Sent:** Wednesday, October 16, 2024 7:50 AM
**To:** Thelman, Kassie L.
**Subject:** FW: Incinerator

One more

---

**From:** Starr, Michele A. <Michele.Starr@sullivanny.us>
**Sent:** Tuesday, October 15, 2024 4:27 PM
**To:** Witkowski, Mark A <Mark.Witkowski@sullivanny.us>
**Subject:** Incinerator

Good afternoon Commissioner;
I would like to weigh in on the incinerator issue, if I may.
I definitely vote NO.
Thank you for your consideration,


**Michele Starr**
*Principal Account Clerk*
Department of Community Services

**County of Sullivan**
***PO Box 716***
***20 Community Lane***
***Liberty, NY 12754***
office: 845-292-8770 **|** fax: 845-513-2111
*michele.starr@sullivanny.us* **|** *www.sullivanny.us*



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## Thelman, Kassie L.

**From:** Tracy Frisch <tracy.frisch@gmail.com>
**Sent:** Tuesday, October 15, 2024 3:09 PM
**To:** DPW Recycling Web Site Email
**Subject:** Comments on Sullivan County's Draft Local Solid Waste Management Plan
**Attachments:** Comments on Sullivan County Draft Local Solid Waste Management Plan.docx

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Comments on the Sullivan County Draft Local Solid Waste Management Plan

As the founder and coordinator of Zero Waste Warren County and the founding chair of Clean Air Action Network of Glens Falls, both of which were formed in 2019, I am submitting these comments on your county's draft solid waste plan regarding incineration.

Washington and Warren Counties signed an incinerator contract and co-owned a 500-ton/day trash incinerator from 1991, when it began operations until 2011, when it was sold to the corporation that operated it. During the period that the incinerator was publicly owned by the Warren Washington Industrial Development Agency, the two counties hemorrhaged millions of dollars.

According to a Glens Falls Post Star article entitled "Trash plant's costly past about to meet a new future," Oct. 16, 2010:

"The plant's construction ran longer and cost millions more than expected. And after early years of profit, taxpayers have been on the hook for more than $60 million in losses."

(https://uk01.l.antigena.com/l/NVYrSExv66K0Or2ZKyOeX-HnnlKfWssZqxWhWXdLiD~~uYDPUqELn1APTsUxPTLIaz~a5OwD0TmTCtzE~IkThrsMIZ6bJ7O6AZtBDXmTIzSFPsSq9w2TpSq6v3Pj0OtsgbNlkoSH6NiP9ghbnjkxRGjmUlVyqIRS0Aob2qDLIWwkb3Eks-9aysZrDuQgcFZXZe2n-sfa7yDmc7XYL3aflybw6e13PHBUsUR17M~b1f-EgST32-cvjwlYPp2Mh0dwwEqXFbSgSaXL9h )

The incinerator was sized far too big for the two rural counties that in the end signed the contract. (Another county was initially involved, but it backed out and avoid the steep financial burden that ensued.) Under the industry standard "Put or Pay" contract, Warren and Washington Counties were penalized financially when they could not deliver the required amount of garbage to the incinerator.

Sullivan County's estimated population was 77,174 in 2024. For comparison's sake, Warren County's estimated population in 2023 was 65,380 and Washington County's estimated population in 2023 was 60,047.

During the 20 years that the two counties owned the incinerator and were bound by the Put or Pay contract, their garbage cost more per ton to burn at the trash incinerator they owned than garbage originating from other counties. The differential could be a great as $70/ton for garbage from either of two counties vs. $20 or 30/ton for waste delivered by a large wast company from a nearby county. I know this because in the late 2000s, I attended several meetings of the Inter-county Solid Waste Committee of Warren and Washington Counties' Board of Supervisors and witnessed the discussions of how to meet the waste delivery requirements. I was shocked by what I heard.

In addition, neither Warren or Washington County invested in their recycling infrastructure or programs during the 20 years of their incinerator contract. This further put Warren and Washington Counties and their residents and businesses at a disadvantage.

Incinerators are hungry for solid waste. Zero Waste involves strategies to reduce the amount of waste that gets landfilled or burned. Incineration and Zero Waste are intrinsically in opposition.

When municipalities develop effective composting and recycling infrastructure —and Zero Waste-oriented programming, such as public education and a system of incentives such as Pay As You Throw to reward residents and businesses for minimizing the amount of garbage they discard — the need for disposal capacity declines precipitously. Many counties,

cities, and towns, after adopting a Zero Waste approach, have succeeded in reducing the amount of solid waste they send to a landfill by 50 percent or more.

A few more points on incineration:

A common myth is that incinerators eliminate the need for landfills. That is a false assumption. Rather, incinerators create their own waste products — toxic ash — at the rate of 1/3 the weight of the waste burned. Therefore, an incinerator would need to find a landfill that has room for an enormous amount of toxic ash. This ash would need to be trucked to that landfill regularly and the landfill tipping fee will be a significant expense.

Incineration also releases a plethora of toxics, including heavy metals like lead, mercury and chromium; PFAS “forever chemicals; and dioxins. One of the most hazardous dioxin chemicals contaminated the infamous herbicide Agent Orange, which was extensively used in Vietnam to defoliate the jungle during the Vietnam War. It caused horrific birth defects and cancers among Vietnam veterans and Vietnamese people who were exposed as well as terrible birth defects in their offspring to this day, several generations later.

If you value the quality of your air, soil and water and the healthfulness of the meat and milk products from your farms, you will say no to incineration. If you make a mistake and opt to build one, the incinerator will be your legacy for 20, 30 or even 40 or 50 years into the future.

By the way, both Warren and Washington Counties have ceased doing any business with the Wheelabrator Hudson Falls incinerator which they used to own because a landfill in Saratoga County has opened and charges a lower tipping fee.

In addition, our group Zero Waste Warren County has successfully advocated for more cost-effective recycling (including baling recyclables collected at town transfer stations and marketing them in tractor trailer sized loads, instead of paying to “get rid of” them as the towns had long been doing) and the creation of a food waste composting facility. Now Warren County is catching up for lost time.

In closing, I encourage Sullivan County to avoid the incineration trap. It would get Sullivan County stuck in a very difficult position and bring great economic harm to your county, as well as creating a pollution hotspot which will be destructive to the tourism potential.

Thank you for listening and considering your options carefully.

Sincerely,

Tracy Frisch

Chair, Clean Air Action Network of Glens Falls

Coordinator, Zero Waste Warren County

PO Box 7

Glens Falls, NY 12801

518-692-8242 landline

Comments on the Sullivan County Draft Local Solid Waste Management Plan

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(https://poststar.com/news/local/trash-plants-costly-past-about-to-meet-new-future/article_f942a85c-d99a-11df-b1f3-001cc4c03286.html)

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A few more points on incineration:

A common myth is that incinerators eliminate the need for landfills. That is a false assumption. Rather, incinerators create their own waste products — toxic ash — at the rate of 1/3 the weight of the waste burned. Therefore, an incinerator would need to find a landfill that has room for an enormous amount of toxic ash. This ash would need to be trucked to that landfill regularly and the landfill tipping fee will be a significant expense.

Incineration also releases a plethora of toxics, including heavy metals like lead, mercury and chromium; PFAS “forever chemicals; and dioxins. One of the most hazardous dioxin chemicals contaminated the infamous herbicide Agent Orange, which was extensively used in Vietnam to defoliate the jungle during the Vietnam War. It caused horrific birth defects and cancers among Vietnam veterans and Vietnamese people who were exposed as well as terrible birth defects in their offspring to this day, several generations later.

If you value the quality of your air, soil and water and the healthfulness of the meat and milk products from your farms, you will say no to incineration. If you make a mistake and opt to build one, the incinerator will be your legacy for 20, 30 or even 40 or 50 years into the future.

By the way, both Warren and Washington Counties have ceased doing any business with the Wheelabrator Hudson Falls incinerator which they used to own because a landfill in Saratoga County has opened and charges a lower tipping fee.

In addition, our group Zero Waste Warren County has successfully advocated for more cost-effective recycling (including baling recyclables collected at town transfer stations and marketing them in tractor trailer sized loads, instead of paying to “get rid of” them as the towns had long been doing) and the creation of a food waste composting facility. Now Warren County is catching up for lost time.

In closing, I encourage Sullivan County to avoid the incineration trap. It would get Sullivan County stuck in a very difficult position and bring great economic harm to your county, as well as creating a pollution hotspot which will be destructive to the tourism potential.

Thank you for listening and considering your options carefully.

Sincerely,

Tracy Frisch

Chair, Clean Air Action Network of Glens Falls

Coordinator, Zero Waste Warren County

PO Box 7

Glens Falls, NY 12801

518-692-8242 landline

RECEIVED
OCT 15 2024
SULLIVAN COUNTY
DIV OF PUBLIC WORKS

October 9/24. About WASTE INCINERATOR

Attention Mark Witkowski
Deputy Commissioner Sull Cty Dept Public Works

Sir:
I write in regards to the possible construction of a waste incinerator in our area. Speaking with other concerned citizens, I am very much opposed to the plan and urge you to reject it. I have learned on the hazards associated with incinerators and feel an alternative must be developed.

As Sull Cty develops and draws more businesses, residents and campers, we will face growing waste and need attention to disposal. We may take this opportunity to help better educate our population to reduce waste—this is the only solution worldwide in the long run. We can also provide services for private composting and for collection of plastic and paper waste.

I urge you to carefully examine the facts adn compare with other incinerator experience. Take a look at other areas, Detroit and Harrisburg which had incinerators and had to abandon them due to negative repercussions, incurring vast sums to try to correct. Take the leadership to find new creative alternatives.
Citizens may not first accept personal responsibility, but we can be taught and we can develop new, better habits.

Sincerely, with thanks for your attention

B Nimri Aziz, Roscoe, NY 12776

## Thelman, Kassie L.

**From:** Richard Stein <cornellvet@hotmail.com>
**Sent:** Saturday, October 5, 2024 8:11 PM
**To:** DPW Recycling Web Site Email
**Subject:** Incinerator

***ITS ADVISES CAUTION:*** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I just read a letter to the editor in the River Reporter stressing you should get comments.

Incineration is a pejorative term where I live the other half of the year. I took a field trip to and tour of the waste to energy plant in Lee County, Fl. Amazing!! It is resource recovery and energy production facility that supplies electricity to thousands of homes and sells recovered metals

I asked their engineer about Sullivan County. Besides utilizing the waste, they would mine the existing buried trash.
If I was duped, so be it. They sure seemed genuine and green.

Richard Stein D.V.M.
Wildcat Road
Monticello, NY

# APPENDIX E: COUNTY RESOLUTION

# Legislation Details (With Text)

| | | | | | |
|---|---|---|---|---|---|
| **File #:** | ID-7660 | **Version:** | 1 | **Name:** | |
| **Type:** | Resolution | | | **Status:** | Passed |
| **File created:** | 7/31/2025 | | | **In control:** | County Legislature |
| **On agenda:** | 8/21/2025 | | | **Final action:** | 8/21/2025 |
| **Enactment date:** | 8/21/2025 | | | **Enactment #:** | 328-25 |

**Title:** Resolution to authorize the final approval of the County's Draft Local Solid Waste Management Plan (LSWMP) which is needed for final approval from the New York State Department of Environmental Conservation (NYSDEC).

**Sponsors:**

**Indexes:**

**Code sections:**

**Attachments:**

| Date | Ver. | Action By | Action | Result |
|---|---|---|---|---|
| 8/21/2025 | 1 | County Legislature | adopted | Pass |
| 8/14/2025 | 1 | Public Works Committee | carried at Committee | Pass |

**Narrative of Resolution:**
Resolution to authorize the final approval of the County's Draft Local Solid Waste Management Plan (LSWMP) which is needed for final approval from the New York State Department of Environmental Conservation (NYSDEC).

**If Resolution requires expenditure of County Funds, provide the following information:**

**Amount to be authorized by Resolution:** N/A

**Are funds already budgeted?** N/A

**If 'Yes,' specify appropriation code(s):** Click or tap here to enter text.

**If 'No,' specify proposed source of funds:** Click or tap here to enter text.

**Specify Compliance with Procurement Procedures:**

N/A

**RESOLUTION INTRODUCED BY PUBLIC WORKS COMMITTEE TO AUTHORIZE THE FINAL APPROVAL OF THE COUNTY'S DRAFT LOCAL SOLID WASTE MANAGEMENT PLAN (LSWMP)**

**WHEREAS**, Sullivan County Division of Public Works operates and maintains 6 Transfers Stations, a cardboard recycling facility, a Municipal Solid Waste (MSW) export building, a closed capped landfill and

wishes to establish a composting facility; and

**WHEREAS**, New York State Department of Environmental Conservation (NYSDEC) Title 6 Codes, Rules and Regulations-New York (CRR-NY) 360.19 sets forth the operating requirements of a part 360 Solid Waste Management Facility which the County owned Solid Waste Operations fall under and 6 CRR-NY 360.19 (c) (2) specifies the need for a LSWMP. 6 CRR-NY 366-1.2 lays out the General criteria for a LSWMP to plan ahead 10 years with biennial updates in order to accept and process MSW; and

**WHEREAS**, Sullivan County issued R-22-12 Professional Consulting Services for the Development of a Solid Waste Management Plan and Cornerstone Engineering has helped prepare the draft plan; and

**WHERAS**, the draft plan has been accepted by the DEC and in order for it to become a final plan the County must submit the plan with a certified resolution

**NOW, THEREFORE, BE IT RESOLVED**, that the Sullivan County Division of Solid Waste send to the NYSDEC a complete, stand-alone final LSWMP that contains all revisions to the draft LSWMP

**BE IT FURTHER RESOLVED**,

1) That the LSWMP is adopted by the County
2) That the County will implement and maintain the solid waste management system as described in the final LSWMP and
3) That the County will submit biennial updates



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