HUGHES ENERGY

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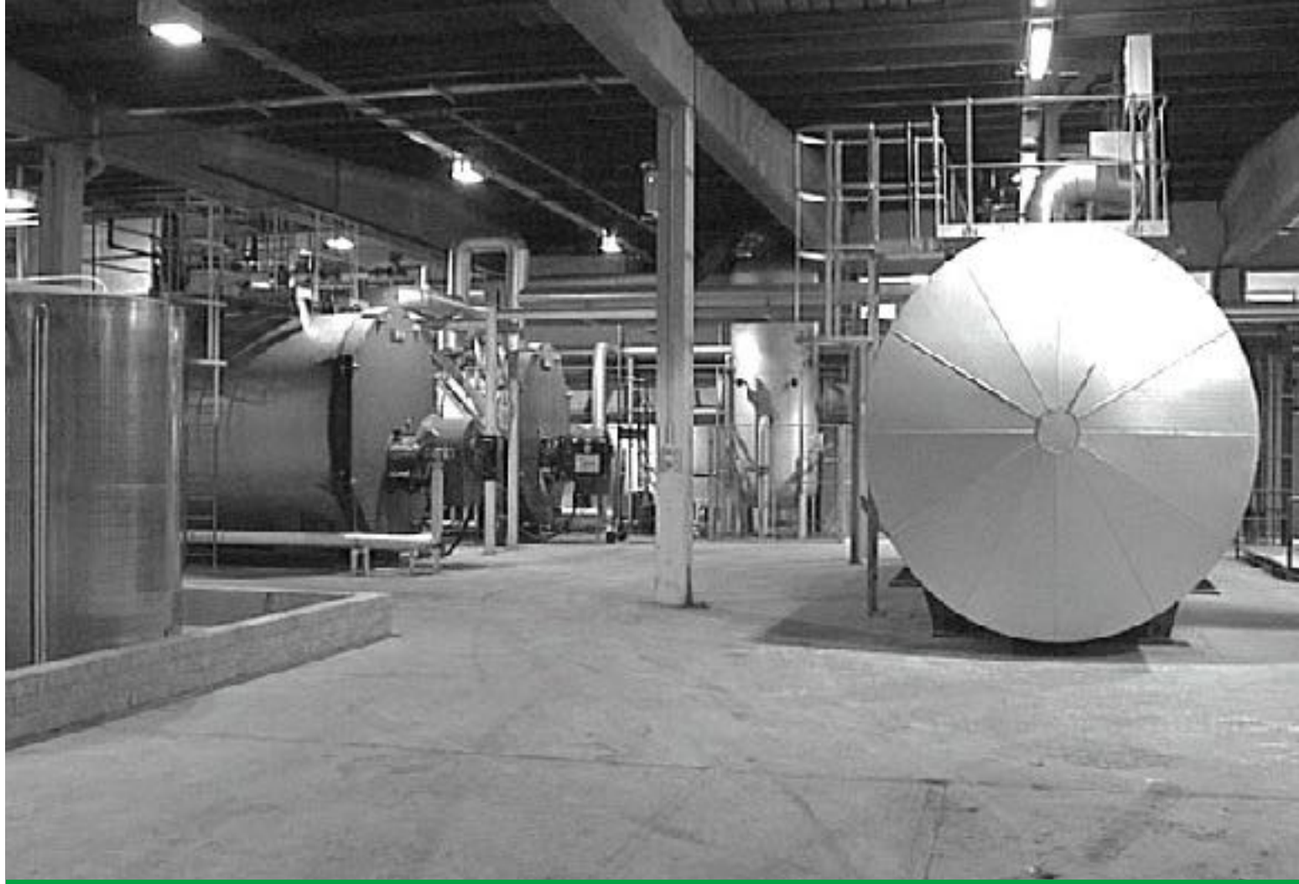
ABOUT OUR COMPANY

Hughes Energy is a US green-tech company providing a low-carbon solution to waste.

Our autoclave system transforms organic waste (source-separated food waste and contained in municipal solid waste) into a homogenous fiber that can be used to create second generation bio-products and bio-fuels.

The organic waste arrives, is processed and our fiber generally leaves the building the same day (except nights, Sundays and holidays)



We are a fiber production company.

We recycle organic materials to increase clean non-woody fiber supply for recycled paper and cardboard.

HUGHES ENERGY

The “non-incinerator”.

Each plant recycles up to 184,000 tons of organic waste per year through a fully indoor process of the application of steam. No incinerating, melting or burning of any waste - emissions very limited to natural-gas boiler emissions.

Offset up to

200K

TONS OF CO_2e

PER YEAR

ABOUT AUTOCLAVING ORGANICS

MSW Autoclaves Operating in 2022
USA - 5 (GA, TN, OR)
UK - 4
Italy, Poland, Spain

- Autoclaves were invented in the 1880s to sterilize medical instruments.
- In the 1940s, in Alabama, the first known use of a large autoclave in MSW processing.
- There are over 12 operators of steam autoclaves in organic waste and MSW processing in 2022
- Tens of thousands of industrial autoclaves operate in the US every day in the concrete, tire, defense, aircraft and composite materials industries.

A worker walks past a giant autoclave, which provides superheated pressure needed in the construction of the new 777X composite wing at the Boeing 777X Composite Wing Center in Everett, Washington. Stephen Brashear/Getty Images

LIST OF MAJOR MSW AUTOCLAVES

HUGHES ENERGY

Company Name	Project Location	Year built	Years operational	Notes
Wilson System (Thermsave)	UK	1998	3	Proof of concept
Wilson System (Davies Bros.)	UK	2001	5	Landfill reached capacity and closed
Wastaway	Tennessee (US)	2003	operating	
Burcell	Georgia (US)	2005	operating	Series of demonstrator plants
Sterecycle	UK	2008	4	Closed due to poor maintenance leading to fatality
Wilson System (Limerick)*	Ireland	2008	4	UK waste company purchased system – site approved, construction on hold
Graphite	UK	2009	4	Company went out of business
Salinas Valley Waste Authority	California (US)	2010	8	Contract completed

Company Name	Project Location	Year built	Years operational	Notes
Georgia Pacific Paper	Georgia (US)	2013	operating	proof of concept / test facility
Bioelektra	Poland	2014	operating	
Wilson System (confidential)	UK	2016	operating	Fiber for an anaerobic digestor
Wilson System (BDC)	UK	2016	operating	Used for customer trials and R&D throughout Europe
Shanks **	UK	2016	operating	Dirty MRF
FaterSmart (Proctor and Gamble)	Italy	2017	operating	
Burcell	Georgia (US)	2018	operating	Commercial waste transfer station
AeroThermal	UK	2018	operating	
Georgia Pacific Paper (Juno)***	Oregon (US)	2021	operating	Toledo production center

*** Shanks Video: https://www.machinexrecycling.com/video/shanks-wakefield-two-systems-rdf-mrf/*

** Wilson System Limerick Video: https://www.youtube.com/watch?v=HLsrlJSFORc*

**** Juno System Video: https://www.youtube.com/watch?v=qVGKjYzgWcQ*