



Clean Energy from the World's Waste

Commitment ■ Experience ■ Technology



DYNAMIS
ENERGY

A Full Array of Waste to Energy Services and Technology

Why We're a Leader

Dynamis Energy has developed state of art, proprietary **3.0** Thermal Conversion Technology, that provides high efficiency waste to energy systems for small or large capacity requirements. Our systems are designed to be scalable and modular allowing capacity growth to meet the needs of an expanding community. In addition our plants conform to all EPA and EU Emission Limits without the need for expensive downstream emission control equipment.

Historical Industry Issues

The industry has, historically, defined most thermal treatments by the use of heat to treat Municipal Solid Waste (MSW) under the collective term "incineration". Such processes have, to date, experienced limited success in their applications, costs, and benefits. These limitations include, but are not limited to, the following:

- Significant costs to prepare waste streams.
- Limitations of waste stream acceptance.
- Low fuel to power ratios.
- High toxicity that require substantial mitigation.
- Inflexible custom platforms that cannot grow.



Dynamis Solutions to Issues

Using our state of the art, proprietary, 3.0 waste to energy technology to convert waste to energy represents an environmentally sound option that is superior to other 1.0 and 2.0 waste destruction and energy creation processes. Our patented process and trade secrets reduce reliance on fossil fuels, decrease harmful emissions, and provide numerous immeasurable long-term benefits, creating a new path toward a sustainable and cleaner world.

Dynamis 3.0 Technology provides differentiation:

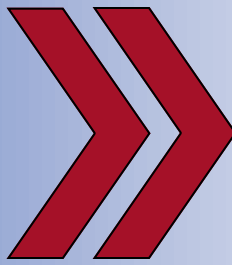
- No pre-treatment of waste is required
- No expensive emission handling equipment is required to meet regulations
- Simple design, ease of construction and operation
- Reliable low cost system with few moving parts

Waste Types

There are few systems as versatile and easy to operate as the Dynamis Energy System. No pre-treatment of the waste is required and its modular design makes it suitable for small projects of just a few tons per day, up to larger municipal projects of 2000 tons per day or more. Some but not all feedstock or waste streams are depicted in the diagram shown here.



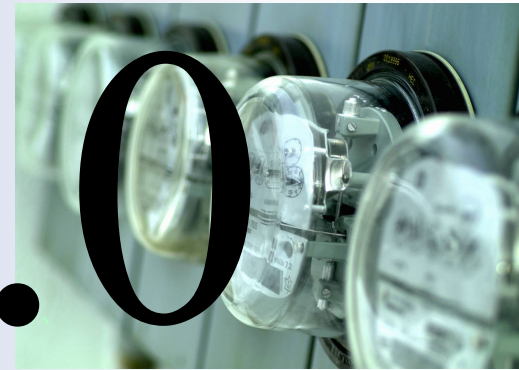
Thermal Conversion Technology



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The two-stage process uses batch waste gasification and thermal combustion and oxidation. The untreated solid waste is initially loaded without the need to presort, into a primary chamber where it is thermally reacted under air controlled (starved) conditions and transformed into burnable gases and ash. Unlike typical thermal treatment methods, the gasification reactions occur at relatively low temperatures under controlled conditions. This minimizes the production of airborne 'fly ash' particulates, carryover of toxic metals, and NOx. The gasification process ensures nearly 100% destruction (burn-out) of the waste and the by-product of ash is sterile with minimal residual carbon. Metals and glass in the waste stay with the ash in inert forms and can be recovered by conventional recycling methods. To complete the process, the gases from the primary gasification chamber enter the secondary combustion chamber where they are mixed with oxygen (taken from ambient air) and oxidized at high temperature to complete the process. The energy from hot gas effluent can then be recaptured for local heat, power or other energy form recovery.

Public Utilities, communities, and industries, now more than ever, desire the use of clean renewable energy, as part of their energy supply strategy. In fact some states even mandate how much power must come from renewable energy sources. At Dynamis Energy we believe in the development of alternative energy sources and promote environmental sustainability.



Environmentally Superiority

The Dynamis Energy 3.0 technology is one of the cleanest forms of energy generation. In fact, the **EPA** has stated that waste to energy plants, like those using Dynamis 3.0 technology, produce electricity **“with less environmental impact than almost any other source of electricity.”**

In addition, studies conducted in conjunction with the EPA have demonstrated that waste to energy plants prevent the release of millions of tons of greenhouse gases.

The Dynamis process actively discourages many potential emissions problems such as particulates, NOx, many toxic volatile metals and dioxins/furans. However, our systems can incorporate either dry or wet scrubbers or other emission abatement systems to neutralize acid gases and absorb other dangerous by-products such as mercury, depending on the waste type destroyed. For example we might employ a lime injection unit in the secondary combustion chamber if the intent is to destroy large amounts of plastic or rubber like the contents of auto demolition waste. The combustion of primary gasification chamber gases in the secondary combustion system is usually sufficient to clean the gas when consuming standard waste (MSW). The Dynamis process has undergone over 30 tests over that past 15 years, and has exceeded all environmental regulations. The independent tests are available by contacting Dynamis.

Dynamis 3.0 Waste to Energy Benefits

- Noise levels are very low.
- Facilities don't emit odors because very little waste is ever stored.
- Ultra-low atmospheric emissions, no other emissions or effluent, only clean water
- Since we convert waste so efficiently, MSW facilities can be as small as 100 tons per day
- The physical size of a facility is small (200-1000 ton-per-day facilities require 4-15 acres)
- The facilities exterior will be designed to match the aesthetic preferences of the local area
- The waste to energy plant will produce permanent and temporary employment during the initial construction and operation periods.
- Provide an economic solution to the ever-increasing municipal, industrial and, especially medical waste discharge needs, jointly with the production of substantial electric power, necessary for the city and the region development, all at a rate comparable to the present real cost of energy production.
- Provide a nucleus of economic activity around a new power source, which can be a powerful tool for economic development.
- Reduce the local or national dependency on more expensive and/or foreign sources of energy, and, simultaneously, increase the value-added potential of the domestic or regional agricultural, food processing and other industries by using agricultural and urban waste.
- Minimizing or eliminating, waste disposal problems and costs by using the residual ash for production of cement products. A small concrete plant could be added to the project and used to produce cement construction blocks. Other recapture and sales of recyclables is possible as well.
- Generation of income and tax revenues.
- Elimination of long term ground water contamination from traditional landfill use.



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