



A Waste Conversion Appliance for Self-sufficiency, Cost Savings and a Greener Hospital Footprint

Practical, On-site Solution for Waste Elimination

- For onsite conversion of biomedical, pharmaceutical and hazardous waste into energy in a hospital setting
- No pre-treatment, shredding or autoclaving of waste required
- One tonne per day waste processing capacity
- Extremely clean emissions allowing for placement inside working areas
- Reduction of Greenhouse gases at several levels (transportation, sequestration of carbon through treatment, generated heating)

Improve Safety and Decrease Risk

- Eliminate third-party waste services
- Avoid community health risks associated with exposure to pollutants of large-scale incineration
- Eliminate residual liabilities created by waste storage
- Eliminate spill risk created by transporting hazardous or pathological waste over long distances

Cost Effective and Energy Efficient Solution

- Low acquisition cost
- Low operating cost
- Avoided waste hauling costs and expensive contracts
- Generation of valuable thermal energy

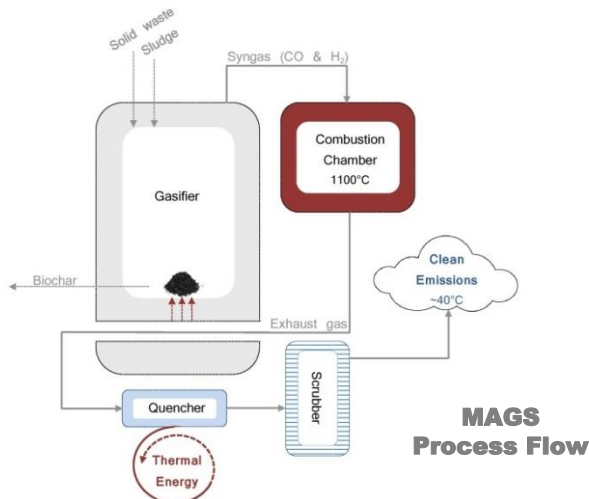


MAGS is fuelled by a variety of combustibile material

**Municipal Solid Waste • Biomedical Waste • Pharmaceuticals • Illicit Drugs • Hazardous Waste
Sewage Sludge • Contaminated Packaging • Oily Sludge • Solvents • Confidential Waste**

MAGS was developed and tested over the past 10 years with support from the US Office of Naval Research, the Canadian Navy and Sustainable Development Technology Canada.

MAGS uses Terragon's patented technology, the *Auto Gasification Process*, to thermally break down hydrocarbons in waste and transform them into a small volume (5%) of harmless residue (bio-char) and energy.



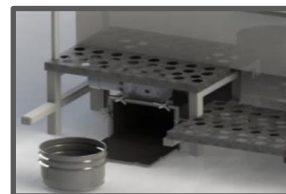
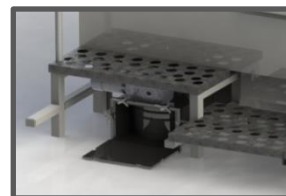
In MAGS, the syngas becomes the main fuel, thus minimizing the need for external fuel sources and rendering the appliance virtually self-sustainable. Efficient combustion of the syngas is accomplished in a combustion chamber operating at 1,100°C (2,012°F), under controlled temperature and air flow conditions. Once the hot exhaust gases transfer energy to the gasifiers, they are quenched with water to a temperature of less than 80°C (176°F), eliminating the potential for the formation of dioxins and furans and then cleaned to remove particulates and acid gases prior to discharge.

MAGS is a compact omnivorous appliance that gasifies all combustibile waste, including paper, plastic, cardboard, food, used oils, sludge, oily rags, wood pallets and others. Compared to conventional waste management approaches, such as incinerators, MAGS consumes very little fuel, has clean emissions, improves efficiency, and reduces greenhouse gases.

Version 8 Advancements

Terragon is proud to introduce its latest model of MAGS. The Version 8 offers the following upgrades compared to previous units:

- *Increased solid waste capacity (> 100 lb/hr)*
- *Automatic biochar removal system*
- *Increased thermal energy output (> 100 kWh per hour)*
- *Smaller, lighter, and more compact*
- *Faster and more automated solid waste loading*
- *Accepts larger garbage bag sizes*
- *Reduced priced*



MAGS – Field proven in remote locations and extreme climates

MAGS continues to be a leader in the industry as a technology that has very clean emissions, produces energy, and is simple enough to be operated by anyone. From every kilogram of waste processed by MAGS, over 2 kWh of thermal energy is produced. Thermal energy is extremely simple to use in the most rugged environments in the form of warm air. This warm air can condition living and working quarters, displacing the energy used by stand-alone Environmental Control Units (ECU) and reducing overall maintenance and energy burden.

MAGS units are currently operating in a number of sites, including commercial ships, Arctic communities and industrial facilities.



Terragon has received numerous awards for its innovative MAGS technology over the past several years, including the prestigious 2012 GLOBE Award for Best Emerging Technology, the 2014 North American Lloyd's List Award for Technical Innovation, and the 2015 Ship Efficiency Award for The One to Watch.



The exceptional environmental performance of MAGS has initiated a drive towards a change on the regulatory framework for sea and landbased applications. In May 2015, the International Maritime Organization (IMO) approved the Pollution and Prevention (PPR) Group 3 to begin work on developing a new category, standard, and Type Approval testing plan for Shipboard Gasification Waste to Energy Systems, allowing ship owners and operators to select cleaner and more energy efficient technology to meet MARPOL requirements. Similar initiatives are being pursued for landbased applications through Canadian and US regulatory bodies.



Cost Effectiveness

Generation of valuable energy

Low operating costs

Avoided waste hauling costs & expensive contracts

Low acquisition costs

Practical, On-site Waste Elimination

Exceptionally clean emissions meeting the most stringent regulations



No pre-treatment or autoclaving of waste required

Flexible solution for the onsite conversion of medical waste into energy in a hospital setting

One tonne per day waste processing capacity

Improved Safety and Decreased Risk

Eliminate residual liabilities from on-site medical waste storage

Safe and immediate destruction of bio-hazardous waste

Eliminate spill risk from transportation

Avoid communal health risks associated with exposure to emissions from incineration

Terragon Delivers

Terragon is committed to offering exceptional service to its customers and strives to ensure the highest degree of client satisfaction by continuously improving the quality of its products and services. A fully assembled MAGS, stand-alone or containerized, can be delivered within 4 months of receipt of order. Training, remote monitoring and a 12-month warranty is included with all orders. MAGS is available for purchase or lease, and Terragon can also provide tailored services for certain applications.

MAGS is being sold to various clients within a number of market sectors, including the maritime sector, isolated communities, special/hazardous waste applications and the military. With the support of its commercialization partners, Terragon has a proven track record delivering to all customers globally.

Our Partners

