

MOBILE WASTE GASIFICATION DEMO BY U.S. MARINES

30 January 2013
ByBen Messenger



U.S. Marines in Hawaii have demonstrated Micro Auto Gasification System (MAGS) which has been developed by Canadian small scale waste gasification technology specialist, Terragon.

According to the Marines, operators start MAGS with diesel fuel, bringing the inside of its insulated drum to temperatures exceeding 1000 degrees Fahrenheit (538 degrees Celsius).

The machine is loaded with waste at a rate of approximately 50 pounds (23 kg) per hour, turning 95% of it into gas which is used as fuel to sustain the process.

The remaining 5% is converted to inert ash which the Marines said can be safely disposed of in landfills, or mixed with compost, asphalt or cement. One machine is capable of meeting the daily waste disposal needs of approximately 1000 troops.

"It's not burning," explained Ben Tritt, the MarForPac (Marine Forces, Pacific) science advisor for Office of Naval Research. "It's gasification under a very controlled environment, and it's much cleaner than burning... It's (also) a self-sustaining process."

"It not only (handles) mixed solid waste," he continued. "We've also done some testing with petroleum, oil and lubricant.

According to Tritt, virtually the only materials MAGS cannot "digest" are glass and metal, which the system sanitises and leaves intact ready to be recycled.

Aside from the environmental and health benefits of reducing landfill usage and burn pits, the Marine Corp said that MAGS, and similar waste to energy, technology can be operated expeditiously in austere and remote environments.

According to the Corp, the system's mobility provides an economic benefit by greatly reducing the amount of waste that needs to be shipped from the forward operating base to the nearest disposal site.

"The best thing about this machine is not having to load all our trash into Humvees and other vehicles to get it out of our training site," commented Lance Cpl. James Russell, an electrician with Combat Logistics Battalion 3.