

# The BioMax® Waste-to-Energy System - A Continuing Success Story!



*Camp Grayling, Michigan 2009*

In 2005, Community Power Corporation (CPC) completed a Phase I Small Business Innovative Research (SBIR) grant for the U.S. Army that proved the BioMax® system could convert dry packaging materials from mobile kitchens to utility grade electricity using a standard Army, diesel fueled, 60 kW Tactical Quiet Generator (TQG). Under Subsequent SBIR projects with the Army, CPC has continued to upgrade the BioMax® Waste-to-Energy (WEC) system to expand its ability to convert diverse waste streams, increase availability and reduce system operating labor requirements.

*"Anyway we can make ourselves more self sufficient - like the days of old - all the better. This is one of the ways we can do that whether we're in Afghanistan, whether we're in Iraq or whether we're in New Orleans - wherever we might be - the idea is to make ourselves as self-sustaining as possible."*

*Bridgadier General  
Michael C. McDaniel  
Asst. Secretary of Defense  
for Homeland Defense  
Security and Force Planning*

In an extended field trial at Camp Grayling in Michigan, the BioMax® WEC system converted shredded and pelletized dry packaging materials into a feedstock composed of a mixture of paper, cardboard and plastics, which included utensils and Meal-Ready-To-Eat (MRE) containers. This feedstock was gasified into a syngas that was delivered to the TQG via the air intake port to displace diesel fuel to generate electricity and heat. Based on feedback from the demonstration at Camp Grayling, the original pelletizer was replaced with a much more robust briquetter.



*Fort Irwin, California 2009*

To further demonstrate the flexibility of the BioMax® WEC system, in the winter of 2010 a field trial was performed at the Aberdeen Proving Grounds in Maryland. In this highly successful demonstration project, CPC's downstream LiquiMax™ syndiesel module was added to the BioMax® WEC system to simultaneously convert mixed waste from the base into three energy forms: electricity, heat and liquid synthetic JP-8 (diesel fuel) in two TQGs at the rate of 1,000 cubic feet of syngas per gallon of JP-8.

In a recent field demonstration project at Fort Irwin in California, the BioMax® WEC system successfully generated electric power and heat using an Army TQG by converting dry packaging waste, mixed trash from the mess hall including food particles and some plastics, whole MRE packages, shredded wood pallets, clothing, glass and brass blank rounds into a syngas that displaced a significant percentage of the JP-8 used by the TQG.

## The BioMax® WEC System Description

Electrical Power:	60 kW Army Generator (syngas displaced portion of JP-8)
Feedstock:	50 dry pounds per hour; paper, cardboard, plastics and some food waste.
Syndiesel produced:	25 gallons per 1,000 lbs. of feedstock



*Aberdeen Proving Grounds, Maryland-2010*

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