

## **BIOMAX<sup>®</sup> 100 Fact Sheet**

Modular bioenergy system for on-site conversion of  
biomass waste streams into  
power, heat and valuable biochar fertilizer.

---

### **Introduction**

Community Power Corporation (CPC) is a leading developer and supplier of small, modular bioenergy gasification systems. These state-of-the-art, fully automated modular bioenergy systems constructed in power blocks of 145 kW, offer an end-user new options for lowering energy & waste disposal costs by converting a variety of onsite/nearby biomass waste streams into clean & green power, heat and biochar fertilizer.

The **BioMax<sup>®</sup> 100** is not an incinerator. It uses an advanced and patented gasification technology to convert feedstock such as woodchips, nut shells, stone fruit pits and similar agricultural residues into usable energy. Other feedstock can be “engineered” from different waste streams or residues by briquetting or pelletizing the waste stream or residues into properly-sized and configured feedstock.

### **Typical BioMax<sup>®</sup> 100 end-users.**

Typical BioMax<sup>®</sup> users include: agriculture processors, commercial enterprises, government, military, civilian facilities such as small communities, schools, colleges, and research institutions.

### **Benefits for end-users of the BioMax<sup>®</sup> 100.**

- Lower energy & disposal costs by converting local waste and residue streams into independent, onsite energy production.
- Locked in long-term energy prices that avoid escalating utility energy prices.
- Flexible, easy to site, and easy to move systems with a net baseload power output of 145 kW that can be grouped together to match the end user’s power requirements.
- Biochar bioproduct is a valuable soil amendment/fertilizer
- End-user applications that can be added or removed, including combined heat and power (CHP) and cooling.
- Diverse feedstock processing made possible by optional feedstock processing module designs.
- Financial and operating risk mitigation through leases, energy purchase agreements, O&M and service contracts.
- Reduced dependence on fossil fuels and reduced carbon emissions.  
Creates jobs and other benefits for the local economy.

### **Overview of the BioMax<sup>®</sup> Modular Bioenergy Gasification System.**

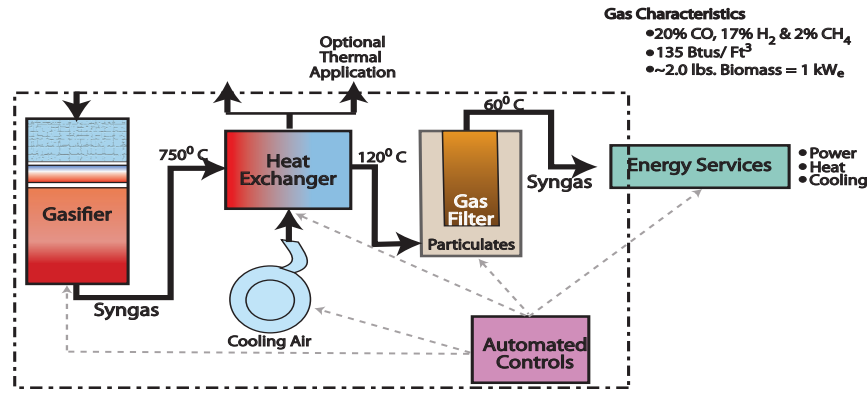
The BioMax<sup>®</sup> 100 is a “green” alternative to conventional fossil fuel power and thermal equipment and can free the end-user from dependence on high cost fossil fuels, such as diesel fuel, natural gas and propane. CPC’s modular BioMax<sup>®</sup> 100s have a standard net baseload power output of 145 kW at 80% availability. BioMax<sup>®</sup> 100s require about 60 minutes per day of attendant labor. Depending on the storage system and feedstock characteristics, feedstock delivery and preparation are required roughly weekly.



The BioMax<sup>®</sup>100 System

BioMax® System start up, operation, monitoring, diagnosis and shut down can be done on site or remotely over the Internet using smart phones, tablets, etc. All key operating functions are continuously monitored and logged with three levels of alarms (sent via the Internet to a smart device or computer). Emergency or scheduled shut downs are automatic and do not require an on site attendant. The rate of the feedstock feed and gasification is driven by the load demands of the end-user. BioMax® Systems can be configured for a mix of end-user applications including electrical power only, combined heat and power (CHP), gas production only (boilers and dryers), mechanical shaft power and cooling.

The below graphic illustrates the core processes of the BioMax® Systems.



CPC BioMax® GASIFICATION MODULE SCHEMATIC

### Environmental Performance of BioMax® Systems.

The BioMax® Systems are clean & green, modular bioenergy systems. The only air emissions are from the exhaust of the engine/generator. Independent emissions testing labs have confirmed that the BioMax® Systems meet current EPA standards, and systems have been permitted to operate in several air quality management districts in California.

The BioMax® Systems do not have a smoke stack and emit no objectionable particulates. The only solid byproducts of the BioMax® Systems are char and ash, which have been certified as non-hazardous by various local regulatory agencies. BioMax® Systems do not use water scrubbers and produce no smoke, smell, toxic effluents and only minimal noise.

Features	Specifications
Modular, transportable (3-4, 20 ft. ISO shipping containers) Grid-quality electricity Automated downdraft patented gasifier Converts diverse feedstocks into energy (wood, nut shells, stone fruit pits and more) Automated/unattended/remote/continuous 24x7 base load operation One on-call attendant Clean & green: meets EPA requirements Produces biochar valuable as fertilizer No particulates No water or oil scrubbers Minimal noise Built and tested in factory	145 kW <sub>e</sub> net modules (up to multi-MW) Heat: ~ 400,000 BTU/hour available for process heat Converts ~2 lb/kwh (~3.5 dry tons/day) Syngas: ~ H <sub>2</sub> -17%, CO-20%, CH <sub>4</sub> -2%, CO <sub>2</sub> -8%, N <sub>2</sub> Biomax® 100 system foot print: 30 ft. X 30 ft. Complies with utility interconnection requirements ~ 80% Availability (~30 days between scheduled maintenance) Modules: gas production & cooling, gas filtering, Power generation & CHP, feedstock Conditioning & feeding - (not all modules are required for all applications)

### Characteristics of an ideal BioMax® System end-user site:

1) Located in a state/country with high power and heat energy prices; 2) End-user produces an on-site gasifiable residue that has a disposal cost, or has a nearby low cost source of gasifiable residues; 3) Both power and heat are needed; exceptional savings if the heat displaces high cost fossil fuels; 4) End-user has an environmental compliance concern (ban on open burning, storage and/or disposal issues); 5) Cost of byproduct disposal is high, or difficult to manage; 6) End-user's byproduct production is at least 3.3 dry tons/day of gasifiable residue such as wood chips, nutshells, or other wastes; 7) End-user's energy requirements exceed base load capability of the BioMax® System (>145 kW<sub>e</sub> and >400,000 BTU/hour); 8) End-user values "clean & green" energy, energy independence and/or reduced carbon footprint; 9) End-user has personnel for the daily and weekly activities (~ 60 minutes average/day plus feedstock management); 10) End-user has financial capacity for a BioMax® system purchase, lease, or energy sales agreement (PPA), plus O&M, and/or service agreement; 11) If End-user is not able to use all energy produced, then a utility interconnection must be economical and regulatory rates for sales to the utility must exist preferably with "green pricing," net metering or similar.

### For additional information contact:

**Community Power Corporation**  
 Telephone: 303.872.2311  
 email: CustomerRequests@goCPC.com  
 www.gocpc.com