

BioGen Pellet&Chip Gasifier: Power, Heat and Soil Fertilizer

The Solution for staying powered and warm, also in remote places, using local available biomass sources. The gasification produces BioChar as a useful and valuable byproduct.



BENEFITS



Cogeneration of Power and Heat



For use with wood pellets and wood chips
(saw dust & rice husk models available)



Biochar produced is an ideal fertilizer supplement
for gardening or farming



On and Off Grid capabilities



Autarkic living style possible in combination with
Photovoltaic



For normal and extreme situations
(emergency / back up power)



Multi voltages and output currents possible (DC/AC)



Simple operation with very little maintenance.
And no maintenance for the Stirling Power Unit

The BioGen Pellets&Chip Gasifier has been designed for long periods of stationary use, perfect for on and off-grid residential applications requiring continuous electricity and heat.

Through the process of gasification and the use of one of the world's most efficient engine, the Microgen Stirling Engine, we are able to harness the full energetic potential of biomass.

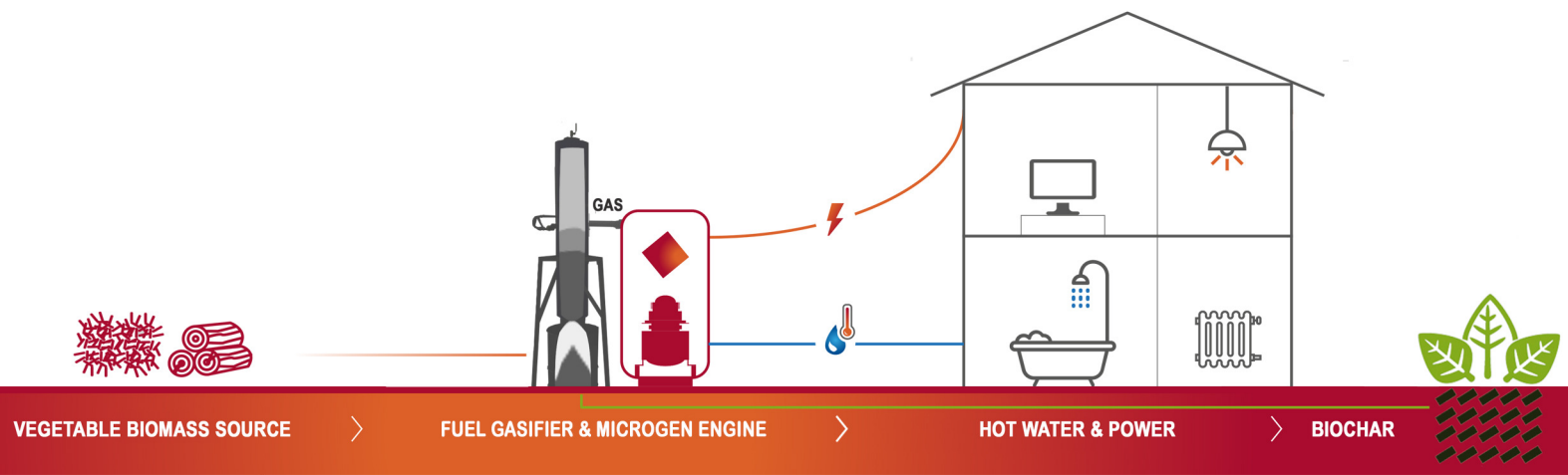
External combustion is one of the key characteristics of Microgen Stirling Engine system that makes the use of biomass possible in cogenerating electricity and heat. The BioGen Pellets&Chip Gasifier makes cogeneration - recovering this heat for space and domestic water heating while simultaneously generating electricity - practical.

The BioGen Pellets&Chip Gasifier has been designed for those who either cannot obtain grid electricity easily and economically or have realized the uncertainty of total dependence on utilities to supply their power needs. If you need electricity at remote locations where grid power is not feasible; have experienced the inconvenience of grid power failure; wish to avoid the predicted utility rate shock have found the internal combustion engine an undesirable backup for your wind or photovoltaic system; actively seek alternative sources of energy for your security and peace of mind, or if you simply desire an Independent Home Energy System for your home, the BioGen Pellet&Chip Gasifier may be the solution for which you have been looking. Of course the BioGen can always be hooked up to the grid as well!

Additionally, regular operation of the BioGen Pellets&Chip Gasifier can also stabilize a portion of the biomass carbon, which would have been released in natural decomposition, into a carbon-rich waste byproduct - BioChar. When mixed with soil, the carbon in the biochar can be sequestered from the atmosphere for centuries or more.

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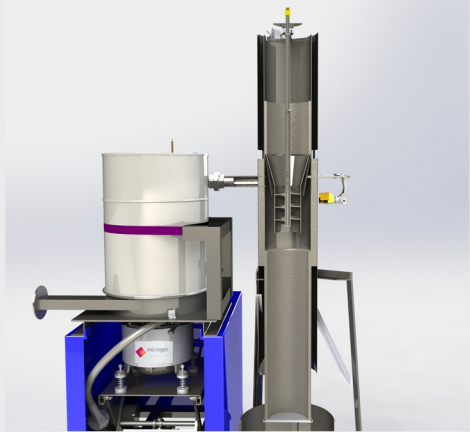
Power	On - Off grid Electrical Output Electrical power unit Stirling type	Various options available Max 1100 Watts, 50 – 60 Hz, 230 vAC Microgen Biomass Stirling Power Unit Free Piston Beta type
Heater	BioGen Gasifier Output Water temperature	Max 5.5 kW Max 65 degrees C
Fuel Biochar	Fuel Consumption Rate Biochar Production Rate	2.8 kg/hour 0.5 kg/hour
Dimensions	Width x Length x Height	1.5 m x 2.5 m x 2.5 m
Weight	Weight	Including Microgen Stirling Engine 250 Kg
Maintenance	Biochar Removal Biomass Stirling Engine	Every 10 hours Maintenance free
Other	Emissions Noise level	Following EN 303 class 3 Max 50 dB



Turn Biomass into Electricity, Heat and BioChar

The entire process of cogeneration of electricity and heat has been engineered by our team to be fully automated so that owners are left simple maintenance of biochar removal. What's more, the biochar produced from the BioGen Gasifier makes for an ideal fertilizer supplement for gardening or farming. Biochar of this quality can cost up to 7.00 USD per 3.79 L. The robust controls system produces a continuous 1 kW electrical output and 5.5 kW of heat for potable water and space heating. This system is designed to operate in the harshest of environments with little maintenance required, especially for the Microgen Biomass Stirling Engine.

How it works



The BioGen Pellet&Chip Gasifier System is based on the powerful synergy of wood gasification and Microgen Stirling Engine. The prevalence of small scale wood gasification spread during World War II due to its energy potential as a alternative, renewable resource. Even cars were powered using wood gasification. Biomass source is gasified in the BioGen Gasifier, the first continuous operation gasifier of its kind. This gas is then combusted in our specialized combustion burner which houses the head of our Microgen Biomass Stirling Engine. This head absorbs the heat of combustion, and transfers it into mechanical motion of the free piston, thus producing 1 kW of usable electricity and 5.5 kW of heat for your home.