Biomass-based solutions to climate change are of unique interest in that the hardest problem—the capture and storage of atmospheric CO₂—is already solved and globally installed at scale in the form of plant photosynthesis. We don’t have to start from scratch, as with expensive direct capture of atmospheric CO₂, we only have to process the biomass in some form that prevents the captured CO₂ from returning to atmosphere. We do this by producing Biochar as part of our gasification process for energy production. When mixed with soil, the carbon in the biochar can be sequestered from the atmosphere for centuries or more, making the Power Pallet one of the only carbon-negative technologies currently ready for global deployment.

1 TON BIOMASS

HEAT

ELECTRICITY

175 kg CO₂ SEQUESTRED

Solving Global Warming
Continuous Power Rating
25 kW @ 50/60 Hz

Sound Level @ 7 meters
75 db

Biomass Consumption
1.0 kg/kWh (dry biomass)

Runtime per hopper fill:
Approximate @ 250kg/m³ feedstock density

5 kW: 12 hours
10 kW: 6 hours
15 kW: 4 hours
25 kW: 2.4 hours

Max. continuous operation
>12 hours

Start up time
10-15 minutes

Performance - Electric Output

Type
Ashok Leyland / Hino

Cylinder count
4

Displacement
4.0 liter

Compression Ratio
12:1

RPM
1500 @ 50Hz, 1800 @ 60Hz

Valve Configuration
Overhead valves, Pushrods

Engine block / Cylinder head
Cast Iron w/ hardened exhaust valve inserts

Ignition
 Coil over plug (COP)

Oil capacity
3.5 75 W 40

Oil Maintenance Interval
500 hrs

Coolant capacity
15 L

Auto-shutdown
Low oil pressure High coolant temperature

Starter
12 V Starter

Charging system
switch mode power supply from AC genhead

System voltage
12 V DC

Recommended battery
75 AE BBO CCA Marine

Battery tray dimensions
20 x 30 cm / 10 x 12 inches

Speed control
Electronic governor Woodward L-series

Mixture control
Automated with Wide Band Oxygen Sensor

Performance - Thermal Energy Output

Maximum Outlet Temperature
90˚C (194˚F)

Return Temperature Range
40˚C – 90˚C (104˚F – 194˚F)

Standard Temperature Difference
10˚C (50˚F)

Heating Water Volume Flow
Variable

Max Heating Water Volume Flow
50 gpm

Maximum Thermal Output
50 kW