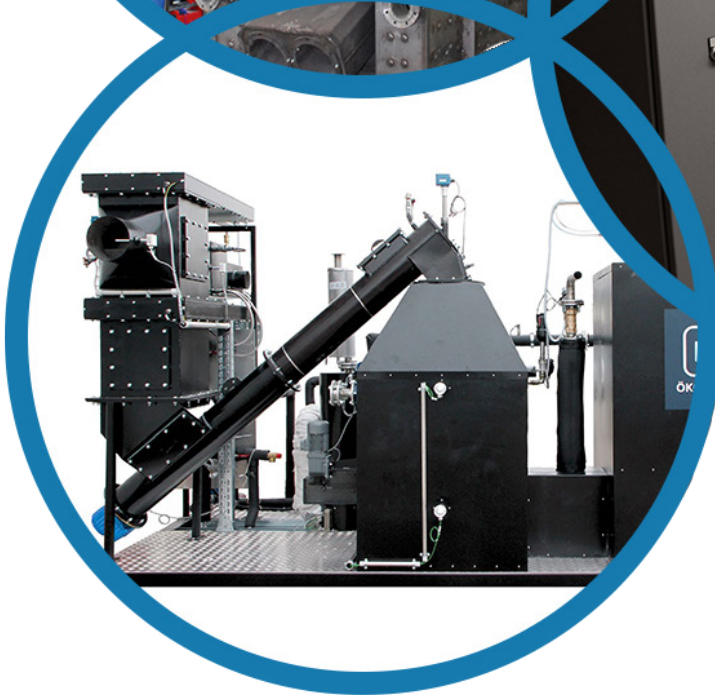




**MYRIAD**  
HEAT AND POWER PRODUCTS



# CHP

Options

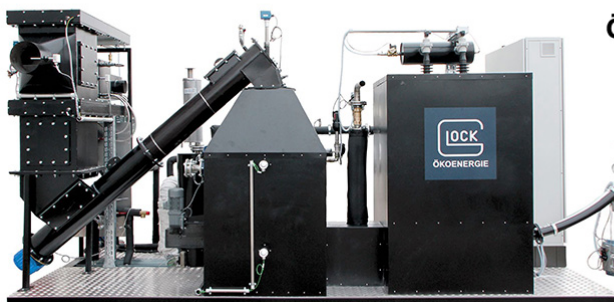
1. Financial incentives for CHP from solid fuels

	Biogas CHP	Biomass CHP
<b>Mechanism</b>	Gasification of solid biomass into syngas which is burnt in an internal combustion engine with directly coupled generator.	Thermal combustion of solid biomass to either heat a medium (water, steam, thermal oil) or using hot flue gasses directly in a turbine or screw expander generation plant.
<b>ROC subsidy (16/17 support)</b>	1.8 ROCs for Advanced Gasification	1.8 ROCs for Dedicated Biomass with CHP
<b>RHI thermal subsidy</b> (current support levels, subject to digression)	7.6 p/kWh, no cap on usage	4.1 p/kWh, no cap on usage

2. Biogas

Wood Chip - Small commercial gasifier

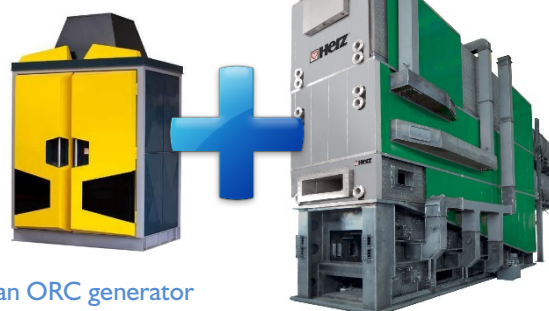
Fuel type	Wood chip
<b>Fuel specification</b>	P31s-P45S / class A1 / G30 W10/20/30/40
<b>Electrical output</b>	18 kW
<b>Thermal output</b>	48 kW
<b>Fuel consumption</b>	20 kg/hr / 155 T/yr
<b>Container option</b>	5.2 x 2.2 x 2.6m Skid + fuel storage
<b>Overall efficiency</b>	80-83%
<b>Gross electrical efficiency</b>	~30%



3. Biomass

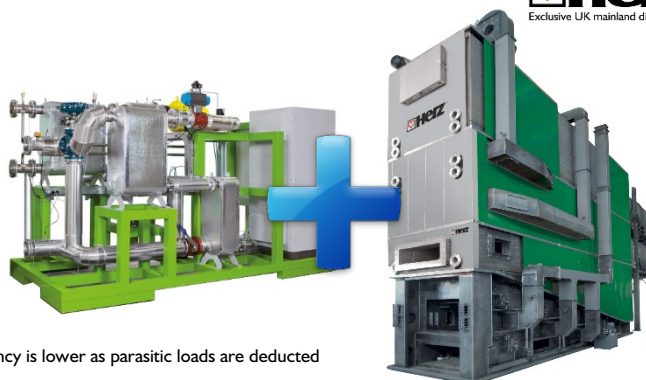
I. Large commercial combustion unit delivering flue gas to an ORC generator

Fuel type	Wood chips
<b>Fuel specification</b>	G30, 50 or 100 / W10, 30, 40 or 50
<b>Electrical output</b>	175 kW
<b>Thermal output</b>	650 kW
<b>Fuel consumption</b>	550kg/hr / 4,000T/yr
<b>Overall efficiency</b>	80-85%
<b>Electrical efficiency</b>	16% (gross)



II. Large commercial combustion unit delivering Hot Water to an ORC generator

Fuel type	Wood chips
<b>Fuel specification</b>	G30, 50 or 100 / W10, 30, 40 or 50
<b>Electrical output</b>	105 kW
<b>Thermal output</b>	1,150 kW
<b>Fuel consumption</b>	550kg/hr / 4,000T/yr
<b>Overall efficiency</b>	80-85%
<b>Electrical efficiency</b>	14% (gross)



Notes and glossary:

- **ROC:** Renewable Obligation Certificate
- **RHI:** Renewable Heat Incentive
- **Electrical efficiency:** Electrical output divided by total energy input
- **Gross electrical efficiency:** excludes parasitic loads. Net electrical efficiency is lower as parasitic loads are deducted
- All fuel consumption is based on 7500 full load hours per year