

Wood gas power plant without compromise

The fuel makes the difference

The company



Wood gas power plant



Process engineering



Automation

- Supplier of turn-key wood power plants
- Consultants for process engineering
- Company for automation and mechatronics
- Head quarter in Austria / Tyrol (Schwaz and Aschau)
- Foundation 2009

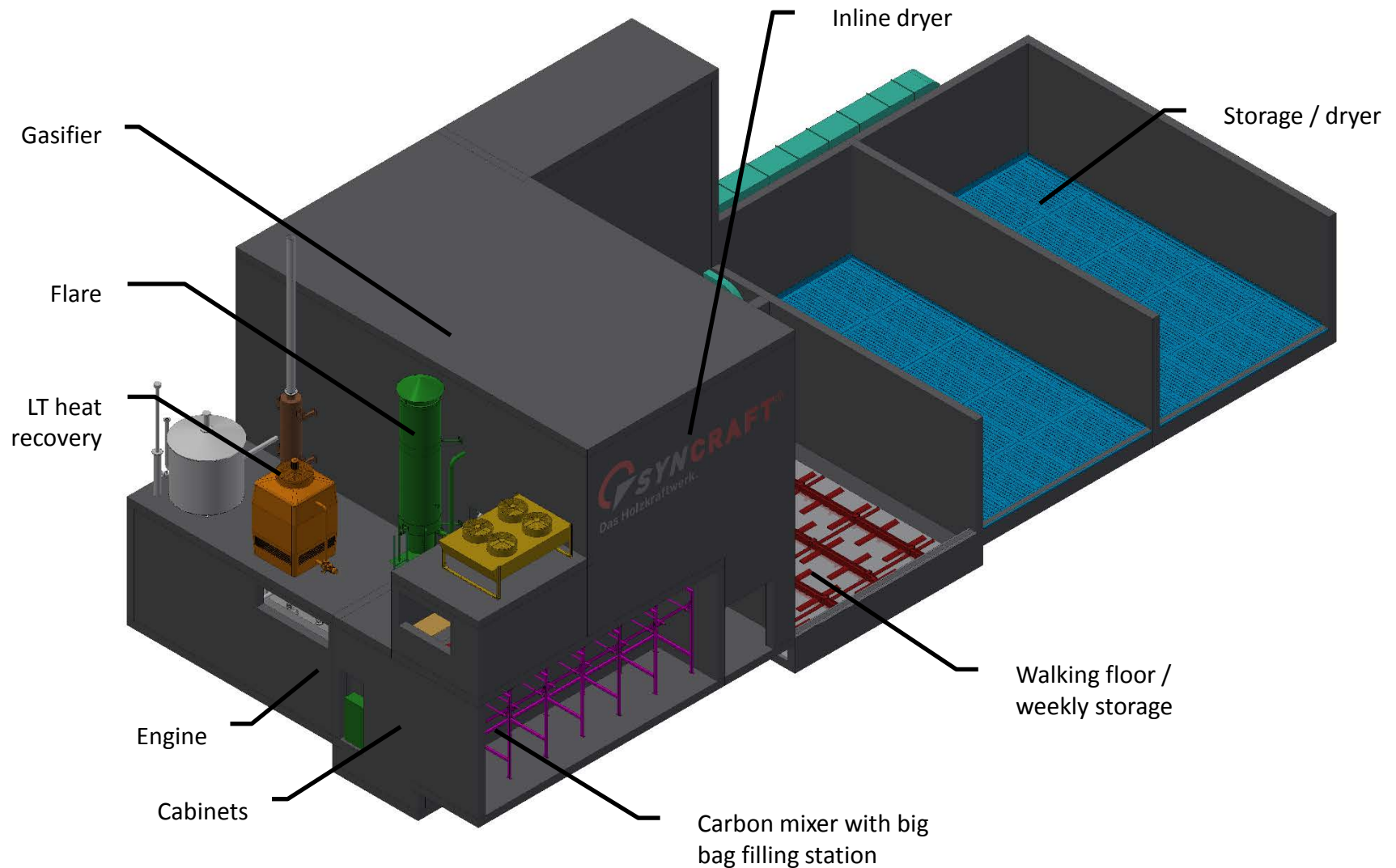
The product

Wood power plants in the power range up to 400kW*

	CW 700-200	CW 1000-300	CW 1200-400
Electrical power	200 kW	300 kW	400 kW
Thermal power (basic variant)	326 kW	488 kW	615 kW
Thermal power up to	481 kW	719 kW	920 kW
Fuel heat capacity	721 kW	1.067 kW	1.368 kW
Fuel demand	140 kg/h	208 kg/h	267 kg/h
Specific fuel demand	0.70 kg/kWh _{el}	0.69 kg/kWh _{el}	0.67 kg/kWh _{el}
Charcoal by-product	1.95 m ³ /d	2.9 m ³ /d	3.7 m ³ /d

* In combination of multiple plants in parallel higher power levels are achievable

The wood power plant

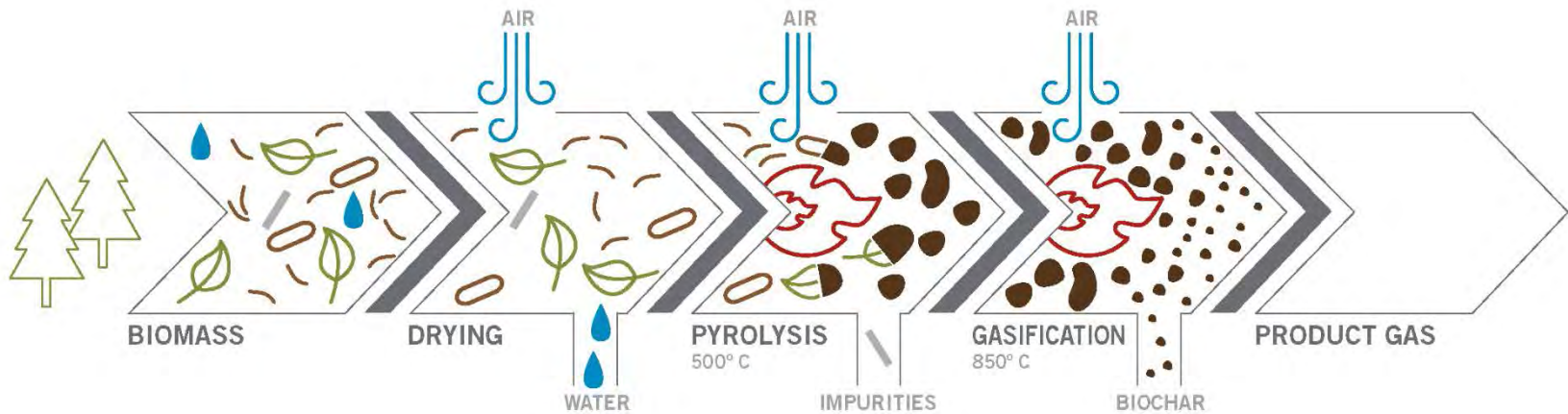


The wood power plant



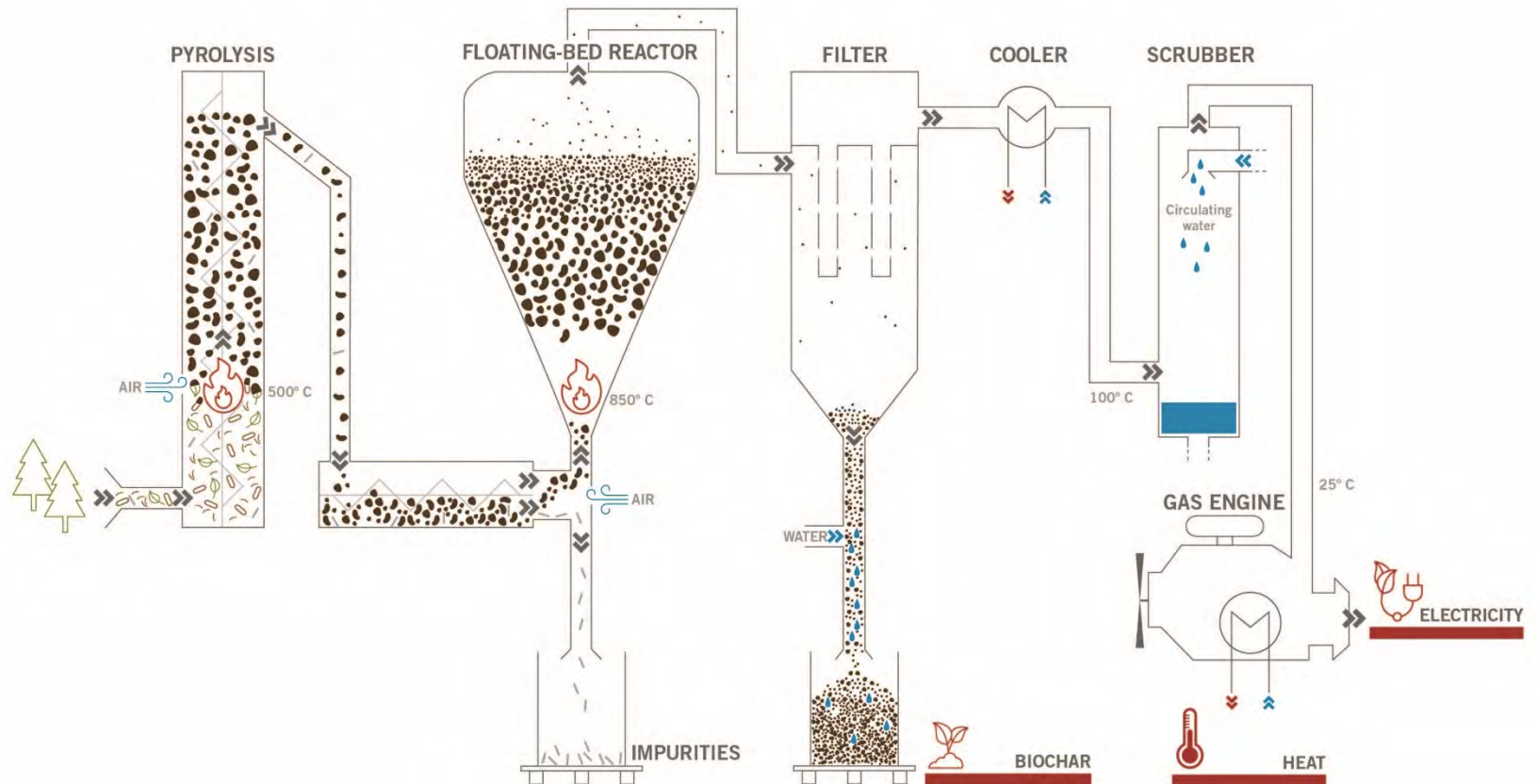
The process

Process flow scheme



Multi-staged conversion process of wet, solid biomass into a clean producer gas.

The technology



**The fuel including
fines and bark**

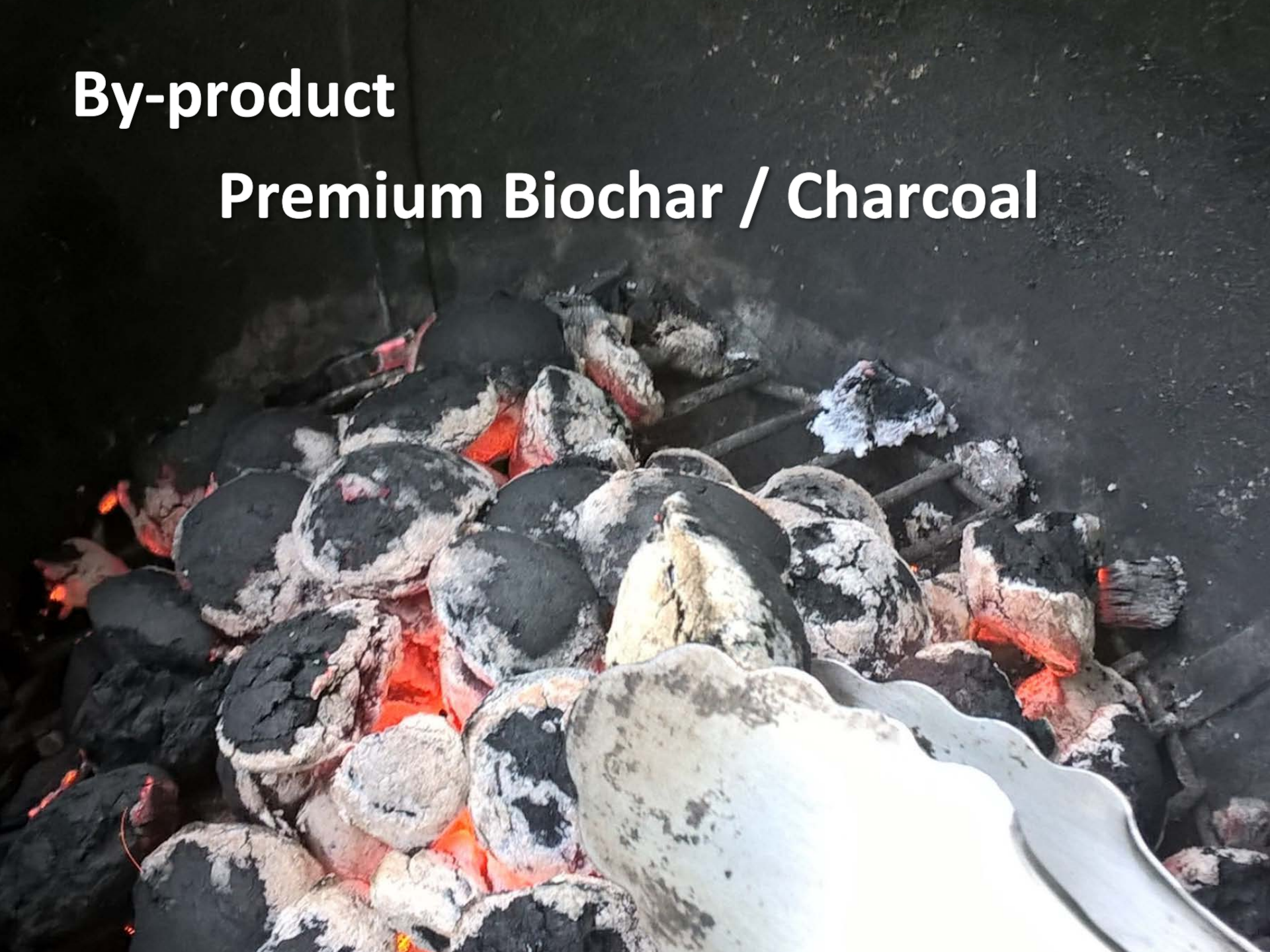


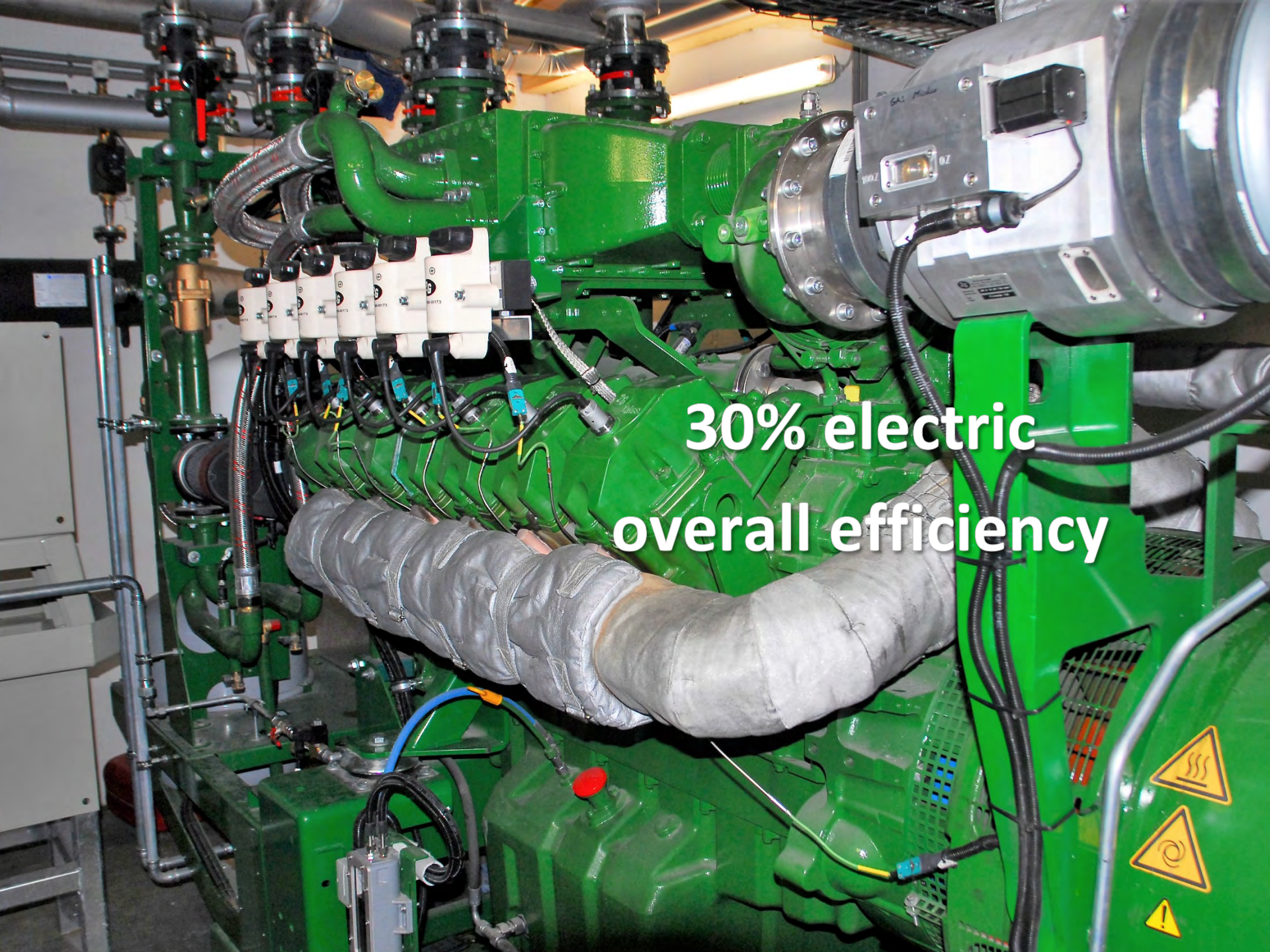


**Clear condensate
without any treatment**

By-product

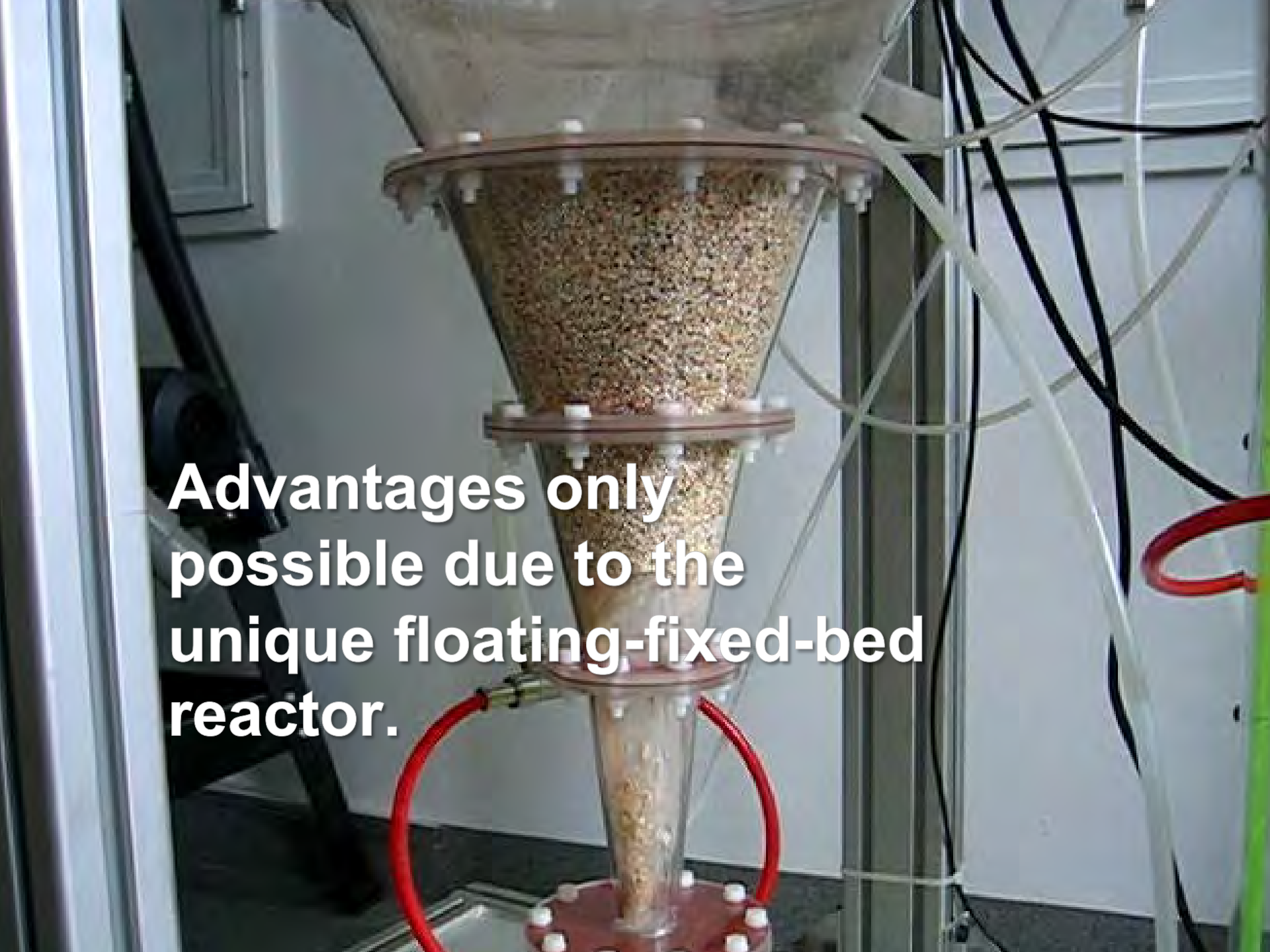
Premium Biochar / Charcoal





30% electric
overall efficiency

The image shows a complex industrial machine, likely a gas engine generator set. The main engine block is painted a vibrant green. A large, horizontal pipe, wrapped in thick grey insulation, runs across the front of the engine. To the right, a large silver generator is mounted, with various electrical cables and connectors visible. On the left side of the engine, there is a row of white electrical control modules. The machine is surrounded by various pipes, valves, and mechanical components, all set within an industrial environment.



**Advantages only
possible due to the
unique floating-fixed-bed
reactor.**

The fuel makes the difference

50% of operational costs are related to the fuel.



Wood chips

0* – 110 EUR / ton

185.000 EUR annual fuel costs**



High Quality wood chips

110 – 175 EUR / ton

303.000 EUR annual fuel costs**



Wood pellets

180 – 250 EUR / ton

421.000 EUR annual fuel costs**

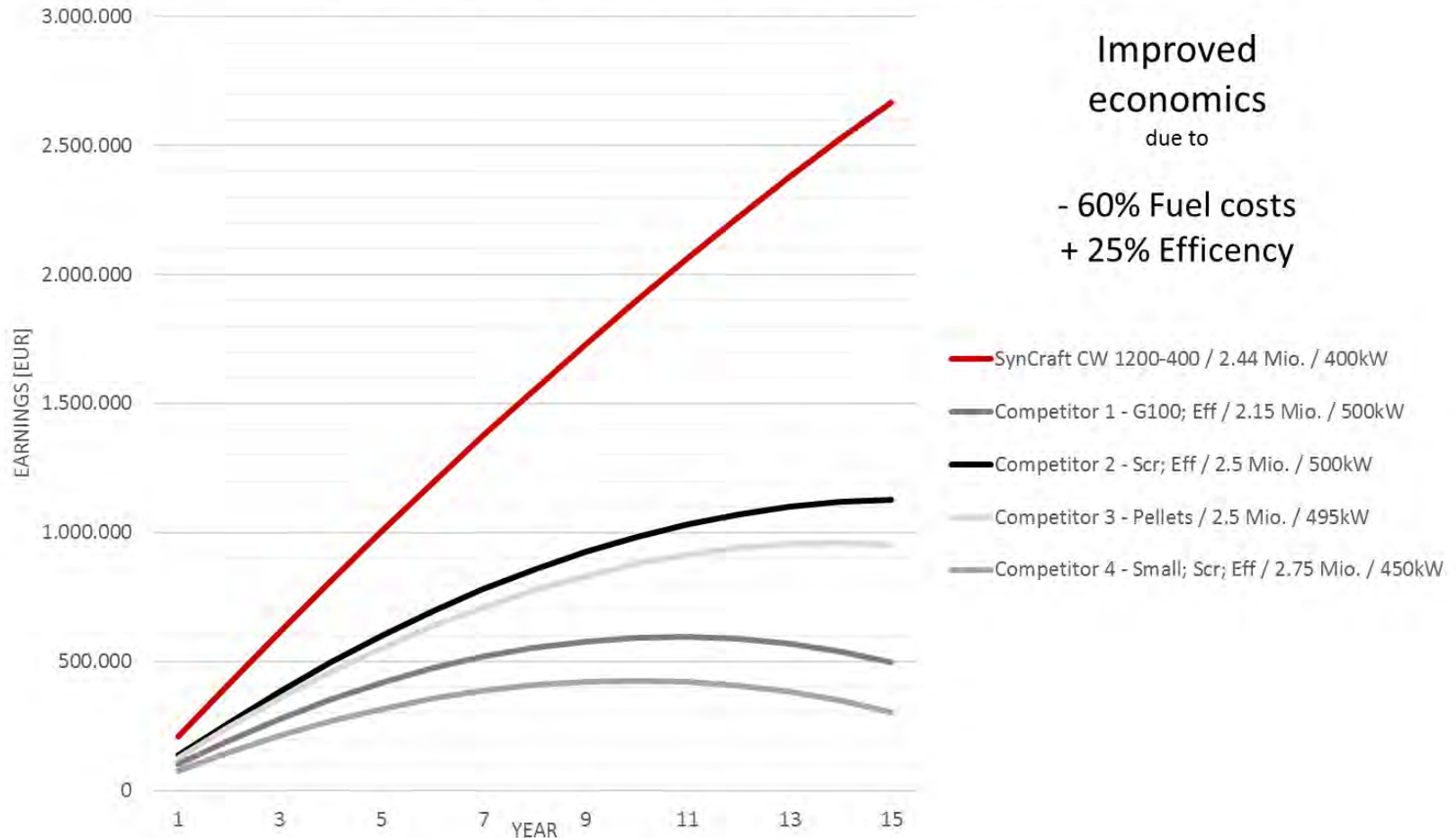
* Utilization of demolition wood chips possible

** Based on a 1 MW fuel power plant

The fuel makes the difference

Comparison of economics

Basis: 22,22 cent/kWh power, 3 cent/kWh heat, 7.500 hours per year, 4% interest; 2% rising prices; G100 chips 150 €/t; Standard chips (15% fines) 100€/t; Pellets 190 €/t; O&M and investment derived from manufacturer data



The References (selected)



SYNCRAFT®Werk CW 1000-300 / Innsbruck / AT

Commissioned early **2017**; produces **261kW** power and **601kW** heat. Delivered including low-temperature heat utilisation and dryer.



SYNCRAFT®Werk CW 1200-400 / Stadl / AT

Commissioned end **2016**; produces **324kW** power and **784kW** heat. Delivered including low-temperature heat utilisation and dryer.



SYNCRAFT®Werk CW 700-200 / Dornbirn / AT

Commissioned end **2014**; produces **220kW** power and **500kW** heat. Delivered with 185kW power. Low-temperature heat utilisation retrofitted 2016.



SYNCRAFT®Werk CW 1000-300 / Vierschach / IT

Commissioned mid **2014**; produces **300kW** power and **488kW** heat. Gas engine, dryer and feeding system supplied by customer.



Many thanks. Questions?

Regional
Wood-Energy
Power Households
Jobs
Patent CO₂-neutral
MCI-spinoff E-mobility
High-tech
Renewable
Wood-utilisation
Added-value
Tyrolean-technology
Baseload-supply