



THINK NOW ABOUT TOMORROW

The fossil fuel age is coming to an end and bioenergy is increasingly becoming the focus of future-oriented business. It's time to get to know **US**.

In the energy production of tomorrow, wood will play a particularly important role. With our wood power plants, the renewable raw material can be utilised optimally. This proprietary and patented technology generates more electricity and heat. Furthermore, bioenergy is the only renewable energy that can be switched on and off when needed.

We will guide you throughout the entire transition phase to resource efficient and sustainable energy output and will hand over our wood power plant turnkey.

Marcel Huber, Georg Kreutner and Jan Krueger
Management of SYNCRAFT



SynCraft Engineering GmbH
Münchner Strasse 22
6130 Schwaz, Austria

T +43 (0) 5242 62510
F +43 (0) 5242 62646
office@syncraft.at

www.syncraft.at



ENERGY IS A CIRCLE.

we close it.





THE FUEL

Our wood power plants are designed for the utilisation of low-cost fuel. Thus, they fully rely on residual fractions such as forest wood chips. Depending on the location, we build our plant on a scale that allows using regional fuels from the surrounding area. This eliminates long transport and reduces the impact on our customers and the environment. Nevertheless, it is important to hold on to specified fuels in order to utilise the full potential of our technology.

THE CO₂ SINK

Thanks to the SYNCRAFT floating fixed bed technology, no ash is generated but instead premium charcoal is produced. Taking into account the produced charcoal and its recovery in the soil, where our coal is stored in a stable state for a long time, we can even speak of negative emissions. This has already been scientifically investigated and proven by means of a life-cycle analysis of one of our power plants. In our wood power plants, we can even achieve a CO₂ reduction thanks to NET - a Negative Emissions Technology.



BENEFITS



CLEAN ENERGY

Wood is a regional, renewable fuel which is transformed to clean energy in our wood power plants, free of fine dust emissions and residues.



COST-EFFECTIVE

Our wood power plants work entirely stand-alone and do not require any auxiliary materials. The only raw material required grows right in the neighbourhood.



ZERO EMISSION

Our climate-positive wood power plants go even beyond Zero Emission. With every kilowatt hour generated, we bind emissions.

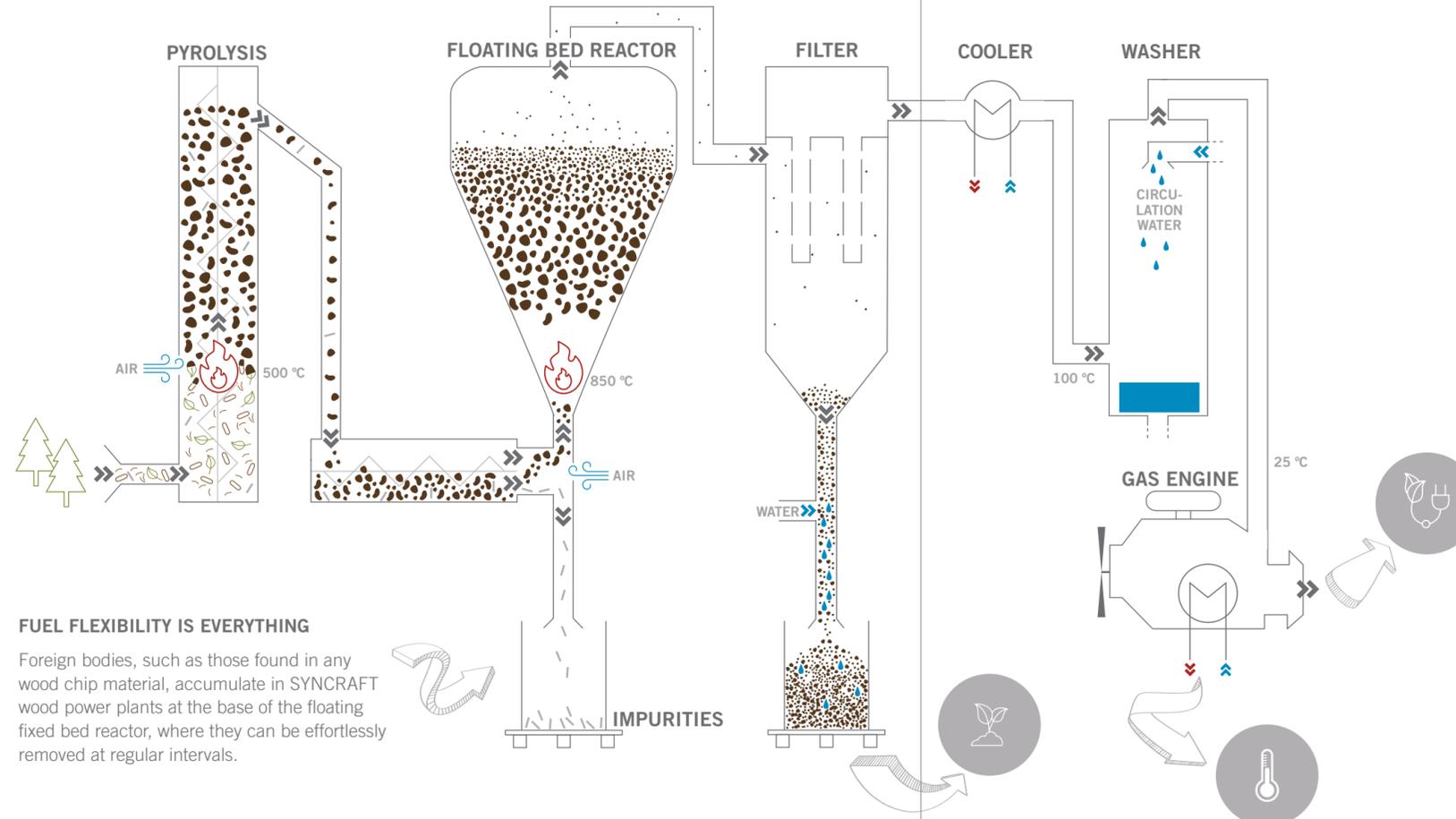


EFFICIENT

An electrical efficiency rate of 30 % with a fuel utilisation rate of 92 % demonstrate what modern wood power plants are capable of.

PATENTED FLOATING FIXED BED TECHNOLOGY

Using classic fixed bed reactors, the gravity as well as the gas flow are directed downwards causing increased compaction. In the SYNCRAFT floating fixed bed reactor - these two forces act in opposing ways. This difference ensures the charcoal filling the gasifier always remains loosened and well permeable, no matter how fine or structured the wood chips were before.



FUEL FLEXIBILITY IS EVERYTHING

Foreign bodies, such as those found in any wood chip material, accumulate in SYNCRAFT wood power plants at the base of the floating fixed bed reactor, where they can be effortlessly removed at regular intervals.

THE PROCESS

- The fresh forest chip material is dried with heat generated within the wood power plant.
- Dry wood chips are thermochemically transformed into a gaseous fuel.
- In an engine with a generator, this gas is finally converted into electricity and heat.



POWER is the core product of each of our wood power plants. SYNCRAFT wood power plants generate approximately 0.3 kW electricity from 1 kW fuel. Our wood power plants do not require any additional fuel to generate electricity from the gas engine. In addition, despite high energy output, the emission values in all areas remain significantly below the expected limit values. Absolutely free from fine dust, base load and part-load ready and resistant against dark doldrums.



HEAT may be only a by-product of our wood power plant, but it is nevertheless the largest output in terms of the amount of energy produced. SYNCRAFT wood power plants, generate up to 0.62 kW of heat from 1 kW of fuel. We work closely with our customers to create bespoke heat utilisation profiles matching their individual needs and requirements.



CHARCOAL in high quality is the third valuable product of our wood power plants. From an economic point of view, our investments therefore generate revenue where expenditure would be expected in other systems. From the ecological point of view, charcoal, properly applied, enables long-term storage of fertiliser substances in the soil. This means that the use of fertilisers can be minimised in the long term. Our charcoal is also used as an animal feed supplement and as BBQ charcoal.