



# **REDUCE ENERGY COSTS AND TRANSFORM YOUR BUSINESS WITH CO<sub>2</sub>-FRIENDLY BIOMASS POWER PLANTS!**

**Sustainable energy solutions | Spanner Re<sup>2</sup> GmbH**



# OUR MISSION

## >>RETHINK ENERGY

Spanner Re<sup>2</sup> GmbH

- Our credo is to **Rethink energy**, and we are committed to CO<sub>2</sub>-friendly energy solutions
- For **more than 20 years**, we have been **manufacturing biomass power plants**, that produce **CO<sub>2</sub>-neutral or CO<sub>2</sub>-negative** energy\*

\*depending on the fuel you used



[Link Website](#)



## YOUR CHALLENGE

### **RISING ENERGY COSTS & FOSSIL DEPENDENCE**

- ✗ High energy costs?
- ✗ Large CO<sub>2</sub> footprint?
- ✗ Dependence on fossil fuels?
- ✗ Unstable energy supply?
- ✗ Your energy demand varies?
- ✗ You have residual materials from your business that are not profitable?



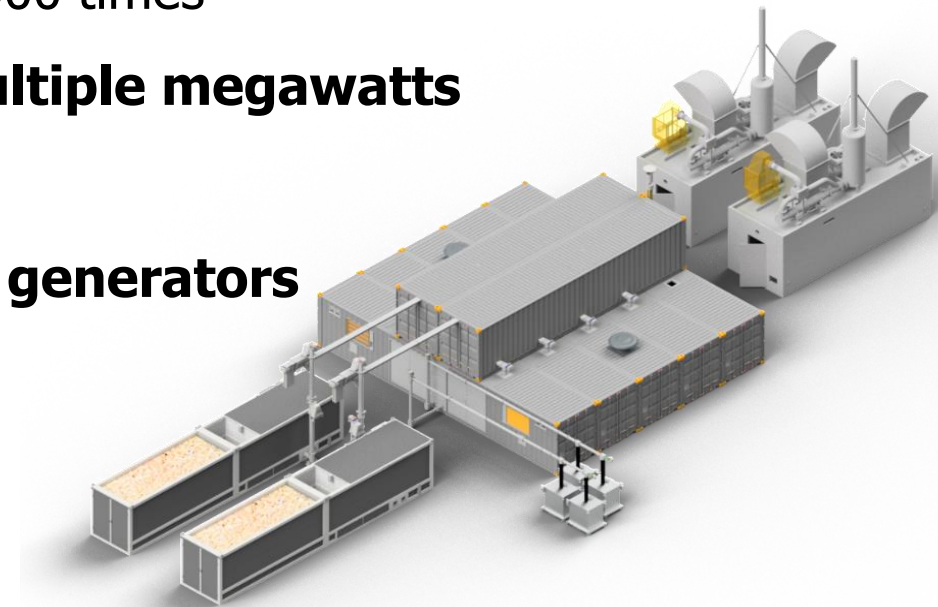


## OUR SOLUTION

# DECENTRALISED ENERGY SYSTEMS FROM SPANNER RE<sup>2</sup>



- Convert **biomass & residual** materials into **electricity + heat or syngas**
- CO<sub>2</sub>-neutral, cost-effective technology proven over 1,000 times
- **Scalable** from 35 kW electric / 500 kW gas **up to multiple megawatts**
- Value added stays in the region
- Sustainable and **cost savings alternative to diesel generators**
- Can be **combined** with existing diesel generators or other renewables such as **PV and storage**



A dark blue rectangular box with a small green square in the top left corner. The word 'SYNGAS' is written in large, bold, light blue capital letters in the center.

# SYNGAS

## WHAT IS SYNTHESIS GAS?



**Synthesis gas or syngas for short** is a gas mixture consisting mainly of carbon monoxide (CO) and hydrogen (H<sub>2</sub>) that is produced in our energy plants from waste or biomass.

If only wood chips are used in the system, it is also known as **wood gas**.



## WASTE TO ENERGY

### FUEL OF THE FUTURE

We produce synthesis gas from a wide range of waste materials, including

- roadside greenery
- waste wood or residues from wood processing
- forestry thinnings
- MDF and chipboards
- plastics



Our technology allows **up to 50% of plastic waste** to be used as fuel in our plants, along with wood chips, **to produce a high-quality synthesis gas.**





Waste wood or residual fractions from wood processing



Nut shells

# WASTE TO ENERGY



Roadside greenery



Pallets / Fruit boxes



Plastic waste



Forest residues wood



Kernels



chipboard or MDF remnants

Find out more about the **energy potential** of your **waste** materials!



**SCAN ME**

All about Re<sup>2</sup> energy from residues

[Link to website](#)

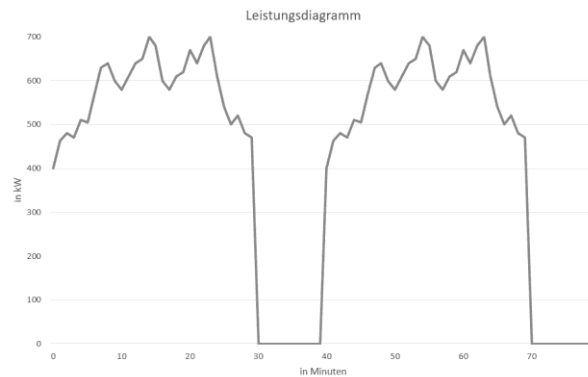




# SCALABLE TECHNOLOGY FOR VARIOUS NEEDS

Proven 1,000 times over

- Good partial capacity
- Flexible in operation (50-100% power) & in the range of input materials
- Environmentally friendly & future-proof







## HOW TO USE

## APPLICATIONS

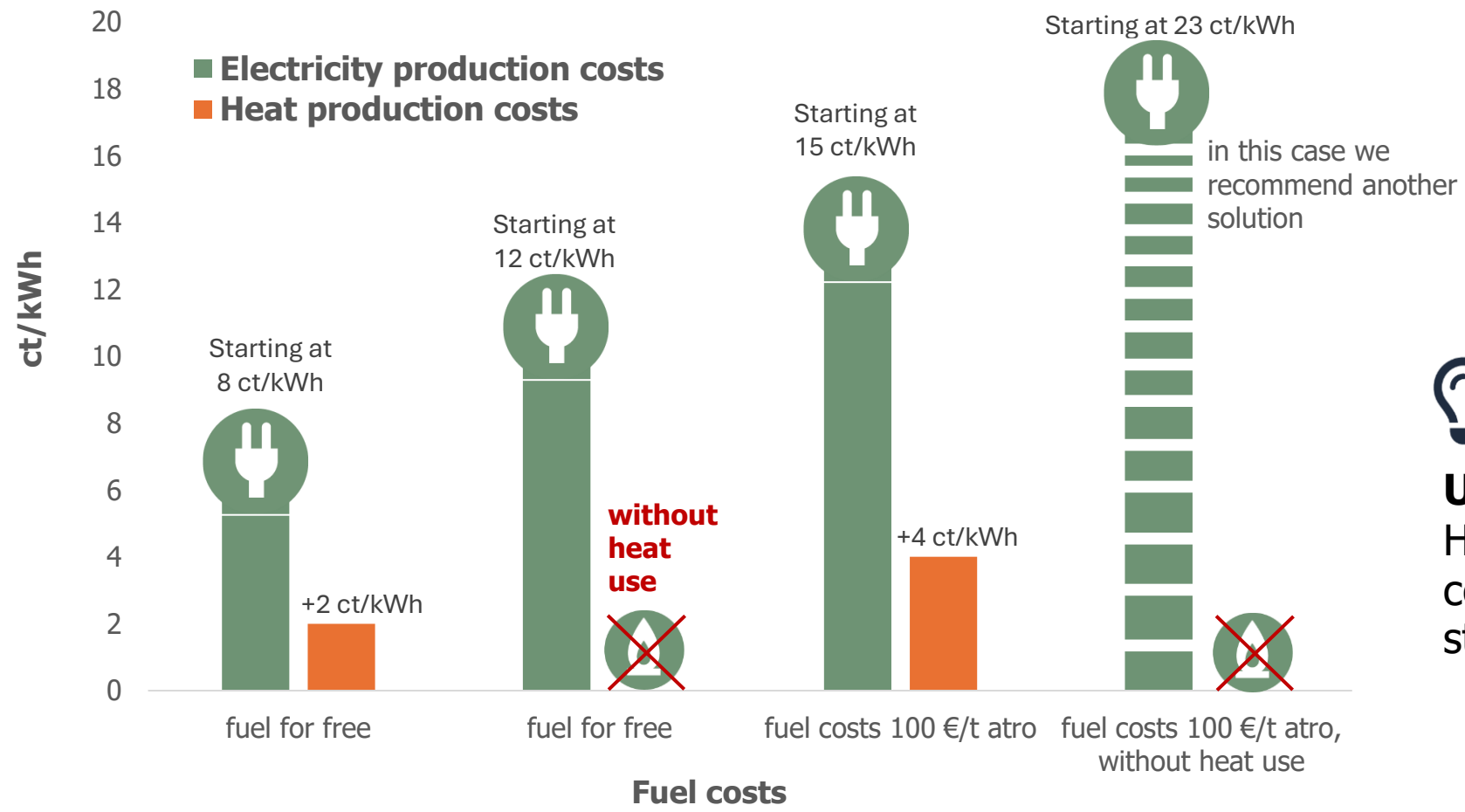
The synthesis gas can be used in a variety of ways

- **Electricity + heat generation** (from 35 kW to 3 MW electric)  
Combined heat and power unit (CHP)  
**Electricity producing costs** starts at **8 ct/kWh** + about 2 ct/kWh for the use of the heat
- **Natural gas replacement** (500 kW up to 10 MW gas)  
Synthesis gas can be used directly as an alternative to natural gas in industrial processes  
**Gas producing costs** starts at **15 € per MWh**
- **Refrigeration**  
The heat generated can be used for decentralised cooling if no heating concept is available



# ENERGY COSTS

## COST OF PRODUCING ELECTRICITY & HEAT DEPENDING ON FUEL COSTS

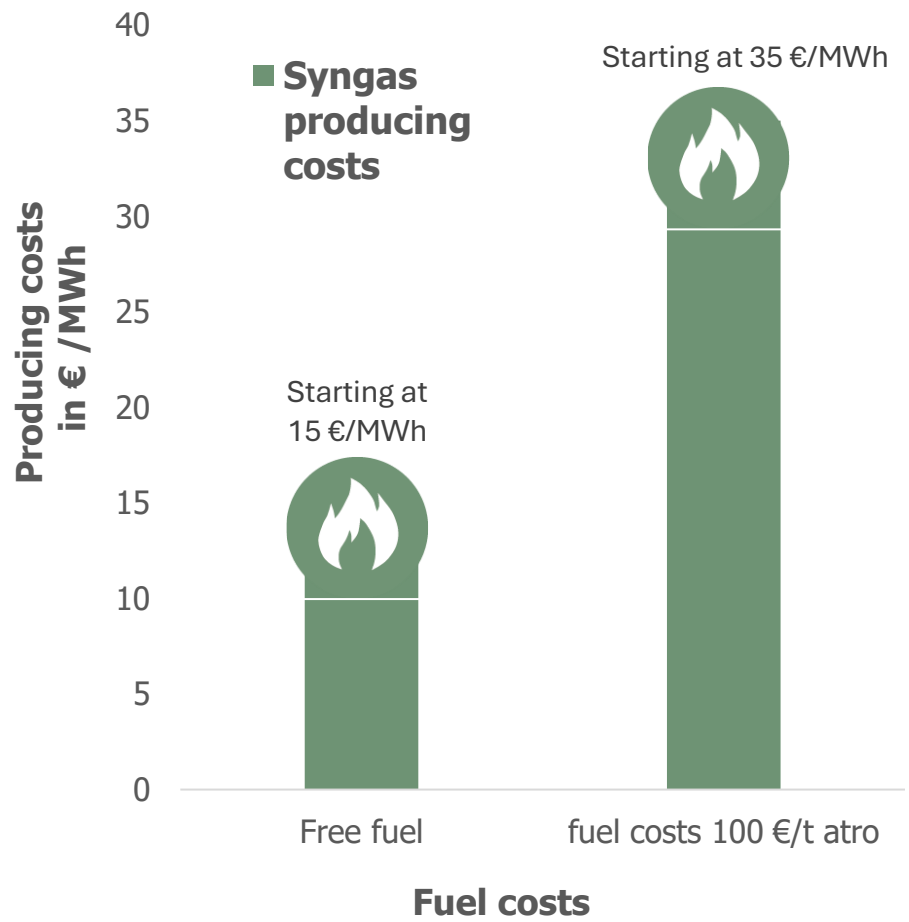


**Use to heat is recommended.**  
Heat can also be used for cooling, industrial processes or storage.



# COST OF PRODUCING SYNGAS DEPENDING ON THE COST OF FUEL USED

## SYNGAS COSTS



This requires a **long system runtime** and **constant energy demand** throughout the year.





## DIESEL REPLACEMENT

### REPLACING DIESEL GENERATORS with decentralised Biomass power plants

The use of synthesis gas is particularly economical when it comes to replacing diesel in decentralised applications. With free fuel, we can produce synthesis gas at a cost of **around 10 cents per litre of diesel equivalent**.

If additional costs are incurred for the procurement and processing of the residual materials, the costs start at **around 20 cents per litre of diesel equivalent**.



You can also **combine our technology** with a **diesel generator** set that you already have or other renewable energy sources!

[Link website](#)



## DIESEL REPLACEMENT

### ECONOMY EFFICIENCY

Replace 1 MW diesel genset with Biomass power plants from Spanner Re²

- **Save over 50% in operating costs**
- Depending on the level of automation of the system, there is the **potential to create between 7 and 20 jobs in the region**, particularly in the areas of fuel procurement, logistics and maintenance
- A conventional **1 MW diesel genset** requires **around 2 million litres of diesel** per year for 8,000 hours of operation, resulting in significant running costs
- The investment in a Re² energy system can therefore **be recouped in just a few years**
- You can **create a local, sustainable value chain** instead of diverting capital for imported fuel



## ACTIVE WORLDWIDE

Expertise of over 20 years

- With **more than 1,000 systems installed globally**, we are the leading manufacturer in the industry of decentralised biomass and residue gasification
- Our systems are designed to allow you to **service and maintain them yourself**
- **Transform your business** and become energy independent with our systems



1 MWeI project in Thailand





# CONTACT US AND GET FREE ADVICE

Contact form



**SCAN ME**

Contact form Spanner Re<sup>2</sup>



[www.re2.energy](http://www.re2.energy)



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