

aht

 **CleanTec Solutions**
for Green Energy



Utilizing
Waste



Using
Waste Heat



High
Temperature



Chemical
Recyclables



Reducing
CO₂ Emissions



Power, Heat,
Cooling



AHT plans and installs CleanTec plants that generate high-temperature, heating, cooling, electricity or chemical raw materials from biogenic residues – directly at the customer's site, suitable for his needs.

Our biomass power plants enable decentralized energy and raw material production directly at industrial, agricultural or municipal sites, supplying them with affordable green energy. We offer various operator models to domestic and international customers, from plant supply to complete operation by AHT.

Important to note, unlike traditional thermal recycling methods, such as incineration, AHT prioritizes complete material recycling, including the recovery of clean gases, phosphorus separation, production of fertilizer ash, and the full utilization of resulting heat.



AHT plants treat liquid and solid residues and convert them into energy carriers.

AHT Core Competence: Processing of Input Materials

On our customers' path towards sustainability, AHT can manage the preparation or procurement of the required feedstock. Biogenic residues can be prepared by hydrothermal carbonization, shredding, and/or briquetting to suit the biomass power plant, depending on their nature. A wide range of residual materials from agriculture, food production, or industrial manufacturing are suitable for this purpose, including liquid manure, fermentation residues, sewage sludge, green waste, rice husks, waste wood of all qualities, nutshells, and various other biogenic materials.



AHT Core Competence: Synthesis Gas Generation

At AHT, we take pride in our reliable twin-fire gas generators, which ensure highly effective energy production while largely eliminating organic pollutants at temperatures ranging from 1000°C to 1200°C. With suitable feedstocks, our customers do not require CO₂ certificates.

Additionally, we have the ability to integrate separation equipment for CO₂ and H₂ in the future.

AHT Core Competence: Gas Cleaning

In addition to our energy generation capabilities, we are also proficient in purifying the synthesis gases produced. Our advanced wet cleaning technology offers benefits for all parties involved, including fewer pollutants released into the environment, very clean gases for further recycling, and lower maintenance costs for our customers.

For example, our plants' purified synthesis gas provides an excellent starting point for the production of new raw materials such as artificial methane (CH₄), which can be used to create new products or utilized in-house.

Additional Options

Thanks to our commitment to continuous process development and collaboration with more than 400 AHT partners, our biomass power plants will soon have the capacity to produce not only electrical and thermal energy, but also high-purity hydrogen and captured CO₂ in addition to phosphorus. In the foreseeable future, we will also be able to produce e-fuels directly on-site.

We can provide our customers with a customized plant and process chain that does not release CO₂ or heat into the environment.

Who Should Consider an AHT Biomass Power Plant?

Any company that:

- wants to reduce its dependence on natural gas, with an hourly demand of 1000 kW of electrical or 1500 kW of thermal energy
- requires high process temperatures above 800°C

Example Calculation of AHT Biomass Power Plant:

With an input of 5000 tons of waste wood chips* per annum, our plant can produce 1000 kW (7500 MWh per annum) of electrical energy and 1500 kW (11250 MWh per annum) of thermal energy. The cost per kWh is below the current energy price, so it is usually an economical solution for companies looking to reduce their energy costs.

*according AHT wood specification



- currently still produces its hot gas requirements with fossil fuels such as lignite
- has direct or indirect access to biogenic residues of at least 5000 tons per annum
- has a demand for high temperature (<400°C) heat

Power Classes AHT Twin-fire Reactor

Model Series	R 111	R 116	R 123
Hot gas output (for thermal use) up to	700 kW	1500 kW	1500 kW
Electrical power _{el}	200 / 500 kW	400 / 500 kW	1000 kW
Thermal power _{th}	185 kW-275 kW	360 kW-550 kW	1100 kW



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