



**Climate Positive Decentralized Energy**  
**Reduce CO<sub>2</sub> Emission using Local Resources**  
**(Biomass Waste, Plastic Waste & more)**



# Who We Are & What We Stand For



At AHT CleanTec, we transform resources into climate-positive decentralized energy, aiming to positively impact 1 billion lives by 2030.

Our vision is to create a lasting legacy through sustainable innovation, expanding beyond the energy to build a reliable and resilient future.

We are grateful for the opportunities Japan has offered us and we look forward to strengthening our partnerships moving forward!



# Understanding Japan's Renewable Energy Efforts

## Key Insights

### Carbon Neutrality & Decarbonization Strategy

- Japan aims for carbon neutrality by 2050 and a 46% reduction in emissions by 2030
- Japan promotes carbon capture, utilization, and storage (CCUS) and biomass fuels
- Renewables will be a main source of energy

### Significant Biomass Potential

- Japan's abundant forests cover 69% of the land

### Hydrogen Leadership

- Japan is advancing on hydrogen energy projects (i.e. Fukushima)



# Conditions for the use of biomass

## Excellent Opportunities

- Large quantities of biomass ensure security of supply
  - Additional boost through the traditional & sustainable Japanese Daisugi method
- Thinning of forests has significantly increased the production of wood chips, and ideal input for gasifiers
- Energy self-sufficiency is promoted, ensuring stable power in resource-limited area of Japan, independent of fossil fuels
- Strengthening rural regions through the utilization of local biomass resources and encouraging energy independence



# CleanTec Solutions for Green Energy



## Overview of our Product

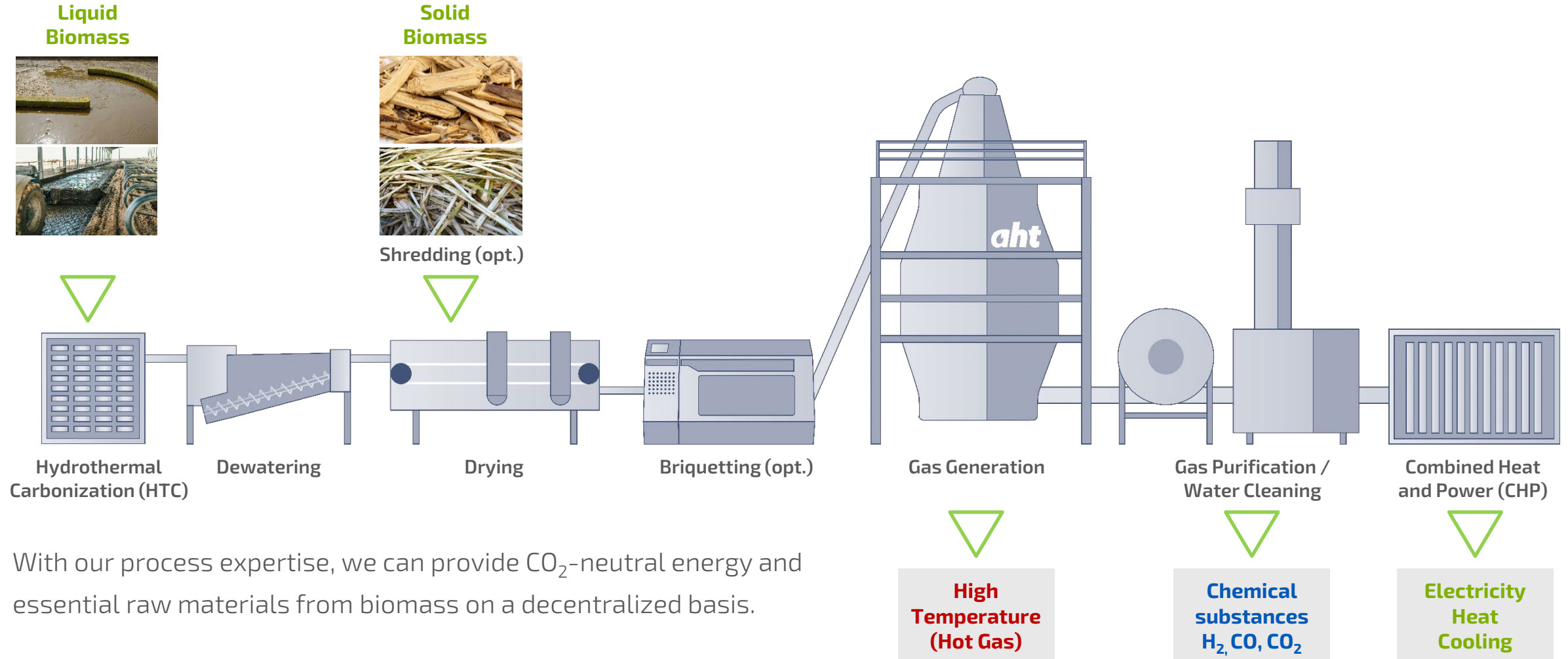
We design and build environmentally friendly, climate positive biomass power plants and provide our customers with a base load-capable supply of clean, CO<sub>2</sub>-neutral energy using Biogenic waste residues / materials that are produced regionally.

From your requirements, our systems generate:-

- High temperature applications
- High purity synthesis gas
- Electrical and thermal energy
- Chemical recyclables (H<sub>2</sub>, CO)



# Our Process: From Waste to Recyclables



With our process expertise, we can provide CO<sub>2</sub>-neutral energy and essential raw materials from biomass on a decentralized basis.

# AHT Biomass Power Plants in Japan



## Energy production from Syngas Generation

- Successful commissioning of a 250kW biomass power plant for electricity and heat - saving 450 tons of CO2 per year
- Current: Finalizing commissioning of the first of 20 planned 2 MW power plants in Niigata Prefecture, Japan
- Two more 2 MW power plants already under construction
- Energy from synthesis gas as a significant contribution to decentralized energy supply with the support of the Japanese government



# More AHT Plants in Japan



## Syngas Purification Facility

Delivery: February 2022  
Installation site: Hyogo  
Input: Municipal solid waste  
Output: 800 Nm<sup>3</sup>/h



## Syngas Production

Delivery: December 2022  
Installation site: Fukushima  
Input: Biomass (Wood)  
Output: 400 Nm<sup>3</sup>/h



## Energy Production from Syngas Generation

Delivery: 2015  
Installation site: Miyagi  
Input: Biomass (Wood)  
Output: 800 kW<sub>el</sub>



# Let's Recap on Your Benefits



**Our CleanTec systems can ...**



Usefully recycle existing or regional waste materials



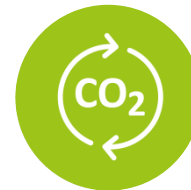
Utilize waste heat profitably



Reduce energy costs sustainably



Ensure supply security



Reduce and/or store CO<sub>2</sub> emissions



Generate highest purity recyclables

# Our Contribution to the SDGs



**THE GLOBAL GOALS**



# We look forward to hear from you!



CEO Gero Ferges

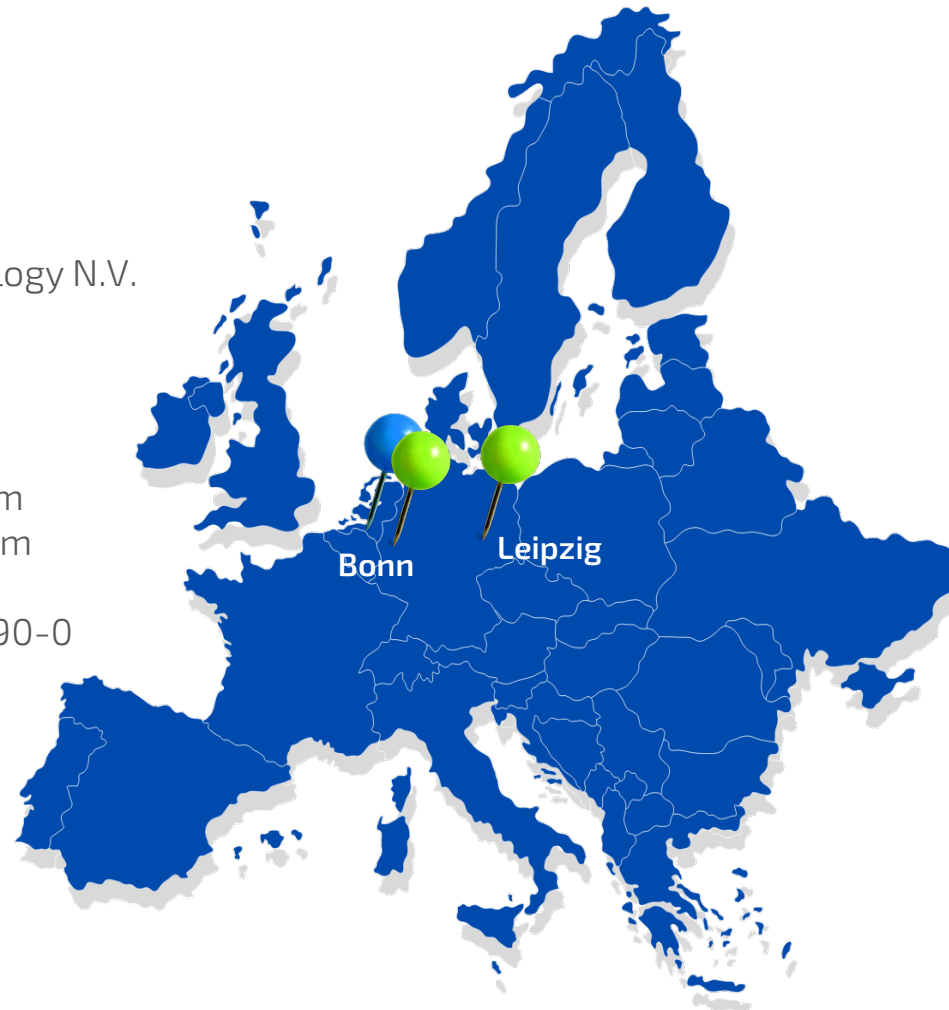


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# Additional Support for Your Business



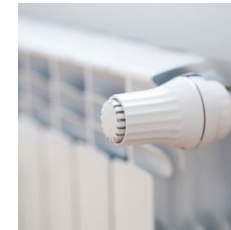
- ✓ Feasibility studies
- ✓ Permits
- ✓ Financing/ Funding
- ✓ Operating personnel



- ✓ Procurement of biomass
- ✓ Preparation of biomass
- ✓ Permanent availability of biomass



- ✓ Electricity supply contract
- ✓ Revenue from sale of electricity/use of electricity
- ✓ Project development



- ✓ Heat purchase concept
- ✓ Revenues from heat sales/heat utilization