AET Biomass Cogeneration Plant

The AET Biomass Cogeneration Plant is designed for you who want to produce heat and power and appreciate excellent and well-documented performance and availability.

Benefits for You
The benefits of an AET Cogeneration Plant includes:

- The high performing AET Biomass Boiler
  - High boiler efficiency
  - Low in-house power consumption
  - Low flue gas emissions
  - High fuel flexibility - low operating cost
  - High combustion efficiency
  - Best Available Technology
  - Fast load response
    - Plant reacts quickly in accordance with varying steam demands
  - High plant efficiency
    - Optimised heat balance
    - Good business case for you
  - High availability
    - Improved business case for you

Determining the optimal design for a biomass-fired combined heat involves many parameters such as optimal operating conditions, fuel, boiler, turbine, steam/water cycle, heat requirements.

AET can assist you in optimising the plant parameters as our expert employees have many years of experience and extensive knowledge of steam cycles, boiler systems and steam turbines.

AET Biomass Cogeneration Plant parameters
The AET combined heat and power (CHP) plants can be designed for all types of biomass. The high efficiency, very stable electricity production and extremely high availability ensure a good business case for you as the investor. The design parameters below form the basic platform for our plants:

- Fuel heat input: 25 – 170 MWth
- Net electrical power output: 7 - 60 MWe
- Net plant efficiency: 45 - 90% depending on steam requirements and process integration
  - 70 - 90% depending on district heating requirements and process integration
- Boiler design: Water tube boiler with natural circulation
  - Single pressure or double pressure (reheat, e.g. 140 bar and 25 bar)
- Operating time: At least 8000 hours without shutdown for manual cleaning
- Boiler efficiency: 91% - 94% depending on fuel moisture
- Emission values: Better than European requirements (large boiler or WID)
- Fuel flexibility: Fuel moisture content: 10 - 5%
- Auxiliary burner: Not necessary
- In-house power consumption: <2.5% of fuel heat input
- Availability: Better than 96%

To see some of AET Biomass Cogeneration Plants, click on the links below:

- Solvay - Rheinberg
- Akuo Energy - CBN
- JG Pears - Newark
- ENGIE Cofely - Biolacq Energies

18% of all district heating for Linz, the third-largest city of Austria, is served by a biomass-fired combined heat and power (CHP) plant.

Boehringer Ingelheim Pharma KG, Germany, a 70 MW power plant, using waste wood as fuel.
District heating:

- Østkraft - Rønne
- ENGIE Cofely - SODC Orleans
- Zignago Power
- Verdo Production - Randers
- Linz-Mitte

LATEST COMMISSIONED PROJECTS

The Biolacq Energies project, in Lacq, is a biomass-fired CHP plant of 54 MW, that utilises forestry wood, and clean, uncontaminated residues from wood processing. Read more about Biolacq

Tilbury Green Power is a 125 MW waste wood-fired plant, which commenced operations in 2017. Read more about Tilbury Green Power

JG Pears – Newark is a 42 MW MBM-fired cogeneration plant, which commenced operations in 2018. Read more about JG Pears - Newark

Akuo Energy - CBN is a 63 MW wood-fired cogeneration plant, which commenced operations in early 2019. Read more about Akuo Energy - CBN

FOCUS ON

Zignago Power s.r.l.– successfully producing Green Energy in Italy

The 49 MW Zignago Biomass power plant in Italy, owned and managed by Zignago Power s.r.l., belonging to the Marzotto family empire, has since its installation in 2013 been running with a very high availability (98.8%). The plant utilises wood residues and agricultural waste such as straw, miscanthus and maize. Read more