

Biomass-fired Plants

Solvay - Rheinberg

PowerCrop - Russi

Akuo Energy - CBN

JG Pears - Newark

Tilbury Green Power

Østkraft - Rønne

ENGIE - Biolaq Energies

ENGIE - BES VSG

ENGIE - SODC Orléans

Roths CoRDe - Speyside

Zignago Power

ENGIE - BCN

Verdo Produktion - Randers

WWEP - Port Talbot

FunderMax - Neudörfel

Linz-Mitte

Boehringer Ingelheim

B.W. Schneider - Eberhardzell

Swiss Krono - Heiligengrabe

Pfleiderer - Gütersloh

EPR Glanford - Scunthorpe

Pfleiderer - Neumarkt

Egger - Pannosoges

Service and O&M

Swiss Krono - Heiligengrabe

Aalborg Energie Teknik a/s Biomass Boiler Plant

Solvay - Rheinberg, Germany

AET assists Solvay in achieving its new greenhouse gas target by means of a new AET Biomass Boiler, which will lower the CO₂ emissions by 190,000 tonnes/year, as it replaces a coal-fired boiler plant. Solvay has set the target to reduce its greenhouse gas emissions by 1 million tonnes during 2017 - 2025.

With the high efficiency cogeneration plant, called the Woodpower project, in Rheinberg (Nordrhein-Westfalen), the use of fossil fuel is to be reduced by 25% at the site. The investment is a part of Solvay's strategy to serve their customers in a more sustainable and competitive way.

The plant will burn recycled wood, which will be sourced locally in order to minimise the environmental impact.

Efficient and low emissions

The AET Biomass Boiler will be designed for a fuel heat input of 90 MW_{th} and a boiler efficiency of 92%. The AET Combustion System and AET Biomass Boiler will be optimised for the project and are similar in design to the boiler at Tilbury Green Power, which was recently commissioned by AET.

The boiler is designed with a residence time of 2 seconds at 850 °C and with Inconel cladding in the furnace to protect against corrosion.

The AET Biomass Boiler has a short start-up time and a quick shut-down time as there is almost no refractory in the boiler. This also reduces the risk of slagging, reduces the cost of maintenance considerably and at the same time increases the availability.

The in-house power consumption for the boiler island, including flue gas cleaning, fans etc. is less than 1.3% of the fuel heat input. This enables Solvay to produce more power for export and/or own factory.

The combination of the AET Combustion System, AET Biomass Boiler and AET SNCR DeNOx System ensures low emissions, which comply with the German 17. BImSchV and the new BAT associated emission levels from EU. The heavy metals and Dioxines/Furanes will be well below the permissible emission limit values.

AET designs, supplies, constructs and commissions the following scope:

- AET Fuel Dosing System
- [AET Combustion System](#) with AET Spreader Stoker and AET Biograte
- [AET Biomass Boiler](#) with superheaters and economisers
- AET Tail End Heat Exchanger
- AET Combustion Air System
- Natural gas burners
- [AET SNCR deNOx System](#)
- AET Air Preheater
- Ash handling system
- Bag filter with adsorbent and active carbon injection system
- Flue gas system and stack
- Piping and ducting
- Insulation
- Structural steel for boiler house
- Platforms and stairs
- Instrumentation
- PLC system and SCADA system.

Boiler: 90 MW_{th}
111 bara
480 °C
Electrical power: 15 MW_e
Process Energy: 65 MW_{th}



The Solvay plant in Rheinberg.

Additional Information

- Update from Solvay in Rheinberg about the Woodpower project can be seen here: [Read more](#)
- To obtain more information about this biomass-fired plant and about AET: [Contact AET sales.](#)

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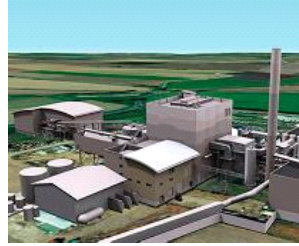
The Biolaq Energies project, in Lacq, is a biomass-fired CHP plant of 54 MW, that utilises forestry wood, and clean, uncontaminated residues from wood processing.

[Read more about Biolaq](#)



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](#)

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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](#)



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