


[Solvay - Rheinberg](#)
[PowerCrop - Russi](#)
[Akuo Energy - CBN](#)
[JG Pears - Newark](#)
[Tilbury Green Power](#)
[Østkraft - Rønne](#)
[ENGIE - Biolacq Energies](#)
[ENGIE - BES VSG](#)
[ENGIE - SODC Orléans](#)
[Rothes 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 - Pannovosges](#)

Aalborg Energie Teknik a/s Biomass Co-generation Plant:

Boehringer Ingelheim, Germany

The Task

The original coal-fired CHP plant was commissioned in 1983 to supply the pharmaceutical company with power and process steam.

In 2004, the company decided to change from coal to biomass and asked AET to perform this conversion. Since then, AET has regularly supported Boehringer Ingelheim and ensured optimal performance of the plant.

The Solutions

Retrofit in 2004: 100% biomass-fired boiler

In 2004, AET retrofitted the CHP plant from 100% coal-fired to 100% biomass-fired.

This retrofit included a fuel dosing system, AET Biomass Spreaders, AET Combustion System including modification of furnace, super-heaters, flue gas and flue gas recirculation systems, flue gas cleaning with absorbent system for utilisation of demolition wood A1 - A4 and AET SNCR DeNOx System for NOx reduction.

Upgrade in 2005: Ash re-injection and fly ash transport

In 2005, modifications of the ash handling and carbon re-injection systems were made in order to obtain a higher efficiency of the plant.

Upgrade in 2006: AET SNCR DeNOx System with chemical injection lances for ChlorOut system

The upgrade utilises the ChlorOut system for protecting the internal parts of the boiler and the superheaters against high temperature and heavy metal-chloral salt layer corrosion and fouling.

The ChlorOut system is advanced, as it is a two-step injection with dedicated sulphate liquids in order to reach a certain KCl level and reduce emissions. The KCl level is monitored by an in-situ Alkali Chloride Monitor (IACM).

In 2016, Boehringer changed the chemical injection from ammonia sulphate to iron sulphate in order to avoid a high ammonia slip.

Customer Statement

"In our conversion from coal to biomass, Boehringer Ingelheim partnered up with AET. In the process from first approach, design criteria, conversion job and further to commissioning & handover Boehringer Ingelheim felt confident with AET's high involvement & huge knowledge in the biomass & boiler technology. The plant is now converted for optimal operation and high performance."

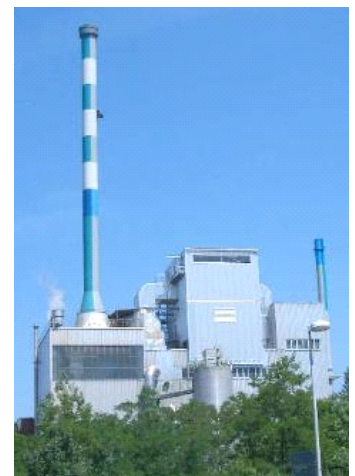
Additional Information

- For Boehringer Ingelheim it is important to safeguard employees, facilities and the environment from harmful influences, - to conserve natural resources and to promote environmental awareness: "Like all types of production, the manufacture of medicinal products inevitably has an impact on the environment. It is thus the express aim of our mission to keep this impact to a minimum": [Read more](#)
- To obtain more information about this biomass-fired plant and about AET: [Contact AET Sales.](#)

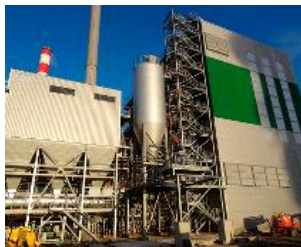
Boiler: 70 MW_{th}
76 bara
525 °C



A 3D illustration of the Boehringer Ingelheim plant, with the boiler at the bottom and the filter at the top.

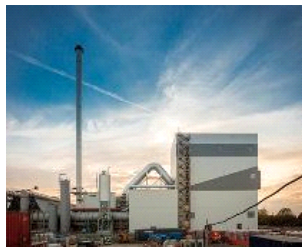


The Boehringer-Ingelheim CHP plant in Germany.



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](#)

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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, mischantus and maize. [>Read more](#)

