



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

Pfeleiderer - Gütersloh

EPR Glanford - Scunthorpe

Pfeleiderer - Neumarkt

Egger - Pannovosges

Aalborg Energie Teknik a/s Biomass Power Plant:

## Western Wood Energy Plant, Port Talbot, UK

**The Western Wood Energy Plant is a biomass-fired power plant, which was originally built and owned by Western Bio-energy Ltd.**

The plant has an annual fuel input of 160,000 tonnes, which is supplied to the site as residual forestry timber, bark, brash bales, wood chips, saw mill residues and wood chips from uncontaminated, recycled wood. The plant reduces the CO<sub>2</sub> emissions by 47,000 tonnes/year.

The biomass-fired power plant was successfully commissioned and handed over in OCT 2008: 18 days ahead of schedule.

A performance test showed that:

- The overall cycle efficiency was 30%
- The boiler efficiency was tested to 92%
- The in-house power consumption for the whole plant was only 2.4% of fuel heat input (1,150 kW).

### UK's Highest Availability

In 2009, a 6-month availability test was conducted and the overall availability for the whole power plant showed an impressive 99% (APR - OCT 2009).

The initial high availability continued for the first five years of operation and the plant still has the highest availability amongst all biomass-fired plants in the UK.

### Increase of Electrical Output

The electrical output was increased by 1 MW<sub>e</sub> during an improvement made in 2009.

### Turnkey Delivery

The delivery was carried out in a consortium between AET and a partner.

**AET designed, supplied, constructed and commissioned the following scope:**

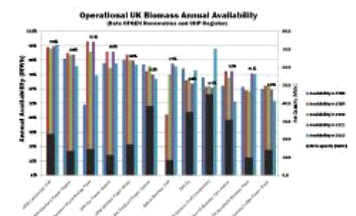
- Fuel storage and preparation
- Fuel feeding and AET Fuel Dosing System
- [AET Combustion System](#) with AET Spreader Stoker and AET Biograte
- [AET Biomass Boiler](#) with superheaters and economisers
- AET Combustion Air System
- Steam air preheaters
- Feed water system
- Oil burner
- Ash handling system
- Bag filter
- Flue gas system and stack
- Piping and ducting
- Insulation
- Structural steel for boiler house
- Platforms and stairs
- Instrumentation
- PLC control and SCADA system for the full plant
- Heat balance optimisation
- 6 year's operation and maintenance contract.

### Additional Information

Boiler: 48 MW<sub>th</sub>  
92 bara  
512 °C  
Electrical power: 16 MW<sub>e</sub>



The biomass power plant has the [AET Combustion System](#), which fulfils stringent emission criteria without the use of SNCR and lime.



Western Wood Energy Plant had UK's highest availability - Data from OFGEM

- A presentation was made at PowerGen 2011 and All Energy 2012 about the project, showing the unique performance: [Please contact sales for further information](#)
- The Western Wood Energy Plant is Wales' first commercial scale biomass project which generates 14MWe by burning forestry wood and clean wood processing residues in an AET state-of-the-art combustion plant: [Read more](#)
- To obtain more information about this biomass-fired plant and about AET: [Contact AET sales.](#)

## LATEST COMMISSIONED PROJECTS

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



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