

Margam / Port Talbot, South Wales

VØLUND™ WASTE-TO-ENERGY TECHNOLOGY - WASTE WOOD-FIRED POWER PLANT, 40 MWe

PROJECT CASE HISTORY



Project developer Eco2 secured the site and planning consent to develop the biomass facility in Margam, Port Talbot, Wales. Following a competitive tender, Babcock & Wilcox Renewable (B&W) and Interserve were awarded the engineer-procure-construct (EPC)/turnkey contract. Glenmont Partners secured financing and purchased the project at financial close, and B&W entered a 15-year contract to provide operations and maintenance services.

The biomass plant is capable of processing waste wood, including contaminated wood and fuel containing metals, with no pre-treatment required.

The plant is designed to generate 40 MW of green electricity, which is enough to supply 78,000 homes, and provide local employment opportunities through the construction and operational phases.

The solution

B&W was selected based on our experience, innovation and solution-based approach and ability to de-risk the project for the plant owner. Features include:

- **EPC solution**
- **Construction partner in the UK** – B&W works with UK construction partners with track records in the renewable energy sector to ensure compliance with all UK regulations and requirements, e.g. CDM and health and safety regulations.
- **Technology** – B&W's proven Vølund™ technology provides excellent fuel flexibility and maximised efficiency, availability and plant performance backed by operational references and guarantees.
- **Funding support** – A Danish government guarantee was provided through Denmark's Export Credit Agency (EKF). B&W also works with other renewable energy investors to support future biomass and WtE projects.
- **Construction programme** – The plant will be delivered within a tight time frame set in the ROC subsidy scheme.

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- **Operation and maintenance (O&M) –**
A long-term O&M contract backed by performance and availability guarantees.

The technology

B&W's Vølund technology concept is based on in-house knowledge and many years of experience. It is designed for high efficiency, availability and performance to give an extended design life.

B&W's solution is based on the patented DynaGrate® combustion grate technology, providing excellent fuel flexibility. The key benefits for the plant owner are:

- Many good references
- Few fuel constraints
- Improved and simplified fuel handling
- Fly ash disposal costs significantly reduced
- Full recovery of ferrous metal from bottom ash

The Margam plant is one of three recently signed 15-year O&M contracts by B&W in the UK. These and future UK plants will benefit from the UK-focused structure in place, with the added benefits of prompt servicing and provision of spares.



Plant design data		
Process parameters	Values*	Units
Waste capacity	35	t/h
Heat value	13.1	MJ/kg
Steam output	159.9	t/h
Steam temperature	500	°C
Steam pressure	80	bar
Boiler outlet flue gas temp.	227	°C
Feed water temperature	194	°C

* All values refer to 11% O₂ dry gas

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