

Margam Green Energy Plant

Delivering an innovative multi-system solution for a pioneering biomass facility.

Key Benefits:

Streamlined scaffolding for complex geometries, safe access landing during concrete pours.

“The design team at PERI worked tirelessly to deliver a solution which accurately matched the complex criteria of this build and the results are a credit to everybody involved in the project.”

Site Manager,
Interserve Construction Ltd
JUSTIN HUMPHREYS

Client: Thames Valley Construction

Sub Contractor: Interserve Construction Ltd

Project type: Energy

Products and Services: PERI UP, CB240 and TRIO, MULTIPROP, PERI RCS Climbing System



What did the client need?

Margam Green Energy Plant, near Port Talbot, South Wales, is a celebration of innovative thinking across renewable power and clean energy infrastructure. The 40MW waste wood burning biomass facility is the result of a £160m investment by Glenmont Partners; operational and generating renewable electricity for the region from spring 2017, after an engineering and construction process stretching back to May 2015.

Starting with the fabrication and erection of key steel and concrete structures, such as the lift core and the vast waste wood reception and storage building, PERI was involved in the project since the beginning. Playing a crucial role in the project, our requirement was to design and deliver several formwork and scaffolding solutions tailored to the complexities of this innovative project.

What was the challenge?

These complexities raised a number of challenges – foremost in the unusual geometric considerations and unique construction method required in the build. The storage facility, for example, reached a height of 16m and spans 64m in length, with unconventional geometries and high wind loads contributing to critical challenges.

In addition, the ever-present issue of safe working at height took precedence on this project, and we were tasked with balancing safety with speed of installation and flexibility as part of a substantial scaffolding design.

How did we help?

Faced with these challenges, our team invested over 1,000 CAD design hours into creating unique scaffold and formwork combinations that would deliver on safety, speed of installation and build efficiency for the storage building, main lift and turbine slab. The solution incorporated a range of our systems, including over 300 tonnes of PERI UP materials and a vast network of TRIO formwork panels.

The flexible modularity of PERI UP saw it used internally and externally from ground level up to the proposed ceiling height, using lifts of four metres to fix and support the re-bar. This solved the complex geometric challenge of the storage building with rapidly erected, adaptable decking, able to change direction quickly, easily and – most importantly of all – safely throughout the construction process. We then combined this solution with our Rail Climbing System (RCS) to distribute wind load while positioning the TRIO casting shutters, as conventional push-pull props could not be used. With all of this in place, the walls of the building were cast using restricted four-metre concrete pours, safely and efficiently.

Beyond the storage building, we also designed and formed a 2.1m-thick turbine slab using our lightweight MULTIPROP post shores, while the lift's main core saw us pre-fabricate nine platforms using our CB240 climbing scaffold system – making this a truly multi-system solution.

By working alongside the contractor team from the outset, we were able to custom-design a ground-breaking solution to a huge scaffolding requirement, all in line with project timescales. In particular, our focus on safety, speed of installation and flexibility made PERI UP, TRIO, MULTIPROP, CB240 and our RCS a natural fit across all aspects of the project.

By bringing together a range of non-standard technical solutions, work was able to progress swiftly and safely, with the plant on track to be up and running in early 2017. Burning 335,000 tonnes of waste wood every year to supply homes, businesses and the national grid with renewable power, the facility will also soon be capable of using municipal solid waste as a fuel source. All of which combines to create a better future for the region and our planet – and we're proud of the fact that PERI systems were instrumental in making it all possible.

Contact us by email
on sales@peri.ltd.uk
or call **01788 861 600**

