HyBont Bridgend
Green Hydrogen Project

Marubeni Europower

Green hydrogen facility: location & layout
Fact Sheet

Site selection

Over 10 local authorities were investigated and, following a shortlisting process including policy considerations, targets for decarbonisation of heat and transport, and ambition to tackle the climate emergency, Bridgend County Borough Council (BCBC) was selected.

Key reasons the site within Brynmenyn Industrial Estate was identified as suitable for a green hydrogen facility that fits within BCBC's Local Development Plan, include:

- **Close to end users:** the site is well located for local users of heavier vehicles such as trucks and potentially public buses, to fuel with green hydrogen. The current bus depot is located on the Brynmenyn Industrial Estate, so there would be very few additional vehicles on the road if the existing fleet is converted.

  In addition, the transportation and storage of hydrogen is expensive and locating the production and refuelling facility close to existing depots means it is both convenient and cost-effective for end users.

Site Location Plan

Fleets of hydrogen vehicles, such as buses, are already operating in cities such as Aberdeen, Birmingham and London.

- **Proximity to solar power:** solar energy is a key component of green hydrogen production and a direct power connection from the solar farm to the electrolyser is required. The Bryncethin site is close to Brynmenyn Industrial Estate and is identified as a suitable location for a solar farm generating up to 5.5MW. The remaining renewable energy needed will be sourced from windfarms via the national grid.

  The site is currently used for sheep grazing, which can continue once the solar arrays are installed, and the topography means there will be minimal visual impact from the solar arrays.

Other sites in Bridgend were considered, including one near Junction 36 with good access to the M4, however, this was discounted due to lack of grid infrastructure or private wire options and, as designated Common Land, the planning authority is unlikely to support industrial development at this location.

Site layout

Careful consideration has been given to the design of the green hydrogen facility, to optimise production and minimise hazards.

1. Access: the access point from Squire Drive, off the Industrial Estate, will be at a lower level than the majority of the surrounding land and the access road will provide a shallow gradient for heavy vehicles, maximising accessibility for customers and staff.

A one-way traffic flow minimises the size of site required, removing the need for turning circles for large vehicles and making instructions for drivers as simple as possible.

2. Green hydrogen production: the electrolysers are located close to the high voltage (HV) substation to minimise power losses and close to the admin building for ongoing operation and maintenance of the hydrogen production equipment. They also interface strongly with primary compression, gas metering, waste heat export, and auxiliary utilities, requiring the electrolysers to be located centrally to simplify the hydrogen connections.

3. Hydrogen storage: the storage equipment is located as close as possible to the electrolyser to minimise the hydrogen pipework, and furthest from potential ignition sources such as the admin building and high voltage (HV) substation. Firewalls are also located between each individual storage unit, as well as between hydrogen equipment and site personnel, to reduce the risk of an escalation to a larger incident.

4. Substation: the high voltage (HV) substation will be located closest to the access road and separated from the hydrogen elements of the facility, to maximise the distance from hydrogen storage. This will also facilitate 24/7 maintenance access by National Grid Electricity Distribution (NGED).

5. Hydrogen refuelling compressor: this will be located centrally, between production storage and dispensers.

6. Refuelling points: these will be situated near the access road and hydrogen refuelling compressor equipment to minimise the hydrogen pipework required and for ease of access.

Aerial view of the proposed green hydrogen production facility

Artists impression for illustrative purposes only

Marubeni Europower is bringing forward proposals for the development of a green hydrogen production, storage and refuelling facility located on land in Brynmenyn Industrial Estate, Bridgend. The proposals include a solar farm at nearby Bryncethin, which will provide renewable energy to help power the green hydrogen production.

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You can view all the fact sheets, background information and plans for the project online by visiting:

www.hybont.co.uk

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