

DELEGATED REPORT

Application No:	P/24/0196
Site Address:	Land At Pengarnddu Industrial Estate Dowlais Merthyr Tydfil
Development:	Erection of Hydrogen Electrolyser Plant Facility (8 Megawatts) including associated storage containers, support infrastructure, CCTV, security fence and landscaping.
Case Officer:	Kate Glover
Site Visit:	27th August 2024
Application Expiry Date:	8th October 2024
Consultation reply date expired:	17th September 2024

APPLICATION SITE

The application site relates to a section of land within Plot 2A and forms part of the Pengarnddu Industrial Estate. The site comprises an area of waste ground with a pile of excavated material, likely left-over from previous works in the area. It is enclosed by high galvanised metal fencing and has a single vehicular access from the estate road.

The site is bound by a battery storage facility to the north, Plot 4 to the east, the remainder of Plot 2A to the west, and a raised bund to the south, which is covered in amenity grass, scrub and trees. A gas kiosk is positioned north of the bund, close to the site's south-western corner.

The site lies within the settlement boundary designated in the Merthyr Tydfil County Borough Replacement Local Development Plan (LDP) 2016–2031.

PROPOSED DEVELOPMENT

This application seeks full planning permission to construct an 8MW hydrogen electrolyser facility. The proposal includes reprofiling the site, providing a hard surface, and installing electrolyser units, gas compressors, water tanks, storage tanks/tube trailers, a DNO substation, transformer, auxiliary transformer, and CCTV cameras. The entrance to the facility would be gated and the site enclosed by a 2.4m high palisade security fence. An amenity cabin would provide office space, WC facilities and basic kitchen facilities, discharging to the public sewer.

The submitted Planning Statement confirms that hydrogen would be produced via a water purification stage, which separates effluent containing concentrated minerals. This is followed by electrolysis, powered by electricity imported from the grid and contractually “sleeved” to a renewable source, enabling the production of green hydrogen. The process

separates hydrogen and oxygen; hydrogen is then compressed and stored on site in a multi-tank system before being exported by HGV. Less than 2 tonnes of hydrogen would be stored on site at any one time. Oxygen is also generated as part of the process and water is the primary by-product of the operation.

The proposal also incorporates ecological mitigation and biodiversity enhancements.

PLANNING HISTORY

The relevant planning history is summarised below:

P/04/0012 - Thermal waste separation processing plant approved 14 May 2004

CONSULTATION

Planning Policy Officer:	No objection.
Head of Engineering and Highways:	No objection subject to condition.
Planning Ecology Officer:	No objection subject to conditions.
Dwr Cymru/Welsh Water:	No objection subject to condition.
Environmental Health Manager:	No objection.
Natural Resources Wales:	No objection.
South Wales Fire and Rescue Service:	No objection.

PUBLICITY

In accordance with the Town & Country Planning (Development Management Procedure) (Wales) Order 2012, letters were sent to adjoining properties, and a site notice was displayed within the vicinity of the site.

No letters of objection were received following this publicity exercise.

POLICY CONTEXT

National Development Framework

Future Wales: the National Plan 2040 (February 2021) (Future Wales) sets out a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of our communities.

National Planning Policies

Planning Policy Wales (Edition 12, February 2024).

Local Planning Policies

The following policies of the Merthyr Tydfil County Borough Council Replacement Local Development Plan 2016-2031 (LDP) are relevant to the determination of this application:

- Policy SW4: Settlement Boundaries
- Policy SW11: Sustainable Design and Placemaking

- Policy EnW1: Nature Conservation and Ecosystem Resilience
- Policy EnW4: Environmental Protection
- Policy EcW2: Protecting Employment Sites
- Policy EcW8: Renewable Energy

In addition, the application will be determined having regard to the advice contained within the following Supplementary Planning Guidance (SPG) Note:

- Note 5, Nature and Development

PLANNING CONSIDERATIONS

The issues to consider under the assessment of this application relate to the principle of development, renewable energy, visual impact, health and safety, residential amenity, highway safety and parking, ecology and water supply and effluent.

Principle of Development

The application site is located within the settlement boundary and Primary Growth Area. As such, new development in this area is generally supported by LDP Policy SW4, provided it complies with other relevant policies and material planning considerations.

The application site also lies within a protected employment site. As such, LDP Policy EcW2 is a relevant policy consideration. This policy states that *'...at Pengarnddu Industrial Estate...and at allocated employment sites, employment will be permitted if it is within use class B1(B), B1(C), B2 or B8, or; it provides an ancillary facility or service that supports the primary employment use, or, it is an acceptable complementary commercial service outside class B uses,...'*

In relation to policy EcW2 it is noted that the proposal seeks to provide a process which is industrial in scale and nature, and the Policy Team raise no objection to the proposal.

Accordingly, the proposed development would meet with the requirements of LDP Policy EcW2.

Renewable Energy

LDP policy EcW8 Renewable Energy states the council *"will support the use of renewable energy as a tangible means of reducing our local carbon footprint, where appropriate to do so....."* The policy goes on to set out a number of considerations relating to landscape or visual harm (including effects on the Brecon Beacons National Park), cumulative impacts, mitigation to minimise adverse effects, and land restoration and management after the use has ceased. These are matters of visual impact and are addressed in more detail below.

In respect of the principal of supporting renewal energy developments, it is important to note that hydrogen production is not inherently renewable as there a number of methods in which hydrogen can be produced. As such hydrogen produced via electrolysis is renewable subject to the source of the electricity used to power the electrolysis process.

The proposed plant will be powered via the national electricity grid with the electricity consumption linked to a renewable power source through a "sleeved" supply arrangement. Energy from renewable sources is often fed into the national grid system and the "sleeved"

arrangement which will be employed to power the plant, is a recognised measure which ensures the amount of energy taken combined with any other producers relying on renewable energy, does not exceed the amount of renewably sourced energy within the grid. This approach ensures electricity from fossil fuel is not used.

The proposed development would meet with the requirements of LDP Policy EcW8 as a source of renewable energy.

Visual Impact

Policy EcW8 sets out the council's approach to the principle of developments for renewal energy, which has been discussed above, and in relation to visual impact states: *"Development proposals for renewable energy will be permitted where:*

- *They do not have an unacceptable landscape and visual impact, including on the setting of the Brecon Beacons National Park.*
- *There would be no unacceptable cumulative impacts in combination with existing or consented development.*
- *Satisfactory mitigation can be put in place to minimise the impacts of the renewable energy proposal and its associated infrastructure.*
- *Proposals make provision for the appropriate restoration and after-care of the land for its beneficial future re-use."*

The proposed hydrogen electrolyser facility comprises a series of modest-scale components including the electrolyser units, associated storage vessels, gas compressors, transformers and an amenity cabin. These structures are typical of small-to-medium-scale industrial plant and the facility would be contained within a secure compound bordered by a 2.4m palisade fence, with native landscaping incorporated along the eastern boundary.

The development would therefore appear as an integrated element of the established industrial estate, which is already characterised by energy infrastructure and commercial buildings and plant of utilitarian design.

Given this industrial context, the proposal would not appear out of place or result in any significant harm to the character or appearance of the wider area. Importantly, the site lies approximately 2km north of the Brecon Beacons National Park, with intervening industrial development, landform and distance ensuring that the proposal would have no material effect on the setting or special qualities of the National Park.

In relation to appropriate provision for restoration and after-care, the development comprises prefabricated plant, modular cabins and above-ground equipment that can be removed with relative ease at the end of the facility's operational life. The site could be reinstated to its current condition without requiring significant ground disturbance.

Overall, the proposal is acceptable in visual terms and complies with Policy EcW8 of the LDP.

Health and Safety

The Council's Environmental Health Manager, South Wales Fire and Rescue, the Health and Safety Executive and Natural Resources Wales (NRW) have been consulted and none of these statutory consultees have raised any objections or concerns.

The applicant has confirmed that less than 2 tonnes of hydrogen would be stored on the site at any one time.

In respect of other consenting regimes there is a controlled quantity threshold for hydrogen requiring Hazardous Substances Consent (HSC) under the Planning (Hazardous Substances) (Wales) Regulations 2015. The trigger for consent via this regulation is a tonnage of above 2 and therefore the proposed development does not need HSC. The granting of planning permission does not override or remove that requirement, and should hydrogen storage increase above the statutory threshold in the future, a separate HSC application would be required regardless of whether further planning permission is necessary.

As noted above NRW has raised no objection to the proposal, however NRW has an environmental permitting regime, which would regulate any operational matters within their remit. Should planning permission be granted for this development, the notice of consent will include reference to the advice of NRW.

In addition to the production and storage of hydrogen, the Planning Statement notes that oxygen is produced as a by-product of the electrolysis process and may be safely released to the atmosphere or used elsewhere. However, this application does not include, nor seek permission for, the storage of oxygen on the site. To avoid any ambiguity regarding future activities, it is considered appropriate to include an informative on any planning permission which advises the developer that the storage of oxygen may require planning permission.

Accordingly, the proposal meets with the requirements of LDP Policy EnW4.

Residential Amenity

The development would be approximately 360m distant from the nearest identified dwelling. As noted above the Council's Environmental Health Manager, South Wales Fire and Rescue and Health and Safety Executive have been consulted and none of these statutory consultees have raised any objections or concerns.

As such, given the distance between the development and the dwellings, the proposal would not result in any detriment to the occupants of residential properties in respect of visual impact or danger due to proximity to an explosive substance.

As such, the proposal meets with the requirements of LDP Policy SW11.

Highway Safety and Parking

The Council's Head of Engineering and Highways raises no objections to the proposal. No concerns have been identified regarding highway safety or the free flow of traffic.

The application site is located within the established Industrial Estate, which benefits from a purpose-built industrial road network designed to accommodate commercial and heavy-duty vehicle movements. The proposed development would utilise an existing access that currently serves other industrial scale uses.

The submitted plans illustrate that 2 parking spaces each measuring approximately 3.6m by 7.4m will be provided within the site. The plans also incorporate a one-way internal circulation system which demonstrates that vehicles collecting hydrogen from the site, including HGVs, can enter, circulate within, and exit the site on to the adopted highway in forward gear.

Accordingly, the proposal is acceptable and complies with LDP Policy SW11.

Ecology

The Planning Ecologist raises no objections to the proposal. The submitted Preliminary Ecological Appraisal (PEA) confirms that no species of national or European importance would be affected by the proposed development. The accompanying Dowlais Biodiversity and Green Infrastructure Assessment (GIS) identifies that some vegetated habitats within the red line boundary would be lost as a result of the scheme. These losses comprise approximately 1,039m² of ephemeral/short perennial vegetation, 778m² of semi-improved neutral grassland, and 30m² of scattered scrub.

To address the impacts of habitat loss, the proposed development incorporates a package of ecological mitigation. This includes the creation of 144m² of species-rich tussocky grassland, together with the management of an additional 580m² of existing semi-improved neutral grassland to transition into tussocky grassland of greater ecological value. In addition, biodiversity enhancements are proposed in the form of a sparrow terrace on the eastern elevation of the amenity cabin, and the installation of bee bricks or a bee post within the site, providing nesting and foraging opportunities for birds and pollinators.

Both the PEA and GIS note the presence of Japanese knotweed, an invasive non-native species, growing close to the site boundary. The assessments advise that this species is likely to spread into the development area without intervention and recommend that a management plan is prepared to prevent its spread and ensure appropriate control. This can be satisfactorily secured by planning condition.

Overall, the ecological impacts arising from the development are considered to be modest, and an appropriate scheme of mitigation for the loss of the existing ecology and biodiversity enhancement has been provided. Subject to conditions securing the invasive species management plan and implementation of the proposed habitat creation and enhancement measures,

The development is acceptable in ecological terms and compliant with Policy EnW1 of the LDP.

Water Supply and Effluent

The electrolysis process requires purified water, and the associated water-treatment system will generate a small volume of mineral-rich effluent as a by-product. The applicant

confirms that this effluent will either be discharged to the public sewer under the appropriate trade effluent consent or collected for off-site disposal.

Welsh Water has raised no objection to the planning application and has confirmed that sufficient capacity is currently available within the public water supply network to accommodate the development, subject to their ability to reassess capacity at the point of any formal application for new connections under Sections 41 or 51 of the Water Industry Act 1991.

Welsh Water also highlights that if the development will give rise to a new or altered discharge of trade effluent to the public sewer, a separate Discharge Consent under Section 118 of the Water Industry Act 1991 will be required, and that the issuing of such a consent is independent of the planning process.

NRW has raised no objection to the planning application and has directed the developer to its permitting processes as the appropriate mechanism for regulating effluent. In the event that Welsh Water do not consent discharge to their systems, the applicant/operator would be responsible for collection and disposal of any effluent via an approved waste carrier.

The proposal raises no unacceptable impacts relating to water usage, foul drainage or management of effluent. Accordingly, the proposal meets with the requirements of LDP Policy EnW4.

Conclusion

The duty to improve the economic, social, environmental and cultural well-being of Wales, in accordance with the sustainable development principle, under section 3 of the Well-Being of Future Generations (Wales) Act 2015 ("the WBFG Act") has been taken into consideration when determining this application. In reaching the following recommendation, the ways of working set out at section 5 of the WBFG Act have been considered and thus the proposal is in accordance with the sustainable development principle through its contribution towards one or more of the Welsh Ministers well-being objectives set out as required by section 8 of the WBFG Act.

Having regard to the policy context above, the proposal is considered to be acceptable and the following recommendation is made:

RECOMMENDATION: BE APPROVED subject to the following **CONDITIONS:**

1. The development shall begin not later than five years from the date of this decision.

Reason - To comply with Section 91 of the Town and Country Planning Act 1990.

2. The development shall be carried out in accordance with the following approved plans and document:

Drawing Title: Proposed Site Plan, Drawing No: CEL-21011-SP-001 Rev C.
Received on 07 November 2025.

Drawing Title: Electrolyser Unit, Drawing No: CEL-STD-HYD-EL-002. Received on
13 August 2024.

Drawing Title: Hydrogen Tobes Storage Rack and Water Storage Tank, Drawing No: CEL-STD-HYD-TS-WT-001. Received on 13 August 2024.

Drawing Title: GRP Substation, Drawing No: CEL-STD-SUB-WPD-001. Received on 13 August 2024.

Drawing Title: Amenity Cabin Duplex, Drawing No: CEL-STD-AC-005. Received on 13 August 2024.

Drawing Title: Compressor Unit, Drawing No: CEL-STD-HYD-CO-001. Received on 13 August 2024.

Drawing Title: Transformer 33kV-11kV, Drawing No: CEL-STD-TX-005. Received on 13 August 2024.

Drawing Title: Auxiliary Transformer, Drawing No: CEL-STD-AUX-TX-001. Received on 13 August 2024.

Drawing Title: Palisade Security Fence, Drawing No: CEL-STD-FE-001. Received on 13 August 2024.

Drawing Title: CCTV Column, Drawing No: CEL-STD-CCTV-001. Received on 13 August 2024.

Dowlais Biodiversity and Green Infrastructure Assessment. Received on 11 October 2025.

Reason -To ensure compliance with the approved plans and clearly define the scope of the permission.

3. **No development shall take place**, or any demolition works or site clearance, until details of a scheme for the eradication of Japanese Knotweed (*Fallonica japonica*, *Rouse decraene*, *Polygonum cuspidatum*) has been submitted to and approved in writing by the Local Planning Authority. The development shall only be carried out in accordance with the approved scheme.

Reason - In the interest of maintaining and enhancing biodiversity and to accord with Planning Policy Wales and Policy EnW1 of the Merthyr Tydfil County Borough Council Replacement Development Plan (2016-2031) and to ensure compliance with the Wildlife and Countryside Act 1981.

4. Any entrance gates erected shall be hung to open inwards and shall be set back a minimum distance of 10m from the nearside adopted carriageway edge.

Reason - To prevent obstruction to the highway, in the interests of highway safety to accord with Policy SW11 of the Merthyr Tydfil County Borough Council Replacement Development Plan (2016-2031).

5. **Prior to the development hereby approved coming into beneficial use** the bird box and bee bricks/bee post shall be provided in accordance with approved document Dowlais Biodiversity and Green Infrastructure Assessment. Received on 11 October 2025. The bird box and bee bricks/bee post shall be maintained as such in perpetuity.

Reason - In the interest of biodiversity in accordance with the requirements of Planning Policy Wales 12, The Environment Wales Act and Policy EnW4 of the Merthyr Tydfil County Borough Council Replacement Development Plan (2016-2031).

6. **In the first planting season after the development hereby approved coming into beneficial use**, the planting shall be provided and managed in accordance with approved plan Proposed Site Plan, Drawing No: CEL-21011-SP-001 Rev C and approved document: Dowlais Biodiversity and Green Infrastructure Assessment. The scheme of planting shall be maintained as such in perpetuity.

Reason - In the interest of biodiversity in accordance with the requirements of Planning Policy Wales 12, The Environment Wales Act and Policy EnW4 of the Merthyr Tydfil County Borough Council Replacement Development Plan (2016-2031).

7. **Prior to the installation of any external lighting**, a lighting scheme shall be submitted to and approved in writing by the local planning authority. The approved scheme of lighting shall be carried out in accordance with the approved details and retained in perpetuity thereafter.

Reason - In the interest of maintaining and enhancing biodiversity and to accord with Planning Policy Wales and Policy EnW1 of the Merthyr Tydfil County Borough Council Replacement Development Plan (2016-2031).

8. No surface water from any increase in the roof area of the building or impermeable surfaces within its curtilage shall be allowed to drain directly or indirectly to the public sewerage system.

Reason - To prevent hydraulic overloading of the public sewerage system, to protect the health and safety of existing residents and ensure no pollution of or detriment to the environment and to accord with Policy EnW4 of the Merthyr Tydfil County Borough Council Replacement Development Plan (2016-2031).

INFORMATIVES

1. All birds, their nests and eggs are protected by law under the Wildlife and Countryside Act 1981 (as amended) while they are breeding.

If works to any trees, hedgerows and/or other nesting bird habitat (including buildings with suitable features) are to be undertaken, they will take place outside of the bird nesting season. If the works must be undertaken during the nesting season (generally from 1st March until 31st August, although birds are known to nest outside of these dates in suitable conditions), a breeding bird survey will be required and must be carried out by a suitably qualified ecologist. Any active nests identified will be protected until the young have fledged.

Where a Schedule 1 species (as defined in the Wildlife and Countryside Act - <https://www.legislation.gov.uk/ukpga/1981/69/schedule/1>) is involved, compensation for impacts, e.g., loss of nesting sites, will be devised and implemented.

2. This planning permission does not provide consent to undertake works that require a European Protected Species (EPS) licence. All bats and their roosts are protected under UK and European legislation. It is an offence to deliberately kill, injure, capture or disturb a bat or to recklessly damage or destroy their breeding sites or resting places.

If works are planned on a building/tree in which bats are found to be roosting, Natural Resources Wales (NRW) must be contacted. on 0300 065 3000 or at <https://naturalresources.wales/permits-and-permissions/species-licensing/apply-for-a-protected-species-licence/bat-licences/?lang=en>.

If work has already commenced and bats are found, or if any evidence that bats are using the site as a roost is found, work should cease and NRW should be contacted immediately.

Under these circumstances, an EPS licence is likely to be required to undertake the works within the law.

3. This planning permission does not grant consent for the storage of oxygen on the site. Should the applicant wish to store oxygen as part of the operation, a separate planning application may be required and the operator is advised to seek early advice from the Local Planning Authority.
4. The applicants attention is drawn to the observations of Natural Resources Wales (Copy attached). The applicant is advised to contact the Natural Resources Wales BEFORE works commence regarding any necessary environmental permitting consents which may be required.
5. The applicants attention is drawn to the observations of the Divisional Fire Safety Officer South Wales Fire Service (Copy attached).
6. The applicants attention is drawn to the informative notes provided by Dwr Cymru Welsh Water (Copy attached).

RECOMMENDATION ENDORSED



Director of Neighbourhood Services

DATE: 13.02.2026