

25th April 2025

Dear OFGEM,

Net Zero Industry Wales (NZIW) is a not-for-profit body which provides independent guidance and support to Welsh industries in their transition to delivering net zero. Established in 2022, with support from Welsh Government & Welsh Industry, it aims to provide a neutral & trusted voice, whilst empowering industry to play an active role in the delivery of net zero through the uptake of low carbon technologies.

Net Zero Industry Wales seeks to foster collaboration between the private & public sector and actively develops public-private sector partnerships to unlock significant investment, with the ultimate aim of making Wales the country of choice for producing sustainable goods and services.

Welsh manufacturing & power sectors contribute up to 50% of the nation's carbon footprint and up to 20% of the UK total emissions for these sectors. Per capita, the emissions level in Wales is up to 3 times higher than the UK average.

We are writing in relation to the RIIO-2 NZASP Re-opener Draft Determinations and OFGEM's decision not to fund WWU Hyline Cymru. In our opinion, the decision is short term focussed and any delay in further design work on the project, will have a significant impact on the timely decarbonisation of the industry in South Wales. This will therefore severely restrict the economic growth of SWIC, which not only has the potential to become a leading clean energy transition hub in the UK, but also remain a cornerstone of the UK industrial base.

Decarbonisation Plans in Wales

Wales & West Utilities have been and continue to be active partners in both the South Wales Industrial Cluster (SWIC) and the North East Wales Industrial Decarbonisation (NEWID) cluster. Both clusters have now produced public Cluster Plans, published in March 2023 and February 2025 respectively, setting out how major industrial and power generation sites can reduce their CO2 emissions and make a positive economic contribution to Wales in the future.

Net Zero Industry Wales (NZIW) has been tasked by the Welsh Government, as well as the industrial partners within the SWIC and NEWID clusters, to own & maintain the decarbonisation pathways for Welsh Industry. Using a bottom up methodology, using mainly site specific plans, shared by the industrial partners, NZIW supported the development of Welsh Government Carbon Budget 3.

The analysis showed that 36% of the Welsh Industrial emissions (power and manufacturing sectors, 2021 baseline) is driven by the use of hydrogen to support fuel-switching of industrial processes away from fossil fuels. The analysis also concluded that the use of hydrogen is vital to mitigate against the millions of tonnes of "offshored" emissions, as a result of the closure of the Blast Furnaces and associated Basic Oxygen Steelmaking (BOS) plant at Port Talbot.

To deliver the ambitious decarbonisation pathways, a clear & detailed strategy has been developed for the industrial clusters within Wales, alongside the renewables sector and energy & port infrastructure owners. This strategy has been shared with UK & Welsh Government, to inform the development of the UK industrial strategy.

The strategic plan revolves around three main strategic goals:

- **Clean Energy Industries:** Generate an abundant source of local, low cost (globally competitive), low carbon energy that predominantly uses Wales's abundant natural resources to produce low carbon energy vectors (e.g. electricity & hydrogen), supplemented by energy vectors (fuels, electricity, hydrogen, etc.) that have been produced using fossil fuels and where possible abated (using Carbon Capture & Storage technology), to minimise emissions to the atmosphere.
- **Clean Energy Infrastructure:** Build the infrastructure needed to transport and/or enable the generation (construction, operation & maintenance) of the low carbon energy vectors that are produced in Wales.
- **Foundation Industry & advanced manufacturing:** Retain & grow Welsh industry by supporting their investment in decarbonisation technologies, which allow industries to transition to net zero, benefit from the low carbon energy that is produced in Wales and gain global competitiveness.

To support the delivery of these goals, 13 strategies have been identified, alongside 23 anchor projects that support the delivery of these strategies in the short – medium term (2025-2030).

The projects have a relatively high but varying level of maturity, can reach financial investment decision within the next three years and make a significant economic impact within the next 5-10 years, if not sooner.

The investment value of the anchor projects/programs exceed £30 billion and NZIW has fully assess the economic impact on Gross Value Added. This analysis showed that the collective impact of the strategic plan, is worth over £250 billion to the Welsh economy over a 25 horizon, of which over £40 billion is associated with retaining existing industry. We have attached the full report and methodology of the economic assessment, alongside this letter, within our consultation response.

The development of hydrogen infrastructure in South Wales, in particular the proposed Hyline Cymru project, plays an important role in ensuring that industry and the associated economic impact, is retained.

To unlock this investment and full economic impact, three urgent interventions have been identified and these are:

- Non-Pipeline-Transport of CO₂ (shipping) – Kickstart the industrial decarbonisation of South Wales by allowing non-pipeline connected Carbon Capture & Storage projects to bid for CO₂ business model support. Non-pipeline connected projects are currently explicitly excluded, but are part of the Track 2 build out phase of the wider UK government CCUS program.
- Floating Offshore Wind (FLOW) – Anchoring the “once in a lifetime” economic growth opportunity to Wales by granting Contracts for Difference (CfD) support for Test & Demonstrator projects (e.g. EREBUS) and make the use of a UK port a requirement to access future CfD support for FLOW projects.
- PSNC – North to South Wales electricity transmission interconnector – unlock the significant onshore wind pipeline and additional 12 GW of FLOW capacity by accelerating the development of the PSNC project and commence construction of the interconnector within the current price review period (RIIO-T3).

The development of the hydrogen infrastructure closely follows these three urgent interventions, enabled by the Non-Pipeline-Transport of CO₂ and the proposed production of blue hydrogen, alongside the green hydrogen that already is in development in Wales and has been successful in attracting Hydrogen Allocation Round 1 & 2 support.

Given the importance of a suitable sized hydrogen infrastructure in Wales, NZIW is of the opinion that OFGEM decision is incorrectly informed, short term focussed, will have a significant impact on the timely decarbonisation of the industry in South Wales and therefore the economic growth of the cluster, which is a cornerstone to the UK industrial base.

The requested funding is key to maintain the momentum within the South Wales Industrial Cluster, now the Industrial Decarbonisation Challenge fund has ended and enable the realisation of the project in the early 2030's.

OFGEM's reasons to not fund WWU Hyline Cymru

In the draft determination, OFGEM outlined the following reasons not to fund WWU Hyline Cymru:

1. Hyline Cymru is unlikely to be amongst the first areas selected for a hydrogen network;
2. The lack of access to large scale regional and national geological storage in the initial phase due to the lower priority for connection to Project Union is not in line with DESNZ ambitions for the first hydrogen networks;
3. The project's new build network represents lower gas consumer value as there is no repurposing of existing gas assets;
4. Less demand for hydrogen from Tata Steel is likely to have a significant impact on the projects overall CO₂ emission reduction impact; and
5. Early hydrogen production and demand is less certain than other projects.

The draft determination doesn't provide detailed reasoning and information, on how OFGEM has undertaken the assessment and the detailed information that was used to inform the draft determination. NZIW would like to provide our perspective on the reasons given and offer up some alternative & alternative information, for each of the reasons outlined above:

1. Our assumption is that this reason is based on the assumption that the South Wales Industrial Cluster (SWIC) doesn't have access to a CO₂ storage location and included within Track 1 and 2, as part of the DESNZ cluster sequencing process. As previously mentioned, SWIC is reliant on a non-pipeline transport solution and with DESNZ & Innovate UK support, has developed a credible, value for money, project to deliver the first NPT solution in the UK, i.e. The Milford Haven CO₂ project. This project can be delivered within the Track 2 timelines and enable the production of blue hydrogen at Milford Haven, needed to decarbonise industry in the South West region Wales and on particular the industrial hubs of Milford Haven & Port Talbot.
2. The requirement to have large scale regional & national geological storage is a requirement that OFGEM didn't previously communicated and one can argue also unnecessary. The storage of a potentially hazardous substance like hydrogen, should be avoided as part of the risk mitigation hierarchy and NZIW is of the opinion that the nature of the fuel consumption profile of the foundation industry that is dependent on a resilient & cost effective source of hydrogen, is complementary to the production of blue hydrogen, i.e. in baseload. The remaining variations are able to be absorbed by the Pembroke Power station and the line packing of the proposed pipeline. The proposed blending of hydrogen in the natural gas grid, provides another opportunity to manage the imbalance between supply & demand.
3. This outlines the short term nature of the decision. The proposed project actually enables the existing natural gas network to be repurposed in the long term. WWU has a clear strategy to repurpose the existing gas network and Hyline Cymru provides an opportunity to allow industry to fuel-switch in a controlled & managed way, without the need to "force" natural gas users to switch away from natural gas, in the early stages of the transition to net zero.
4. NZIW assumes that this reason is informed by Tata Steel's decision to close the Blast Furnaces & Basic Oxygen Steelmaking plant at the Port Talbot site and replace it with an Electric Arc Furnace (EAF). This decision on its own doesn't affect and/or determine the hydrogen demand of the site, as the hydrogen demand is mainly determined by the hot rolling mill that converts slab steel into steel strip material, also known as hot rolled coil. The hydrogen is consumed by the reheating furnaces that heat up the slab, prior to rolling it into strip. Due to the closure of the coke ovens (associated with the closure of the blast furnaces), the reheat heat furnaces will fully be fired on natural gas and therefore will require hydrogen to further decarbonise the steelworks, post completion of the EAF. Every tonne of steel will require 1.3-1.5 GJ of hydrogen and with 3 million tonnes per annum, it will require 3.9 – 4.5 million GJ per annum, which is equivalent to an average hydrogen demand of 125 MWth (~1.1 TWh pa). Post completion of the EAF, there is the possibility to reintroduce primary iron making at Port Talbot and mitigate against the offshored emissions, through the introduction of a Direct Reduced Iron (DRI) or equivalent plant, which produces pre-reduced iron from iron ore and natural gas. Unlike the blast furnace process, the DRI process can be fuel switched to hydrogen, although this is still in the demonstration phase as a technology. To produce 3 million tonnes of steel through the EAF, it will need to import ~ 0.5 – 1.0 million tonne of DRI or equivalent, to supplement the scrap. If produced at Port Talbot, the DRI production, will have an average 2.2 - 4.4 TWh per year, for the required level of DRI.

5. It's difficult to judge whether this reason given is factually correct, as public information on hydrogen demand in other industrial clusters across the UK, isn't in the public domain. However there is a strong need, based on the decarbonisation pathways 37% of the emission reduction compared to the baseline 16.7 million tonnes of CO₂e (2021), is associated with fuel switching using hydrogen for industrial processes by 2035, in the high investment scenario. It's expected that at least 80% of this demand will be met using Blue Hydrogen, enabled by CCS technology (pipeline connected in North Wales and non-pipeline connected in South Wales) and remainder met using green hydrogen. The total reduction is equivalent to 6.2 MT CO₂ per year and has an heat equivalent of ~35 TWh per year (assuming hydrogen fully replaces natural gas).

I truly hope you will use the additional information provided in this written response, to reconsider the decision not to fund Hyline Cymru. The progress of the development of a national significant piece of infrastructure, with large economic impact, shouldn't be halted by the regulator, given the investment that already has been made, the long term importance of the project in delivering the decarbonisation targets of Wales as a nation and the relatively low level of investment that WWU the requested, compared to the potential economic impact.

Yours sincerely,



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