



north wales economic ambition board
bwrdd uchelgais economaidd gogledd cymru

INFORMATION REPORT TO TRANSPORT DELIVERY SUB-GROUP

DATE: 7th December 2020

Title: *Update on Hydrogen Fuelling Proposals*
Author: Iwan Prys Jones – Programme Manager NWEAB

1. Purpose of the Report

To update Members on progress with developing project proposals for low and zero carbon transport projects in North Wales.

2. Decision Sought

Members are invited to note the update and the proposals for next steps.

3. Reasons supporting the need for a decision.

The report is largely for information, to advise members of developments with developing infrastructure and project to support low and zero carbon transport.

No formal decision is required as a result of the report.

4 Background and Relevant Considerations

In April 2020, a report into the potential for a hydrogen fuelled transport network; the hydrogen being supplied by electricity generated from renewables, was completed. The report was part of a Welsh Government Smarter Living funded series of studies to determine future opportunities for energy innovation and carbon reduction in north Wales.

The report comprised a series of potential opportunities, that if developed together as part of an integrated project, could offer an innovative project that would transform the level of transport related carbon emissions in the area.

Two areas were proposed for consideration.

Deeside

The Deeside area is already subject to reduced speed limits on strategic roads, as part of the effort to contain unsafe levels of poor air quality.

The options contained in the report include: -

- **A Hydrogen Hub at Deeside** that would include hydrogen generation facilities, storage and fuelling infrastructure. The project also proposals a longer-term option for transmission networks that could span north Wales.
- Opportunities to reduce carbon emissions from local authority owned vehicles and supported bus networks, through joint procurement of hydrogen fuelled vehicles supplied from the hydrogen hub
- Partnership opportunities to work with heavy goods vehicle users in the Deeside area to develop and jointly procure hydrogen fuelled vehicles supporting the businesses in the area.

Subsequent to the report, other opportunities have emerged including the potential to link with the Hynet project in north west England, potential links to renewable energy projects such as the RWE Awel y Mor Scheme and the Port of Mostyn tidal power proposals.

The potential for a hydrogen hub has received support locally, with strong interest from potential partners. In order to further develop a business case for funding an additional study is required, which will need funding. This report sets out the rationale for additional funding to develop the project proposals into a Strategic Outline Case.

Holyhead

Work was also done to consider opportunities at Holyhead, potentially linked to proposals to decarbonise the port activity. Two aspects were considered.

The potential for a short-term project to consider the use of battery powered vehicles to be used on the local bus routes in the Holyhead area. This proposal is still under consideration, with the potential for vehicles and charging infrastructure being considered for financial support.

Secondly the potential for Hydrogen fuel in the longer term, both to support local transport services and longer distance freight users along the A55 corridor.

More recently Menter Mon working with other partners have commissioned some work to identify opportunities for hydrogen generation at Holyhead. This project is linked to their proposed projects under development in the area.

5. Current Position

There has been strong interest in both proposals and support from Welsh Government to the concept of low and zero carbon projects. In the past few weeks, some Welsh Government funding has been made available for further studies to firm up the proposals and to develop both through to business case.

The Deeside project has been awarded funding to develop the project and a business case based on the use of renewable electricity to develop a hydrogen hub based on electrolysis. The project will also consider other potential sources of hydrogen including proposals based on the Hynet project and other potential nearby projects. The project will also review the demand for hydrogen and potential markets for the fuel.

The Holyhead project has also been awarded development funding by Welsh Government, in this case the proposed project is based on generation of hydrogen from a tri-generation process, primary using gas to generate hydrogen.

Both projects will therefore evaluate different technologies to produce low carbon hydrogen.

The supply of hydrogen is only one part of the project, however. In order to ensure there is a market for the fuel, it will be necessary to stimulate demand for hydrogen. The number of vehicles currently available on the market is relatively few. There is also an issue that hydrogen generated from renewable sources is generally more expensive than fuel purchased from industrial suppliers. Unless steps are taken to grow the pool of vehicles able to use the fuel, that the generation capacity might struggle to find a market.

Side by side with the proposals to develop generation capacity, there needs to be a parallel process to stimulate the development of hydrogen fuelled vehicles. Public sector fleet procurement can play a significant role here. The projects will therefore look to consider and evaluate specific vehicle types such as RCV, transit vans, tipper wagons etc and to understand whether scope exists for pooled procurement among public bodies that can be used to stimulate the manufacture of these vehicles.

It would be helpful to understand the appetite for such a pooled procurement proposal from Members.

Positive discussions have been held with authorities across Wales and in northwest England to understand whether a large-scale project along these lines can be developed.

It is anticipated that outputs from the two projects will be available in the early part of 2021.

5. Financial Implications

There are no specific financial implications from this report, it is mainly information on work currently proposed following confirmation of funding from Welsh Government

The impacts of these proposals once adopted could well have significant financial impacts, but these will be highlighted in future update reports or during the consultation that should be undertaken prior to implementation.

6. Legal Implications

There are no specific legal implications from this report.

7. Staffing Implications

There are no specific staffing implications at this stage – the report provides updates on work currently underway.

8. Impact on Equalities

There are no specific equalities implications at this stage – the report provides updates in work currently underway. Detailed consultation on any reports where impacts are possible will be carried out at the appropriate consultation process.

9. Consultations undertaken

There are no specific consultations required at this stage – the report provides updates in work currently underway. Detailed consultation on any reports where impacts are possible will be carried out at the appropriate consultation process.

STATUTORY OFFICERS RESPONSE:

i. **Monitoring Officer – responsible body:**

ii. **Head of Finance – responsible body:**

iii.