



north wales economic ambition board
bwrdd uchelgais economaidd gogledd cymru

REPORT TO TRANSPORT DELIVERY SUB-GROUP

DATE: 17 February 2020

Title: HYDROGEN – FUEL FOR THE FUTURE
Author: Iwan Prys Jones – Programme Manager NWEAB

1. Purpose of the Report

- 1.1 To update Members on the development of proposals for a hydrogen hub at Deeside as part of a wider strategy to consider the use of hydrogen as part of the future transport fuel networks
To seek views whether a joint procurement approach to hydrogen vehicles as part of Local Authority fleet services could be developed.

2. Decision Sought

- 2.1 To note the report.
2.2 To consider whether there are opportunities for pooled procurement of vehicle types among local authority partners.

3. Reasons supporting the need for a decision.

- 3.1 There are several studies in progress to identify opportunities and pilot projects to decarbonise transport networks in North Wales. The report provides an update on the work and seeks comments from Members.
3.2 Further reports will be provided to the sub-board as the projects develop and evolve.

4 Background and Relevant Considerations

- 4.1 In 2019, the NWEAB commissioned consultants to consider options for the decarbonisation of passenger transport networks in North Wales, among the areas under consideration were (1) Deeside Industrial Park – passenger transport decarbonisation (2) Snowdonia National Park – passenger transport network (3) Holyhead local bus network low carbon bus routes.
-

Deeside Industrial Park Project

- 4.2 The initial proposal envisaged the potential use of electric or hydrogen electric buses on the Deeside shuttle service. The report concluded that the area would be suitable for a pilot project, as long as the appropriate vehicles were available. Currently the hydrogen electric buses available are larger double deck vehicles.
- 4.3 Separately and as part of the development work for the North Wales Growth Deal, Advisian / Jacobs were commissioned to consider opportunities for the development of the hydrogen economy in the region as part of the Growth Deal Smart Energy Programme. The initial draft reports now emerging from that work have indicated a number of potential opportunities.
- 4.4 As a result, there is the potential to develop a project that links various opportunities together as a pilot project to support the use of hydrogen in the decarbonisation of transport networks.
- 4.5 The emerging proposals are still at an early stage, however with funding potentially available through the Growth Deal it is hoped that the project can be developed through to a full business case and development funding. Initial discussions with Welsh Government have been positive as have discussions with Flintshire. Some initial work to assess whether there is support from businesses in the area to be part of the project is now planned.

Possible Project Outline

- 4.6 The draft report currently available highlights a number of potential opportunities in the Deeside area, which if combined could deliver a pilot project that would be significant in assessing opportunities for decarbonising transport.
- 4.7 The various potential elements are set out below.
- 4.8 **Development of a Green Hydrogen Bunkering Facility** - This proposal is that this would, initially, be an industrial facility located on Deeside for the production and storage of green hydrogen, from where it can be transported directly to end users. The hydrogen depot would be designed to be have above ground industrial scale tankage, and gantries for the discharge of products into road tankers or other vehicles (including shipping) or pipelines, alongside electrolyzers to produce hydrogen on a flexible production schedule. The site would use renewable energy where available to ensure the hydrogen produced is “green”
- 4.9 **Passenger Transport Services** – An opportunity exists to procure a number of midi-bus vehicles that would be suitable for the Deeside shuttle and other services in north Wales. There are options to jointly procure with other areas. A further opportunity would be to assess interest from commercial bus operators serving the Deeside area and along the estuary to also convert to zero-carbon hydrogen vehicles.
- 4.10 **Local Authority Fleet** – Flintshire have expressed some interest in the use of hydrogen fuelled vehicles to reduce carbon emissions across their fleet. It is likely that zero-carbon vans, light and some heavy goods vehicles will be available on the market. Once again pooled procurement is likely to be needed to ensure that order size is sufficient to generate interest from manufacturers.

- 4.11 **Heavy Goods Vehicles** – The use of hydrogen in fuelling heavy goods vehicles is limited in the UK at the moment and there are few products on the marketplace. In other countries, faster progress is being made. The draft report indicates there could be an opportunity to develop a project in partnership with a manufacturer for a specific vehicle type. 18 tonne trucks are suggested. Ideally, these would best be suited to vehicle movements that are on an out and back basis, due to the need for refuelling.
- 4.12 If sufficient interest among businesses existed in the area for a pooled approach to such a proposal, we would seek to work with Welsh Government and UK Government to develop a funding proposal for such a project. This would target Innovate UK Funding and could be matched with Growth Deal and other funding.

Next Steps

- 4.13 The final report from the consultancy work is due in the next few weeks. This will be used to help develop an Outline Business Case for a project within the North Wales Growth Deal. Further discussions will also be held with Welsh Government, BEIS and Innovate UK to gauge the level of support for an ambitious pilot project of this type. Outcomes from these discussions will be fed into the OBC.
- 4.14 In the meantime, discussions are being held with a number of large fleet users in the Deeside area to assess whether there is potential support for being part of the project. At this stage it is recognised that support will be in principle, subject to the outcomes from the business case and the level of interest. A workshop involving potentially interested parties, which will involve the consultants who prepared the report and Welsh Government will be held towards the end of February. This workshop will help shape the OBC development.
- 4.15 Members are also invited to consider whether an approach to pool procurement of low carbon vehicles for use in local authority fleets, has merit. The potential joint procurement of refuse vehicles, heavy and light trucks and vans could result in cost savings. In addition, a pooled procurement could act as an incentive to manufacturers to introduce new products to the market.

Snowdonia National Park

- 4.16 The initial proposals involved an assessment of whether existing passenger transport services serving the tourists in the park could be converted to low or zero carbon vehicles. The outcomes from the report were mixed. Due to topography and the types of routes in the area, electric buses were unlikely to be suitable due to battery life. There are potentially alternatives through hydrogen, but additional infrastructure would be needed.
- 4.17 The fundamental issue however is that the current Sherpa network is probably optimal for the money available. Further development of the network will require additional revenue subsidy. Additionally, use of the services is highly fluid based on demand. The report concluded that a detailed review of access, car parking and alternatives to car-based access was needed.
- 4.18 As a result, the NWEAB has jointly funded a significant report with the SNPA to review access, parking and transport in the Ogwen and Nant Peris valleys. This report should be available in mid 2020 and will be used to support and shape further interventions.

Holyhead

- 4.19 The report also considered whether there were options to decarbonise the local bus network in the Holyhead area. Four vehicles currently provide local services in the area, which are tailored to meeting local needs.
- 4.20 The daily mileages operated by three out of the four local buses in Holyhead are low enough that electric operation using only overnight charging is possible. This is fortunate, as the operation of these buses is almost continuous across the working day, with no suitable time slots for top-up charging. The fourth route may be suitable if tweaked slightly so that charging opportunities were possible, or the route revised to reduce mileage.
- 4.21 The report concludes that an electric only solution as a demonstration project in Holyhead is potentially viable. The report also notes that hydrogen solutions may also be practical in the longer term. There is however a case for be made for a shorter-term project that results in a decarbonised local network in the town.
- 4.22 Discussions are currently underway with IOACC to understand whether a project is possible using funding from the Low Emission Vehicles project funding opportunity from WG. Further details will be provided should the project proceed.

5. Financial Implications

- 5.1 The report provides an update on studies currently underway and which are funded from existing approved budgets. Should the projects proceed, there would be cost implications, however these will be assessed as part of the development of business cases prior to the delivery of the projects.

6. Legal Implications

- 6.1 The report provides an update on studies underway. Some aspects of the delivery of projects should a viable business case be established may require revised governance arrangements for the NWEAB.

7. Staffing Implications

- 7.1 Project and programme management is being carried out within existing resources. Further resource implications will be addressed within business case development.

8. Impact on Equalities

- 8.1 None anticipated at this stage of project development

9. Consultations undertaken

- 9.1 Project has been considered at the Officers Management Group for the Transport Sub-Board. Further project consultation will be undertaken where appropriate at the relevant project development stage.

10. Appendix

None

STATUTORY OFFICERS RESPONSE:

Monitoring Officer – responsible body:

No observations to add in relation to propriety

Head of Finance – responsible body:

Paragraph 5.1 of the report confirms that studies currently underway are funded from existing approved budgets, and cost implications will be assessed subsequently should these projects proceed in the future.