

Title: Update on Hydrogen Hub
Briefing for Climate Change Committee
Date: Tuesday, 18th July 2023

Background

One of the projects being delivered as part of the Low Carbon Energy Programme for the North Wales Growth Deal is the development of the hydrogen hub. The intention is that the programme will unlock the benefits of developing low carbon energy projects within the region, positioning North Wales as a leading location for the low carbon energy sector.

Our region's unique characteristics and natural resources offer the potential to develop projects that create new jobs, reduce carbon emissions, and contribute to achieving net-zero by 2050. The Growth Deal has allocated £86 million to this programme, with additional investment of £441 million envisaged from mixed public and private sources.

The hydrogen hub project aims to help kickstart the low carbon hydrogen economy in North Wales by supporting and delivering a hydrogen hub. The hub will include the supply and use of hydrogen, with up to £11.2m Growth Deal capital going towards enabling demand, converting today's fossil-fuelled organisations into hydrogen customers of tomorrow.

An early market engagement exercise was undertaken in June-July 2022, whose purpose was to assess the market's appetite, capacity and capability to deliver the project in partnership with Ambition North Wales.

The responses to the early market engagement have helped to develop the project and design a competitive process for bringing on board an organisation to deliver the project and develop the business case. The responses revealed that several companies are already carrying out their own analysis of potential locations for a hydrogen production/storage facility using mapping technology to create a heat map for hydrogen to identify demand, transport, renewable energy availability, industrial demand, electricity infrastructure and other variables.

Industrial clusters that offer the opportunity to identify and secure early demand would be of potential interest and in particular, areas of land close to solar, offshore wind or hydropower that enable direct connection to renewable assets could be of significant interest, as would the availability of sufficient water resources, grid connectivity and a good road network (A roads preferred) for access to customers and distribution. Sites offering planning advantages, such as brownfield, vacant and derelict sites and not in very close proximity to residential property would be of benefit to the market. The proximity of major transport or industrial off-takers would be advantageous and sites that have good access to future large-scale potential consumers of hydrogen such as marine, aviation, and industrial demand will also add interest.

Next Steps:

Ambition North Wales has now launched a competitive bidding process, known as the hydrogen sponsor challenge, which seeks to appoint an organisation (or organisations) to develop the business case for a hydrogen hub in North Wales. The competition is live on the website now - [Ambition North Wales | Hydrogen Sponsor Challenge](#) and applications close in September 2023, so bidders will have nearly three months to prepare and submit an application. The successful bidder will also support the deployment of low carbon hydrogen to kickstart the hydrogen economy in the region and achieve the low carbon energy programme's targets of investment, jobs, GVA and carbon reduction. The competition will run over the summer with the application window closing on 11th September 2023 with the outcome of bids expected subsequently and a recommendation to the Economic Ambition Board scheduled for December 2023.

Glossary

GVA = In economics, gross value added is the measure of the value of goods and services produced in an area, industry or sector of an economy. While GDP measures the total value of products and services a country manufactures or delivers, GVA measures the value added to product to enhance their worth.

Off-takers = this is the party who buys the product being produced by the project or who uses the services being sold by the project (for example electricity, hydrogen or a pipeline).