



VERTEXHYDROGEN

24 FEBRUARY 2022

Report detailing UK's first large scale low carbon hydrogen production plant unveiled

The low carbon hydrogen will be used to decarbonise industry as part of the HyNet cluster across the North West of England and North Wales.

Vertex Hydrogen, the joint venture between Essar Oil UK and Progressive Energy, has today unveiled a [report](#) detailing the development of the UK's first ever large-scale low carbon hydrogen production plant.

The report has been launched by consortium partners Essar, Progressive Energy, Kent and Johnson Matthey to share learnings as to how they are designing and developing the ground-breaking hydrogen production plant. Hydrogen is critical to the UK's future energy mix, providing a low carbon solution to fuel vital to heavy industry.

The plant, to be owned and operated by Vertex Hydrogen, is being engineered by Kent and will use UK company Johnson Matthey's best in class Low Carbon Hydrogen (LCH™) technology at Essar's Stanlow Manufacturing Complex in Ellesmere Port, Cheshire. The Front End Engineering Design (FEED) was funded by the Government's Department of Business, Energy and Industrial Strategy ('BEIS') hydrogen supply competition.

The report explains how natural gas, and refinery fuel gas, will be converted into low carbon hydrogen whilst capturing carbon dioxide to be permanently stored under the sea bed in Liverpool Bay. The hub will produce 1GW of low carbon hydrogen with the first production line starting in the mid 2020's.

Low carbon hydrogen will replace fossil fuels in industry across the North West England and North Wales, helping the UK to decarbonise towards our net zero commitments and positioning a hydrogen economy as a catalyst for low carbon growth. Industry in the region across the chemicals, ceramics, paper, glass and flexible power generation sectors have already made commitments to reduce their carbon footprint using low carbon hydrogen from HyNet. This includes a wide range of companies such as Tata Chemicals Europe, Encirc, InterGen, Solvay, Ingevity, Novelis, Pilkington Glass and Saica Paper.

The report follows Vertex's submission of the company's plans to BEIS last month to build the UK's first low carbon hydrogen production hub with the HyNet cluster as part of the Government's Cluster Sequencing process.

Chris Manson Whitton, Director of Vertex Hydrogen said: "Our joint team of engineers, project managers and technologists, drawn from the consortium partners, have been developing this ground-breaking project over the last two years. We understand how important it is for us to share the knowledge we have learnt over this time to facilitate others who are following in our footsteps. This will both ensure the UK maintains its leadership position at the forefront of the growing global hydrogen economy and enable us to move as quickly as possible towards net zero.



VERTEXHYDROGEN

The work completed to date on Vertex Hydrogen's hydrogen production plant project demonstrates that we already have the technologies and skills within the UK workforce to design and deliver this type of project successfully."

Jon Barden, Director of Vertex Hydrogen and COO at Essar Oil (UK) Ltd said: "Essar is committed to investing in the energy transition and, with our consortium partners, we are demonstrating how we are putting our commitment to low carbon into practice. We hope that by sharing our development approach, we can equip others to also play their part in achieving the UK's net zero goals."

Sam French, Business Development Director, Johnson Matthey said: "At Johnson Matthey, we are fully behind the HyNet project. What is critical now is deployment of at scale low carbon hydrogen projects. It has been a pleasure to work with our partners as it is clear that collaboration is critical to realisation of the UK's hydrogen targets set out in the Ten Point Plan."

Simon Naylor, Executive Vice President Engineering and Consulting, Kent said: "Kent is proud to be part of this game-changing project that has been engineered by our UK Low Carbon team who are passionate about tackling the greatest challenge of our time. And ensuring that the communities of the North West of England are the first to reap the benefits of lower impact CO₂ and hydrogen production."

The UK's first low carbon hydrogen plant will sit at the heart of the HyNet low carbon cluster, the UK's leading industrial decarbonisation cluster. HyNet is vital for the North West of England and North Wales to hit their net zero targets by 2050, playing their part in the fight against climate change. By 2030, HyNet aims to be a significant contributor to the Government's target to produce 5GW of low carbon hydrogen for power, transport, industry and homes.

The report can be accessed here:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1056041/Phase_2_Report_-_Progressive_Energy_-_HyNet_Low_Carbon_Hydrogen_3_.pdf.

Notes to Editors

Media contacts

- Amy Bodey, Head of Communications, Progressive Energy: amy.bodey@progressive-energy.com / +447754 852979
- Michelle Lewis, Director of Corporate Affairs, Essar Oil UK: michelle.lewis@essaroil.co.uk / +447805 854169

Driving the UK's low carbon transformation

In November 2020, the UK Government published its Ten Point Plan for a Green Industrial Revolution, providing a roadmap to driving innovation, boosting export opportunities, and generating green jobs and economic growth across the country to level up regions of the UK.

As part of the plan, government committed to deploy Carbon Capture, Usage and Storage (CCUS) in two industrial clusters by the mid-2020s, with a further two clusters coming on-line by 2030. The successful deployment of CCUS is critical to meeting the UK's net zero goals and remains crucial for industrial



VERTEXHYDROGEN

decarbonisation, low carbon power, engineered greenhouse gas removal technologies and delivering the Government's 5GW by 2030 low carbon hydrogen production ambition.

About Vertex Hydrogen

Vertex Hydrogen was launched in January 2022. A joint venture between Essar Oil UK (90%) and Progressive Energy Ltd (10%), Vertex will deliver the UK's first low carbon hydrogen production plant to lead the country's hydrogen production economy. Using Johnson Matthey's Low Carbon Hydrogen (**LCH**) technology, the hydrogen production plant will sit at the heart of HyNet North West, the UK's leading industrial decarbonisation cluster. HyNet will deploy a combination of low carbon hydrogen, distributed by Cadent Gas Ltd, and carbon capture and storage (CCS) infrastructure, provided by ENI, to decarbonise industry, transport and transform how we heat our homes across North West England and North East Wales.

www.vertexhydrogen.com

www.hynet.co.uk

LCH™ is a trademark of the Johnson Matthey group of companies.