York Society of Engineers

7:30 pm. Thursday 03 October 2024

Live Lecture

Room P/L/001, Physics/Electronics Building, Campus West, University of York

Aldbrough Hydrogen Pathfinder (AHP)

by

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Hydrogen will be a key contributor to the energy transition as the energy industry is scaling up renewable energy solutions, including wind and solar. As it won't be until the latter part of the century before there is sufficient renewable energy to supply the world's energy needs, other forms of low carbon energy, such as hydrogen, will be needed to secure energy supply, decarbonise energy-intensive industries and ultimately, achieve net-zero by 2050.

SSE Thermal and Equinor are developing a first-of-a-kind project in the Humber which would unite hydrogen production, underground salt cavity storage and power generation in one location by the middle of this decade. The Aldbrough Hydrogen Pathfinder project will support the evidence base for wider deployment of flexible hydrogen power in the UK's net zero journey and is a major enabler of energy transition. Located at SSE Thermal and Equinor's existing Aldbrough Gas Storage site on the East Yorkshire coast, the project is designed to demonstrate the interactions between hydrogen electrolysis, hydrogen cavern storage and 100% hydrogen fired electrical generation.

The concept uses green power sourced from the grid through Renewable Power Purchase Agreements (PPAs), in compliance with the Low Carbon Hydrogen Standard. Hydrogen would then be produced via a 35MW electrolyser before being stored in a converted salt cavern and then used in a 100% hydrogen-fired turbine, exporting flexible green power back to the grid at times of system need.

The talk will cover existing Natural Gas Storage, the need for Hydrogen and Hydrogen Storage in the future low carbon energy world, and the specifics of the Aldbrough Hydrogen Pathfinder project itself.

Please note, this lecture will be a live talk in Room P/L/001, Physics/Electronics Building, Campus West, University of York.

Wearing of masks is encouraged (but not mandatory); taking a lateral flow test prior to the meeting (with negative result) is also recommended. There is plenty of space in the lecture theatre for "social distancing".

Please see the Covid-19 guidance below from the University of York:

The safety of our audience members and staff are our priority, and the University of York continues to have strict cleaning regimes and enhanced ventilation in place.

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