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Acorn Hydrogen awarded UK Government Hydrogen Supply Competition Funding

Pale Blue Dot Energy, the project developer behind [Acorn CCS and Acorn Hydrogen](#), is delighted to have been awarded funding from the second phase of the [UK Government's Hydrogen Supply Competition](#).

This award will support 13 months of engineering studies, to progress the technical and commercial plans for the Acorn Hydrogen project at the St Fergus gas terminal. This first phase of Acorn Hydrogen will establish the technology to convert some of the natural gas at the St Fergus gas terminal in North East Scotland into hydrogen – a clean burning fuel.

In the UK, around half of all our energy is used for heat. The majority of this heat is provided by burning natural gas, which emits carbon dioxide (CO₂). Replacing some, or all of this natural gas by blending hydrogen into the National Transmission System (NTS) will help reduce CO₂ emissions. The CO₂ emissions that are created from converting natural gas to hydrogen at St Fergus will all be captured and permanently stored using the Acorn carbon capture and storage (CCS) infrastructure that is on track to be operating at St Fergus from 2024.

Sam Gommersall, Pale Blue Dot Energy Commercial Director said:

'Acorn Hydrogen is a hugely exciting project that is a critical step for Scotland and the UK to reach its ambitious climate change targets. We are working extremely hard, alongside our project study partners: Chrysaor, Shell and Total, to progress this important component of the wider [Acorn](#) initiatives, in the aim that Acorn Hydrogen's first injection of hydrogen into the gas grid is in 2025. Blending as little as 2% hydrogen into the National Transmission System would remove 400,000 tonnes of CO₂ per year from the energy system, and that is just the starting point with an ambition to decarbonise all the natural gas flowing through St Fergus.'

Minister for Business, Energy and Clean Growth, Kwasi Kwarteng, said:

"Hydrogen offers the opportunity of a cleaner, greener fuel for heating our homes and getting us from A to B. The innovative Acorn project is a clear step in that direction – particularly in this year of climate action"

Detailed design work on Acorn CCS is already underway, and with this earlier stage design on the first phase of Acorn Hydrogen now started, Acorn is on track to establish critical infrastructure in the mid-2020s ahead of then significantly expanding both Acorn CCS and Acorn Hydrogen, delivering a serious contribution to UK and Scottish Net Zero targets.

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Hydrogen generation in North East Scotland

North East Scotland has massive potential to produce significant volumes of low-carbon hydrogen now and into the future. There are significant marine and wind energy resources available, which, as shown on Orkney through the Surf 'n' Turf project, can be effectively used to create hydrogen for use within energy systems.

In addition, the future opportunity to generate significant levels of hydrogen from floating deep-water offshore wind turbines is being explored by Environmental Resources Management's (ERM) Dolphyn project.

St Fergus gas terminal has many attributes which make it an ideal location for the production and storage of low-carbon hydrogen from natural gas with CCS and the subsequent blending into the grid and deployment to other applications:

- Natural gas supply - St Fergus is the gas processing terminal for about 35% of the UK's gas and is forecast to continue to be so out to 2040 and beyond.
- The coastal gas processing terminal at St Fergus is an existing industrial site, which is suited to the construction of large-scale hydrogen production facilities.
- Blending just 2% of hydrogen into the UK National Transmission System would remove 400,000 tonnes of CO₂ per year from the energy system.
- St Fergus provides access to three offshore gas transmission pipelines that are no longer required for petroleum use that can be redeployed for offshore CO₂ transport.
- Scotland has significant quantities of internationally renowned CO₂ storage resource - around 30% of the UK's CO₂ storage lies within 50km of the St Fergus pipeline corridors.

For more information :

https://paleblublog.files.wordpress.com/2019/09/sgn-summary_digital.pdf

Funding details

The [Hydrogen Supply Competition 2 funding](#) for Acorn Hydrogen is £2.7 Million, with continuing additional financial and technical support from industry partners: Chrysaor, Shell and Total.

Image available on request:



(credit: Pale Blue Dot Energy)