UPCOMING HYDROGEN PROJECTS FOR THE REGION

- ACORN H2 & Aberdeen Vision – Pale Blue Dot leading case study into H2 from natural gas with CO2 emissions sent offshore for storage. Additional feasibility study with SGN on large scale H2 use by blending H2 in to UK or regional gas grids and applications for 100% H2 transport, heat & power.

- SGN Hydrogen 100 – Feasibility study to assess the technical and commercial viability of creating and operating 100% Hydrogen gas and eventual construction of 300 houses supplied by H2.

- JIVE – £7.4m investment in next generation buses for commercial use in the city and creation of green H2 production infrastructure.

RESEARCH AND PARTNERSHIP POTENTIAL

The region has world class research institutions capable of innovating for the hydrogen sector. Research areas include; hybrid energy systems, Electro(photo)catalytic processes for H2 production, hydrogen economics, H2 from biomass, Fuel cells, composite H2 Tank design & impact resilience, inorganic membranes for H2 separation, Hydrogen storage, H2 from AD

<table>
<thead>
<tr>
<th>University of Aberdeen</th>
<th>Robert Gordon University</th>
<th>North East Scotland College</th>
<th>Oil and Gas Technology Centre</th>
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<tbody>
<tr>
<td>Scotland’s Rural College</td>
<td>National Decommissioning Centre</td>
<td>HYDROGEN STRATEGY GROUP; Government, ACC and local development partners collaborate on a strategic approach to the regional Hydrogen sector</td>
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TRANSFERABLE SKILLS

- Region’s expertise in subsea engineering, renewables, energy technology and production transitioned to development of Hydrogen production, storage and distribution infrastructure.

- 51.7% of working age population have NVQ4+ qualifications – significantly higher than both the Scottish and UK average.

- Forty years of excellence in the Oil & Gas sector.

INVEST ABERDEEN

T: +44 (0) 1224 522940
E: enquiries@investaberdeen.co.uk
Twitter: @Invest_Aberdeen
Web: investaberdeen.co.uk
H2aberdeen.com
#InvestABDN

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H2 Aberdeen
HyTeC
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HYDROGEN OPPORTUNITIES IN ABERDEEN CITY REGION

Hydrogen plays a key role in reducing carbon emissions and responding to climate change (and is the most abundant element on the planet). With forty years of transferable energy expertise and infrastructure, a skilled workforce and research and development capability, Aberdeen has grabbed the opportunity afforded by Hydrogen through the delivery of £350 million Hydrogen programme. Hydrogen technologies allow us to store green energy for multiple uses. The first phase of the £35 million transport programme is expanding to include Hydrogen energy, heat and storage opportunities.

WHY ABERDEEN?

One of the largest, and most varied, Hydrogen fleets in the UK including Hydrogen buses

Two Hydrogen refuelling stations allow H2 car makers to market vehicles to the general public

Aberdeen businesses will be the first in the UK able to hire H2 vehicles via Co-Wheels

35% of the UK’s natural gas supply comes ashore at St. Fergus with the potential necessary for mass production of Hydrogen in addition to production from renewables using electrolysis

In 2019 NESCOL will offer the first training available in the UK for Hydrogen and fuel cell vehicles

Linked nationally and internationally by existing gas pipelines, infrastructure and supply chains that can be converted for use in the Hydrogen sector

ACHES AND KITTYBREWSTER H2 REFUELLING STATIONS

- Largest Hydrogen refuelling stations in Europe
- First publicly available Hydrogen refilling stations in Scotland
- Stations feature 700 and 350 bar fuelling for heavy duty vehicles and cars
- H2 produced onsite using electrolysis and renewable energy

FLEET

Growing fleet of Hydrogen vehicles including Hyundai iX35s, vans, Toyota Mirais, a road sweeper and waste trucks in use by Council teams via Co-Wheels and business trials.

ABERDEEN HYDROGEN BUS PROJECT (AHBP)

- 10 Buses in initial £22.5 million investment, world’s largest integrated Hydrogen project at inception
- UK’s first fully integrated Hydrogen production and bus refuelling station & maintenance facility upgraded for bus maintenance

TECA ENERGY CENTRE

- £48 million investment in Gas to Grid AD plant producing biogas. Gas will be piped to feed the CCHP plant and generate heating, cooling & power for TECA and its 2 hotels. Excess electricity will generate Hydrogen.

World’s first dual fuel diesel roadsweeper

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