



Innovate
UK

Innovate UK: Supporting Innovation in Hydrogen

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UK Research and Innovation



Innovate UK is the UK's innovation agency



Innovate UK is the UK's innovation agency

371

Projects To Date
Referring to hydrogen in
description or title

562

Project participants

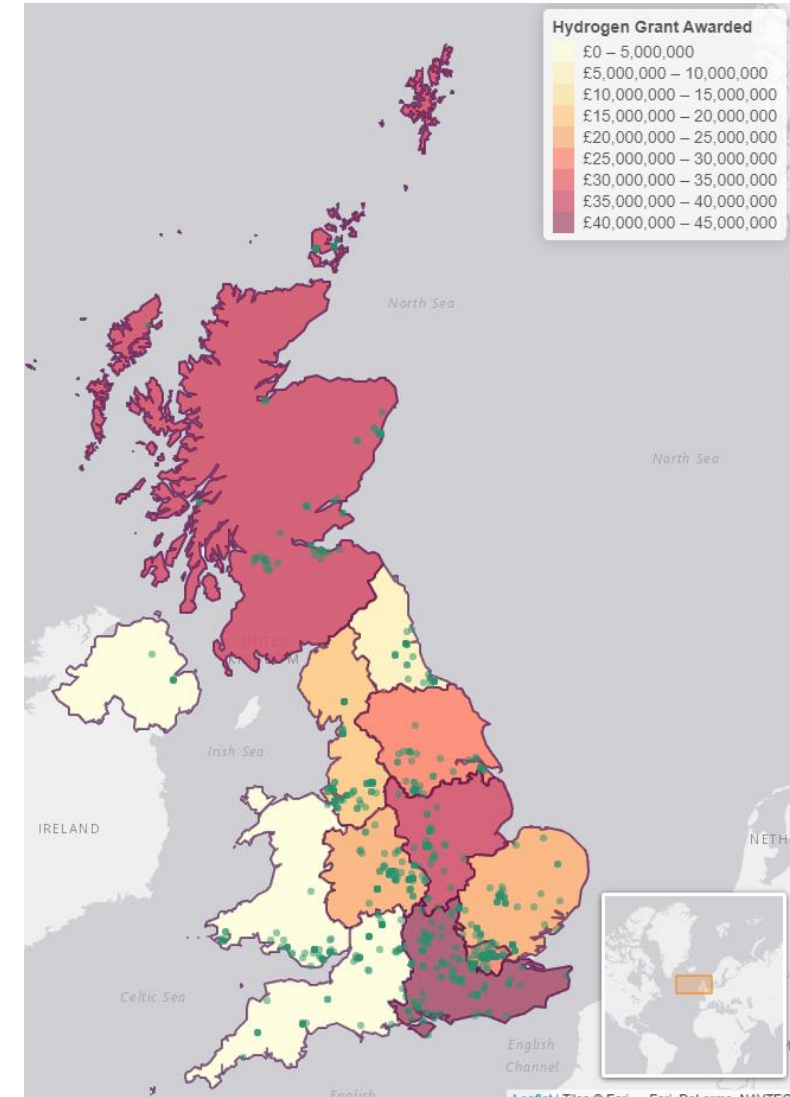
55+

Live Projects

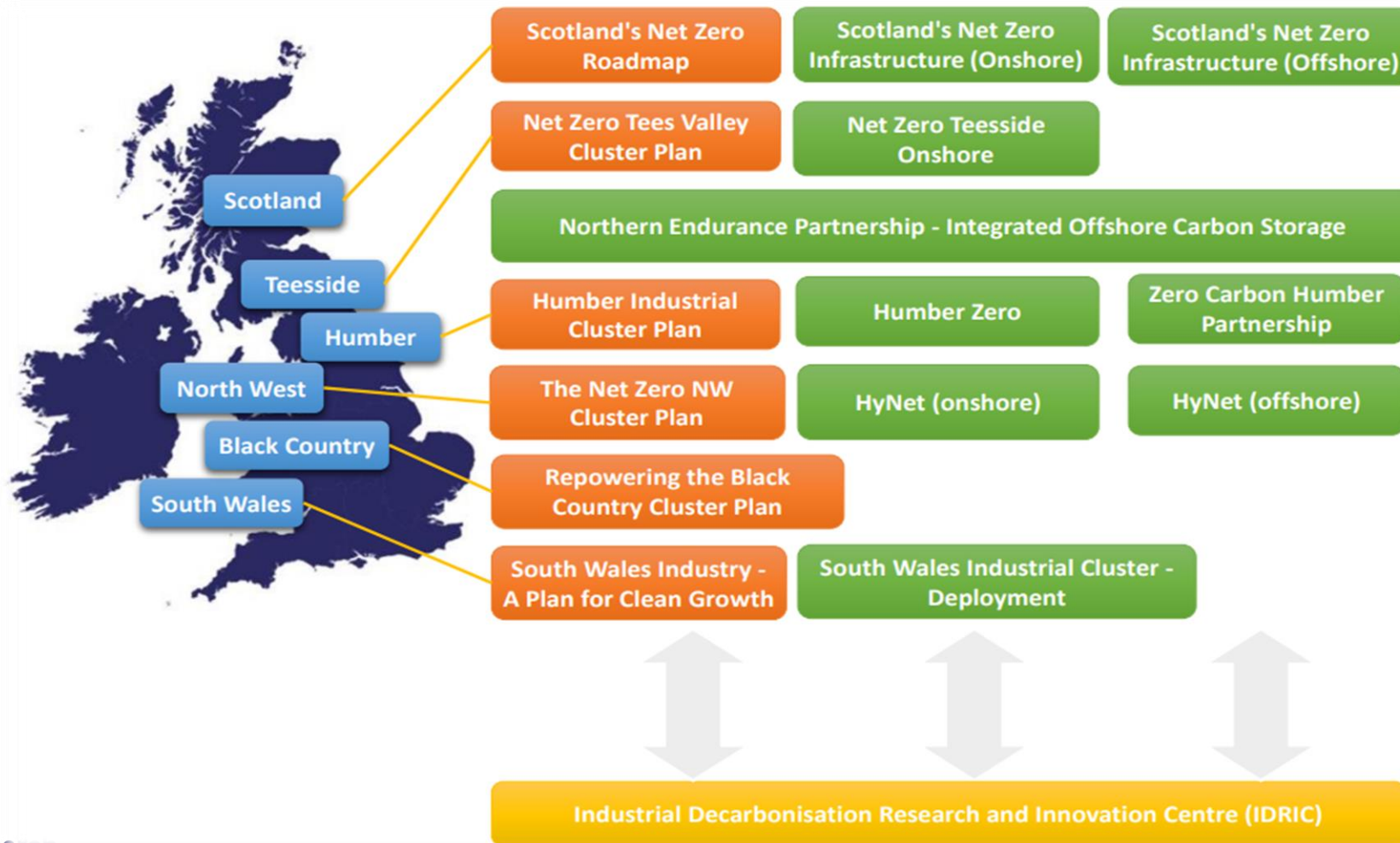
Innovate UK has
invested £255
Million in projects
involving hydrogen

Project total costs £509m

Over 2020/21, Innovate
UK committed £100m+
into projects including
hydrogen **through**
diverse programmes.



Industrial Decarbonisation Challenge - £210m Projects



Orange – Cluster Plans
 Green Deployment
 Projects
 Yellow – Research



UK Research
 and Innovation

Industrial Decarbonisation Challenge

Industrial Energy Transformation Fund (IETF)

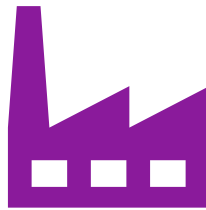
£315M to support industrial energy efficiency and deep decarbonisation from 2021 to 2024.

Vision

Energy intensive businesses transition to a low carbon future, lower their energy bills and reduce their greenhouse gas emissions.

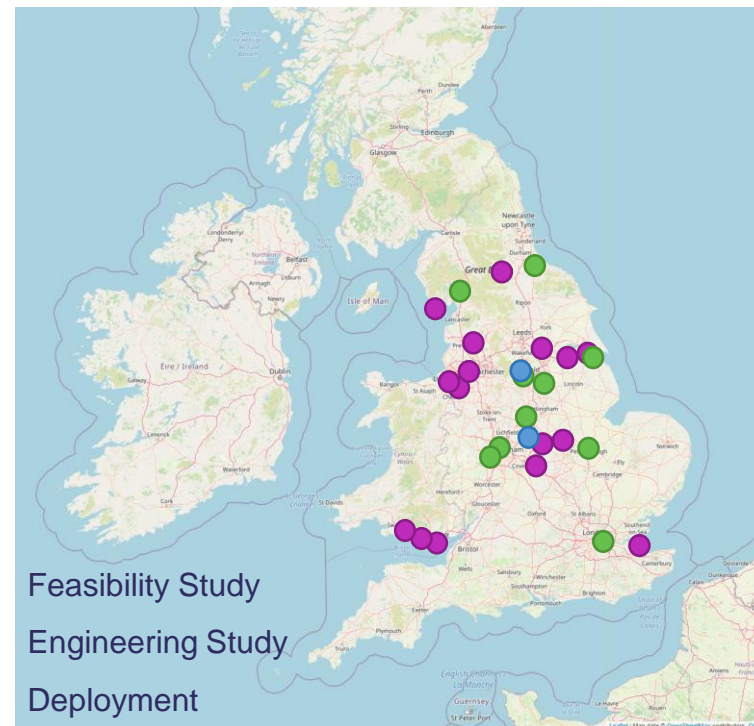
Objectives

Reduce energy costs and emissions for industry



Energy Efficiency Studies	Energy Efficiency Deployments
Deep Decarbonisation Studies	Deep Decarbonisation Deployments

Lower costs and risks of deep decarbonisation technologies through demonstration



Land and Maritime Transport – 21/22



Zero Emission Vehicles and charging infrastructure – 55 projects, £20m awarded

Opened 15th March - £20m funding to address:

- Technological and consumer challenges with zero emission vehicles
- Innovative solutions to enable charge point deployment for consumers and businesses (fleets)



Clean Maritime Demonstration Competition - 55 projects, £23.2m funding awarded

Opened 22nd March 21 – £20m funding to:

- Accelerate the reduction of GHG emissions from the UK's maritime sector
- Lay the foundation for future demonstration projects in real-world projects



Zero Emission Road Freight Demonstration – 20 projects, £18.2m funding awarded

Opened 22nd March 21– £20m funding to:

- Pave the way for a scaled demonstration of hydrogen and electric road (catenary) trucks
- Trail and evaluate battery electric trucks via a strategic demonstration



Rail demonstrations: first of a kind 2021 - 30 projects, £9m funding awarded

Opened 8th Feb 21– £9m funding to:

- Develop demonstrators that increase customers' confidence and enhance experience, deliver a railway that is easy to use, offer low emissions and a greener railway



Hydrogen Hub – Tees Valley – 7 projects, £2.8m funding awarded

Opened May 21 - £3m funding to:

- Progress a hydrogen 'living lab' to catalyse green hydrogen's role in decarbonising transport
- Innovate UK is aligning freight and maritime programmes with H2 Hub objectives



Geospatial Commission – 7 projects, £3m funding awarded (phase 2)

- 21 projects funded (£1.9m) Jan-Mar 2021
- Phase 2: Prototype development and demonstration



22/23

SBRI: FOAK 2022 Rail Freight

SBRI : FOAK 2022 Low emissions and a greener railway

Automotive Transformation Fund Scale up Readiness Validation (SuRV)



Office for
Zero Emission
Vehicles



Department
for Transport

**DfT funded
programmes -
£73.2m awarded
in 2021***

*excludes Geospatial Commission

Zero Emission Road Freight Demonstrations

- Large multi year on-road demonstrations of hydrogen fuel cell and battery electric zero emission HGVs
- Supports commitment to end the sale of new, non-zero emission HGVs by 2035/2040
- Increases operator confidence and government understanding of various ZE HGVs and their infrastructure

Two upcoming events: ktn-uk.org/events/

- 29th August *tomorrow* 10-12.30: Outputs from funded projects (hydrogen demonstration feasibility studies and current battery electric truck trials)
- 13th July 10-12.30: Programme update and info on demonstrations



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HM Government

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News story

£200 million boost to rollout of hundreds more zero-emission HGVs

Transition to zero-emission trucks will help improve air quality, create greener jobs and reduce reliance on imports of foreign oil.

From: [Department for Transport](#) and [Trudy Harrison MP](#)

Published 12 May 2022



Energy Network Innovation

Ofgem SIF - £450m

- A managed programme for energy network innovation, governed by Ofgem, the energy regulator.
- Delivering large scale demonstrations of innovation which can be replicated and scaled as business as usual
- Funded by energy network charges (consumer energy bills), it is to help energy networks and the electricity system operator:

Cost of energy for consumers



Carbon reductions in the energy system



Improved access to revenues and markets



New products, processes, and services



Energy networks launch 40 new innovation projects to help Great Britain accelerate the transition to net zero

Press release
[Master publications library >](#)



Publication date
1 March 2022

Industry sector
Distribution Network
Transmission Networks

Strategic Innovation Fund - Round Two Innovation Challenges

Decision
[Master publications library >](#)



Publication date
9 May 2022

Our four round two Innovation Challenges are:

- Supporting a just energy transition
- Preparing for a net zero power system
- Improving energy system resilience and robustness
- Accelerating decarbonisation of major energy demands

Hydrogen Investment Package

On 8 April, Government launched the **Hydrogen Investment Package**.

The announcement includes:

The **£240 million Net Zero Hydrogen Fund** will fund low carbon hydrogen production projects, with the aim of awarding funding from the end of 2022.
Open for applications on 25 April.

NZHF Strand 1 & 2 is expected to have a budget of £90m (out of a total of £240 for the entire fund).

The **Hydrogen Business Model** supporting further investment in hydrogen production with **£100 million for electrolytic projects** to cover the difference between the cost of production (strike price) and the sale price for hydrogen (reference price).

The **Industrial Hydrogen Accelerator**, a **£26 million innovation funding programme** to support UK industry in adopting hydrogen as a clean, affordable fuel source for sectors like manufacturing.

The **Hydrogen Investor Roadmap** which illustrates the huge investment potential in the UK hydrogen economy.

The **CCUS Investor Roadmap** summarises the current engagement of government and industry, outlining further opportunities to deliver CCUS and drive investment.

BEIS have published **responses to the consultations** alongside supporting documentation to facilitate the launch of the Net Zero Hydrogen Fund on 25 April and the joint allocation window with revenue support later this year.

NZHF will deliver up to £240m via 4 strands:

This briefing event is in relation to Strands 1 and 2.

It is the responsibility of the applicant to ensure that they are entering the appropriate challenge competition for their project.

Strand 1:

Development Expenditure (DEVEX) support for front end engineering design (FEED) studies and post-FEED studies, to grow the future pipeline of hydrogen projects in the UK. - **CLOSED**

Strand 2:

Capital Expenditure (CAPEX) for projects that do not require a hydrogen specific business model. These are low carbon hydrogen projects that can deploy on the basis of capital expenditure support and are able to start construction rapidly. – **CLOSES 6TH JULY 2022**

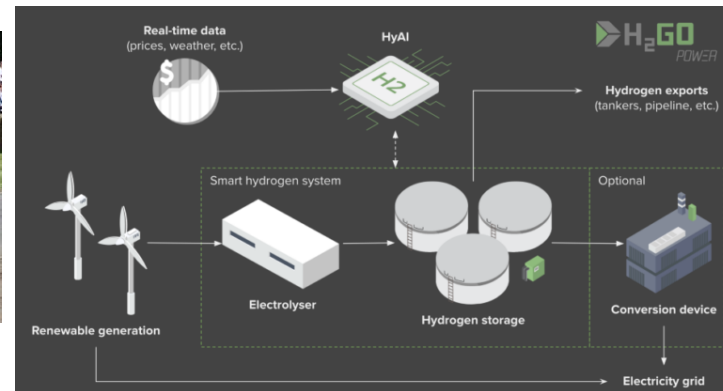
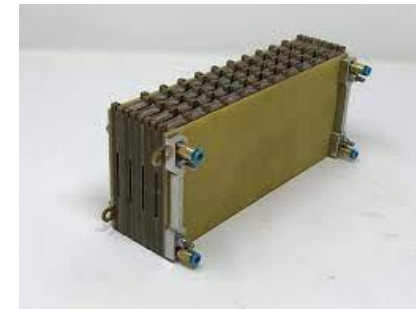
Strand 3:

CAPEX for projects that require a hydrogen business model (HBM) and sit outside of the Phase 2 cluster sequencing process. – **UPCOMING FROM BEIS**

Strand 4:

CAPEX for carbon capture usage and storage (CCUS) enabled projects that require a hydrogen specific business model and are part of the Phase 2 cluster sequencing process. – **UPCOMING FROM BEIS**

Example UK hydrogen collaboration and innovation successes... and more to come!



Innovate UK KTN Hydrogen Innovation Network

Purpose:

- To create a non-competitive advisory group to pool knowledge from existing hydrogen communities to validate views on the current challenges to enabling local clean hydrogen **uptake** at scale and cost and to find innovative solutions to those challenges.
- ***Hydrogen Landscape is busy and complex! How can this be simplified? How can we make sure innovation keeps up with deployment?***





Thanks for your attention.



Any questions?



To follow up please contact:
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