

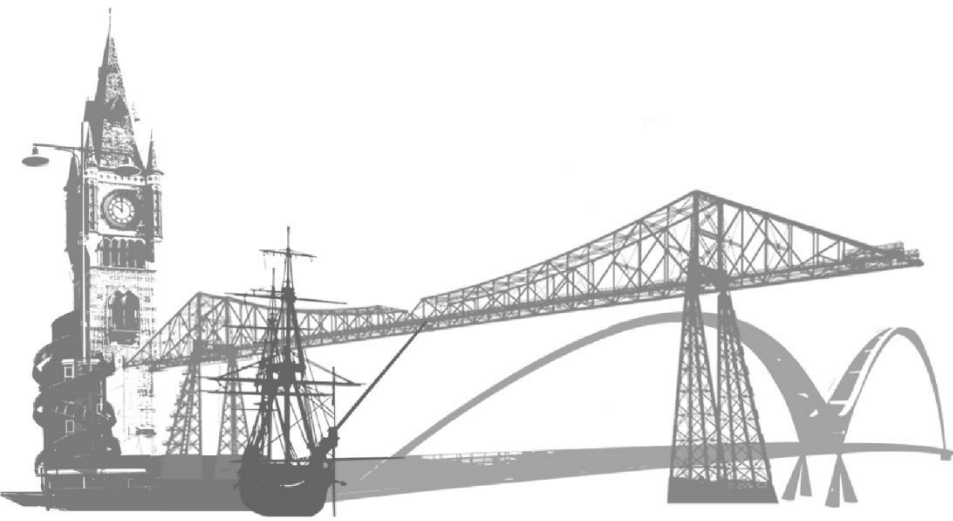


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Hydrogen

The View from Tees Valley Combined Authority



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Today

Hydrogen in the Tees Valley from the Combined Authority perspective



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Today

Hydrogen in the Tees Valley from the Combined Authority perspective

Industry | Transport | Housing | Communities



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The Tees Valley

Edinburgh
Tees Valley – Edinburgh
2hr

Newcastle
North East
of England

Leeds
Manchester
Liverpool

Tees Valley – London
2hr 20min by rail

Three railway stations
connected to London

London

Tees Valley is centrally
located for easy access
to the whole of the UK



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Tees Valley industrial activity and economic strength



- Chemicals Manufacturing
- Materials and Manufacturing
- Energy – import and generation
- Logistics Hub
- Bio-manufacturing
- Digital



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The Tees Valley Cluster



Hydrogen in the Tees Valley

**WE PRODUCE MORE
THAN HALF OF THE
UK'S HYDROGEN**

**TWO HYDROGEN
REFUELLING STATIONS**

**THE UK'S LARGEST
"BLUE" HYDROGEN
PROJECT**

**PIONEERING PROJECT
TO USE HYDROGEN
IN THE EXISTING
GAS NETWORK
AND DISTRIBUTE
TO HOMES AND
BUSINESSES**

**£3MILLION FOR THE
UK'S FIRST HYDROGEN
TRANSPORT HUB,
CREATING 5,000 JOBS**

**THE UK'S FIRST FULLY
DECARBONISED NET
ZERO PORT IN THE
NEXT FIVE YEARS**

**£16MILLION HYDROGEN
INNOVATION CAMPUS**

Hydrogen – what colour?



CATS Terminal
around 14% of UK gas supply



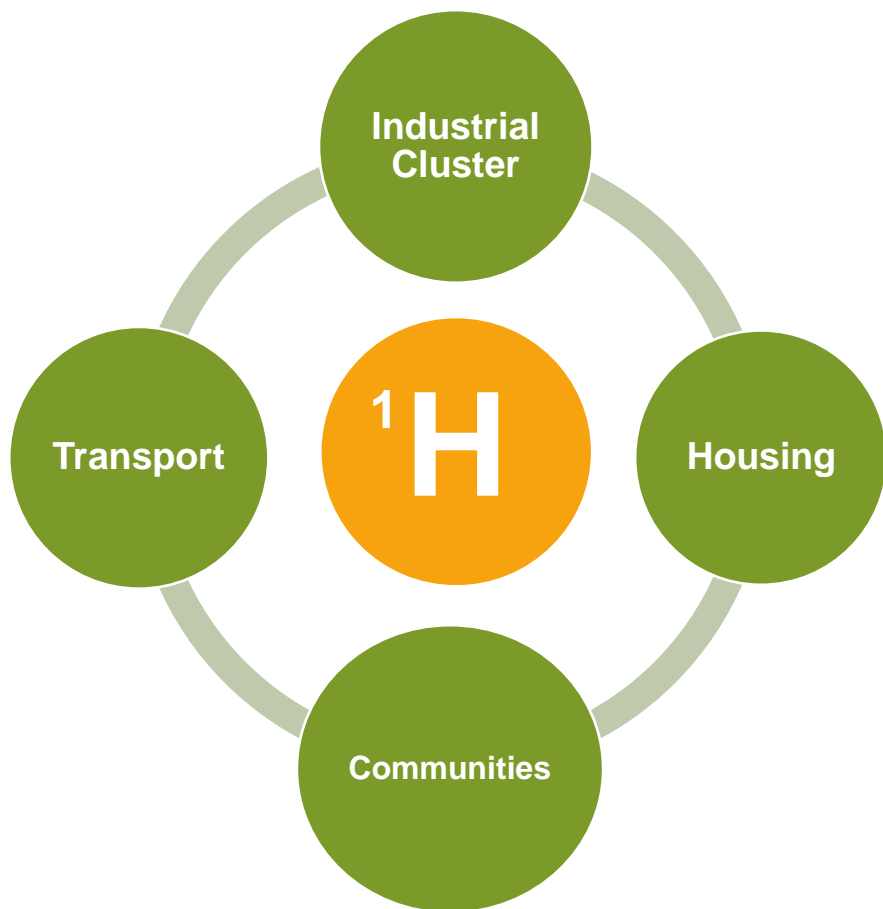
Sofia Offshore Wind – 1.4 GW

Alessandro Blasi – Special Advisor to the IEA Executive Director:

“Experience shows that excluding options might be risky as the scale of progress and innovation still needed calls for all efforts possible”

(04 October 2021) https://www.linkedin.com/posts/alessandro-biasi-6579a66_hydrogen-energy-business-activity-6850698843957329920-0Vmq

Hydrogen – Themes in the Tees Valley



- **Industry** - Develop decarbonised H₂ as industrial energy source
- **Transport** - With DfT & OLEV support deploy Hydrogen in Transport sector – road & rail
- **Housing** - Work with Leeds CA, NGN and with Northern LEPs on Hydrogen for Heat & Transport applications
- **Communities** - Develop public awareness programmes, skills and education provision for CCUS & hydrogen to support energy and employment transition

A just and equitable transition

Hydrogen & Industrial Decarbonisation



Department for
Business, Energy
& Industrial Strategy



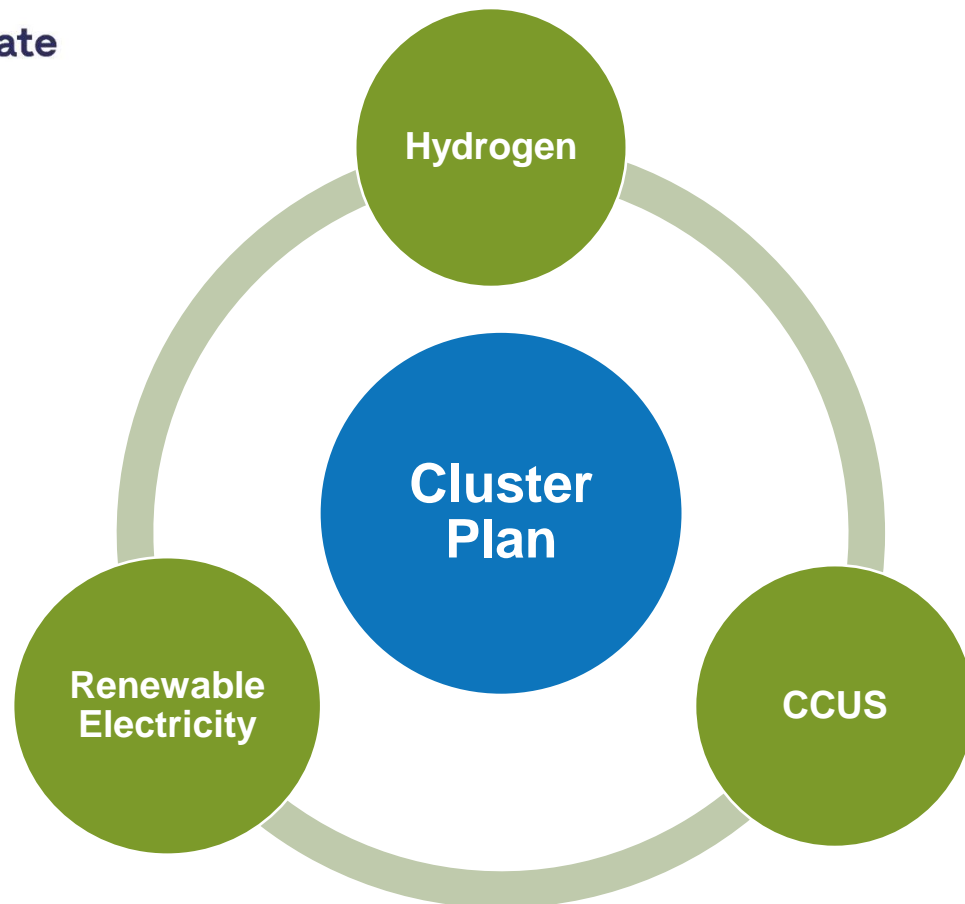
Innovate
UK

BEIS > UKRI Innovate UK

- Industrial Decarbonisation Challenge
- 6x Clusters around the UK
 - 2030: 4x low Carbon clusters
 - 2040: 4x Net Zero clusters

BEIS > UKRI

- Cluster Sequencing - CCUS
- Track-1
 - 2026: 2x operational CCUS
- Track-2
 - 2030: 2x operational CCUS



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Hydrogen - Industry

- **Hydrogen Production**

- An **existing industry** in Tees Valley – current production is **50% of UK demand**
- TVCA has an ambition to make the Tees Valley a **globally recognised centre** for hydrogen production

- **Green hydrogen**

- Sofia offshore windfarm – planned 1.4 GW installed capacity (2026)

- **Blue hydrogen**

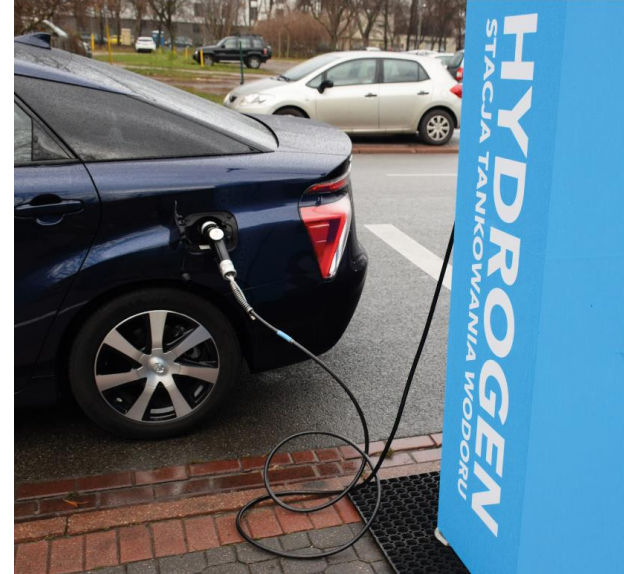
- TVCA working with **Kellas Midstream** on their 1 GW Blue Hydrogen project
- TVCA is supporting **bp** with their 1 GW H2 Teesside Blue Hydrogen project
- TVCA has been clear that it will work with any suitable commercial partner to deliver its aims.

- **Hydrogen production** could:

- support around **4,000 high-value direct jobs** in the region
- contribute to a projected **£900 million GVA** annually to the UK economy by 2030.

Hydrogen - Transport

- **Hydrogen Transport Hub**
- Tees Valley has been designated as the **UK's first Hydrogen Transport Hub**
- **£3 million** of funding for initial vehicle trials.
- **2x hydrogen refuelling stations:** Middleborough & Redcar
- Real-world **hydrogen transport trials** based in the Tees Valley for 3 months to March 2022.
- **Airport:** 1x tug, 2x hydrogen FC cars, 1x fork lift truck
- Longer term trials are planned with a '**living lab**' to help **stakeholders** understand the outcomes of the trials.



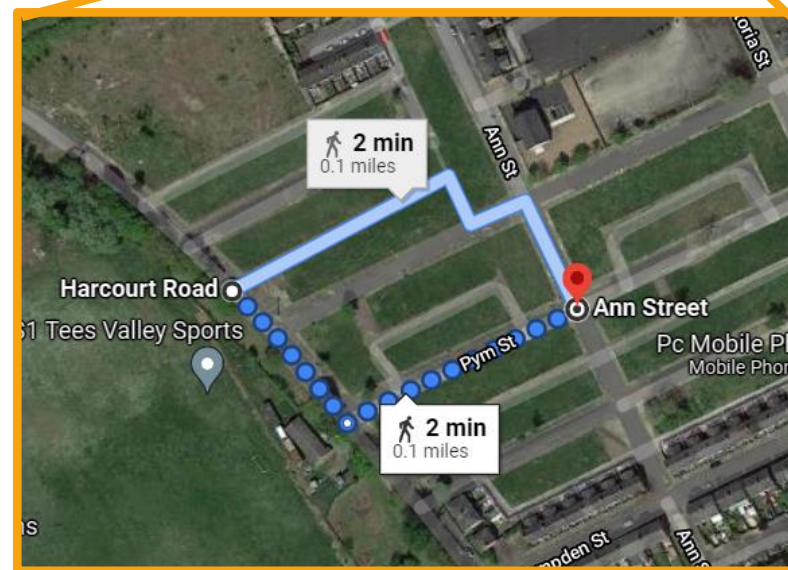
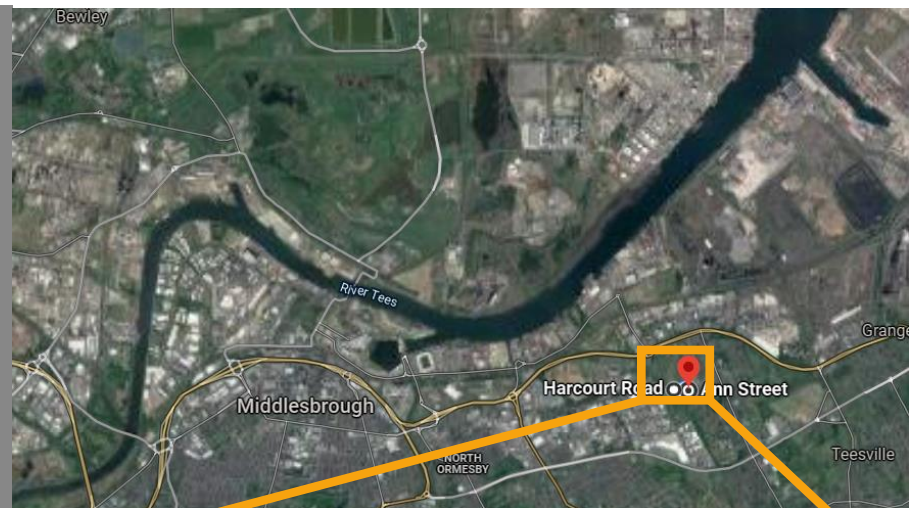
Hydrogen - Housing

• Household Gas Supply

- Northern Gas Networks (NGN) - testing hydrogen as a potential alternative to a household gas supply.
- Redcar's South Bank ~70 homes were demolished on the land ten years ago
- Services including gas pipes - disconnected from the rest of the network, are still intact.

• Hydrogen Towns

- Tees Valley is working with Northern Gas Networks (NGN) to bid for the UK's first Hydrogen Town.
- NGN has identified a number of potentially suitable sites across the region. If successful, 10,000 homes will be converted from gas to hydrogen heating systems



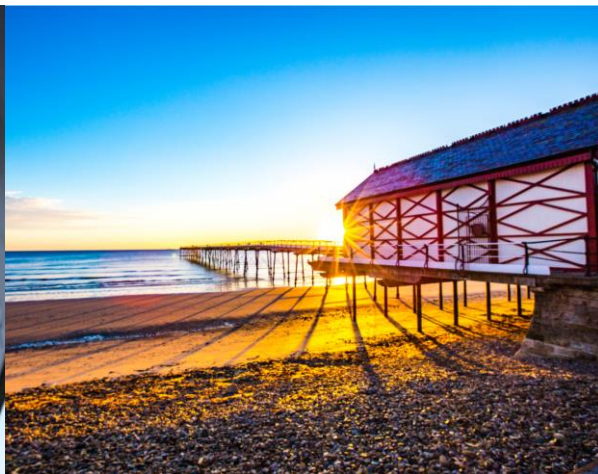
An aerial photograph of the Tees Valley industrial area. In the background, a long line of wind turbines stretches across the horizon under a blue sky. The middle ground is filled with various industrial facilities, including large storage tanks, processing plants, and shipping docks along a river. The foreground shows a mix of industrial land and some residential areas.

Our Vision:

Tees Valley will be a global leader in clean energy, low carbon and hydrogen. The area will achieve a net zero carbon industrial cluster by 2040, providing good jobs with long term prospects that local people can access

This sits at the heart of our framework for growth





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