

UK Hydrogen Value Chain

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World's First climate-neutral fuels (eFuels)



World's First Commercial Green Ammonia Plant



Europe's First Underground Storage



Largest BioFuels Project in Europe



World's First Green Steel Project



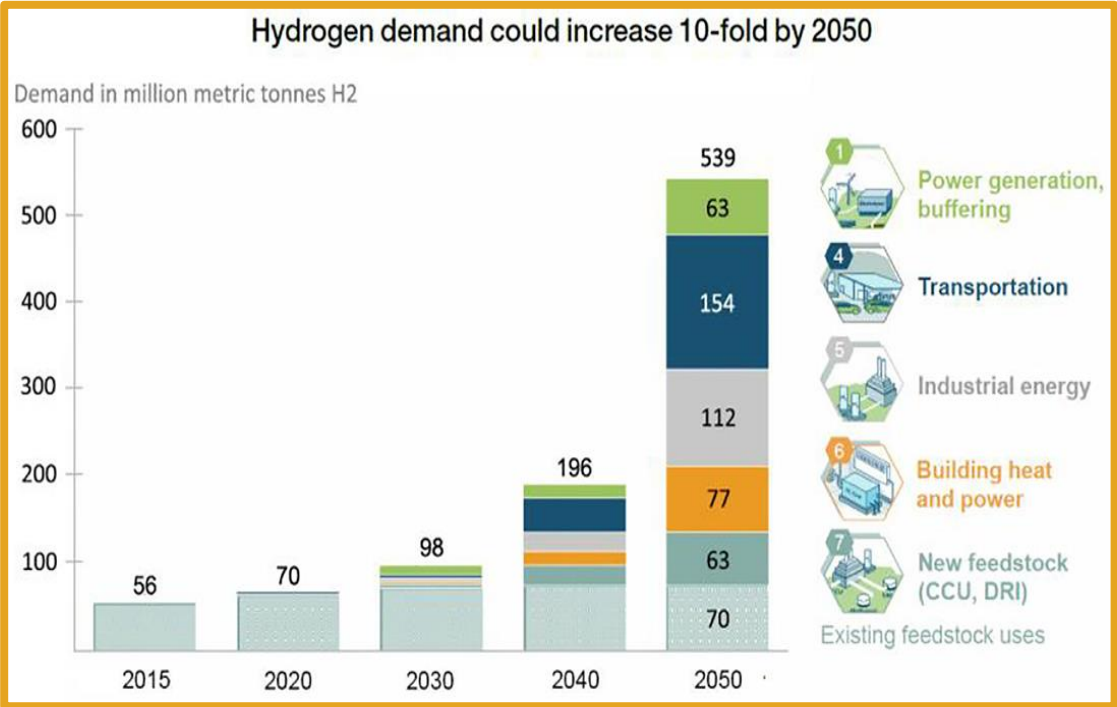
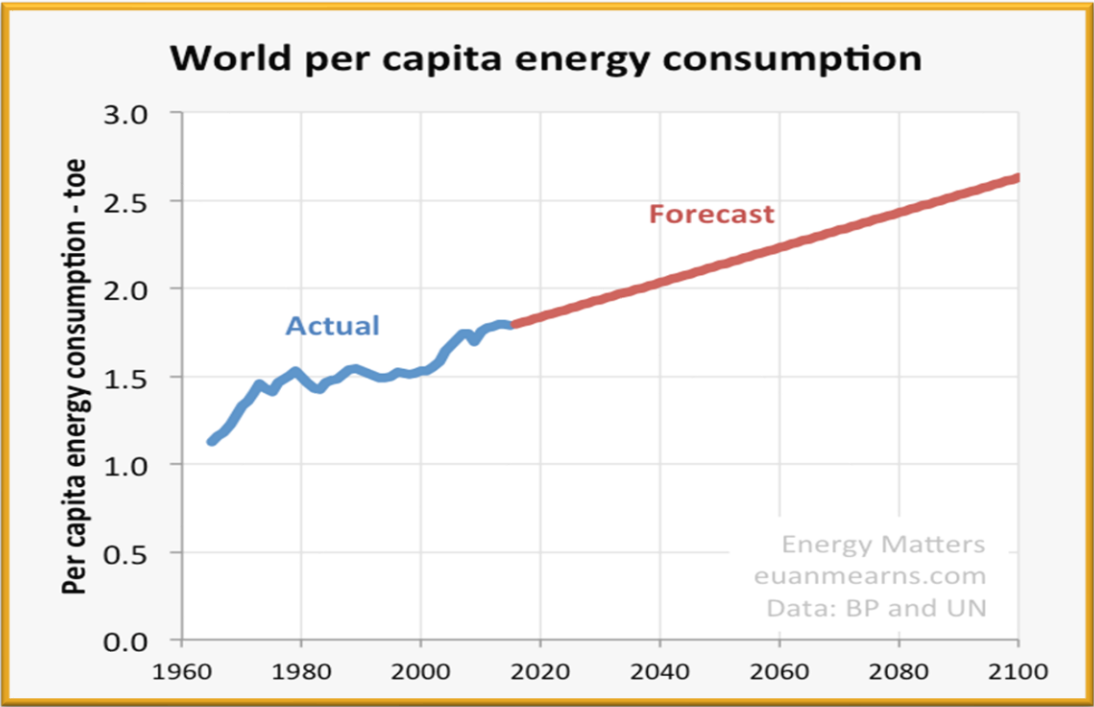
Largest BioFuels Project in Europe



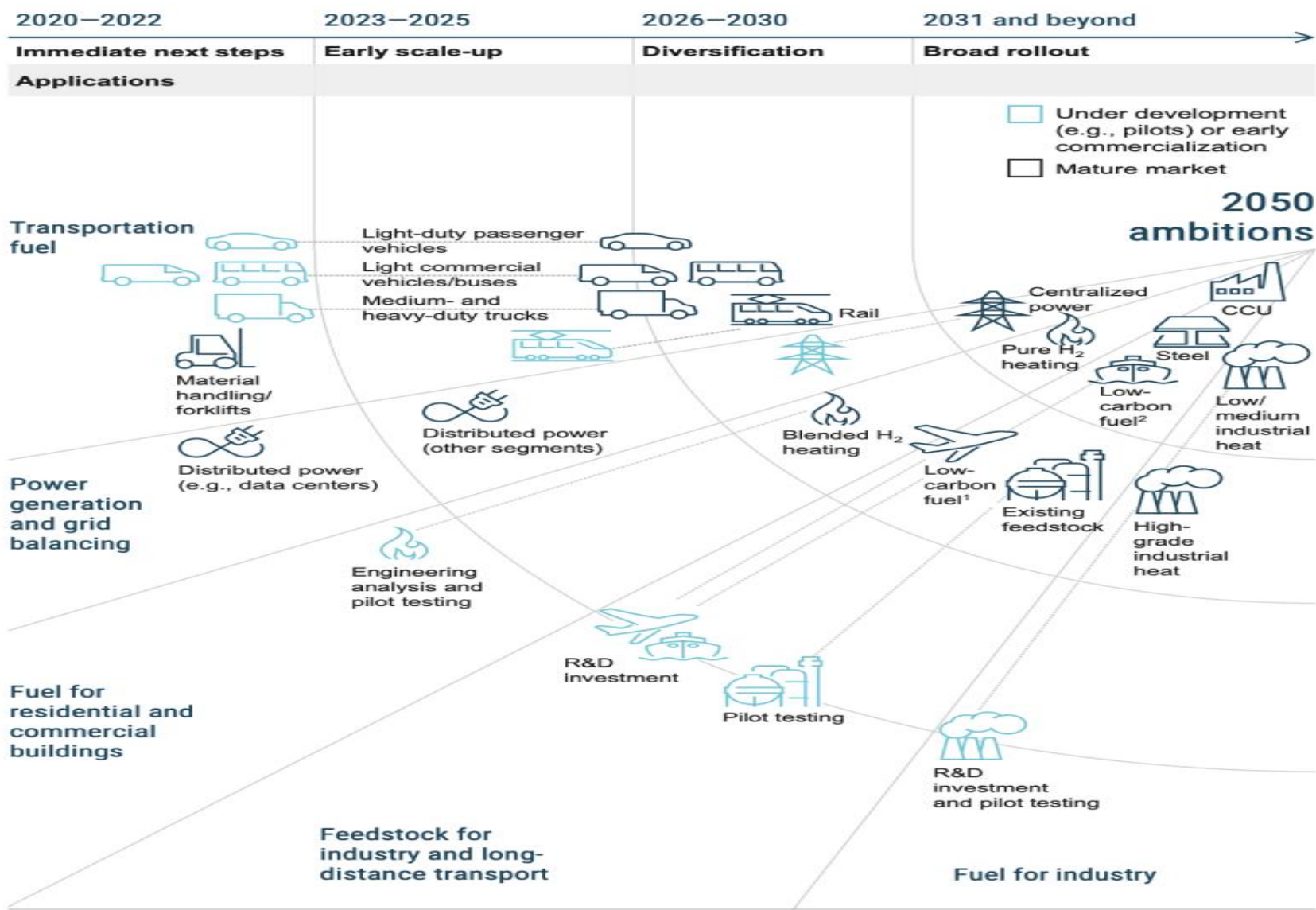
World's Largest Hydrogen Refuelling Station



UK's Largest Hydrogen Refuelling Station



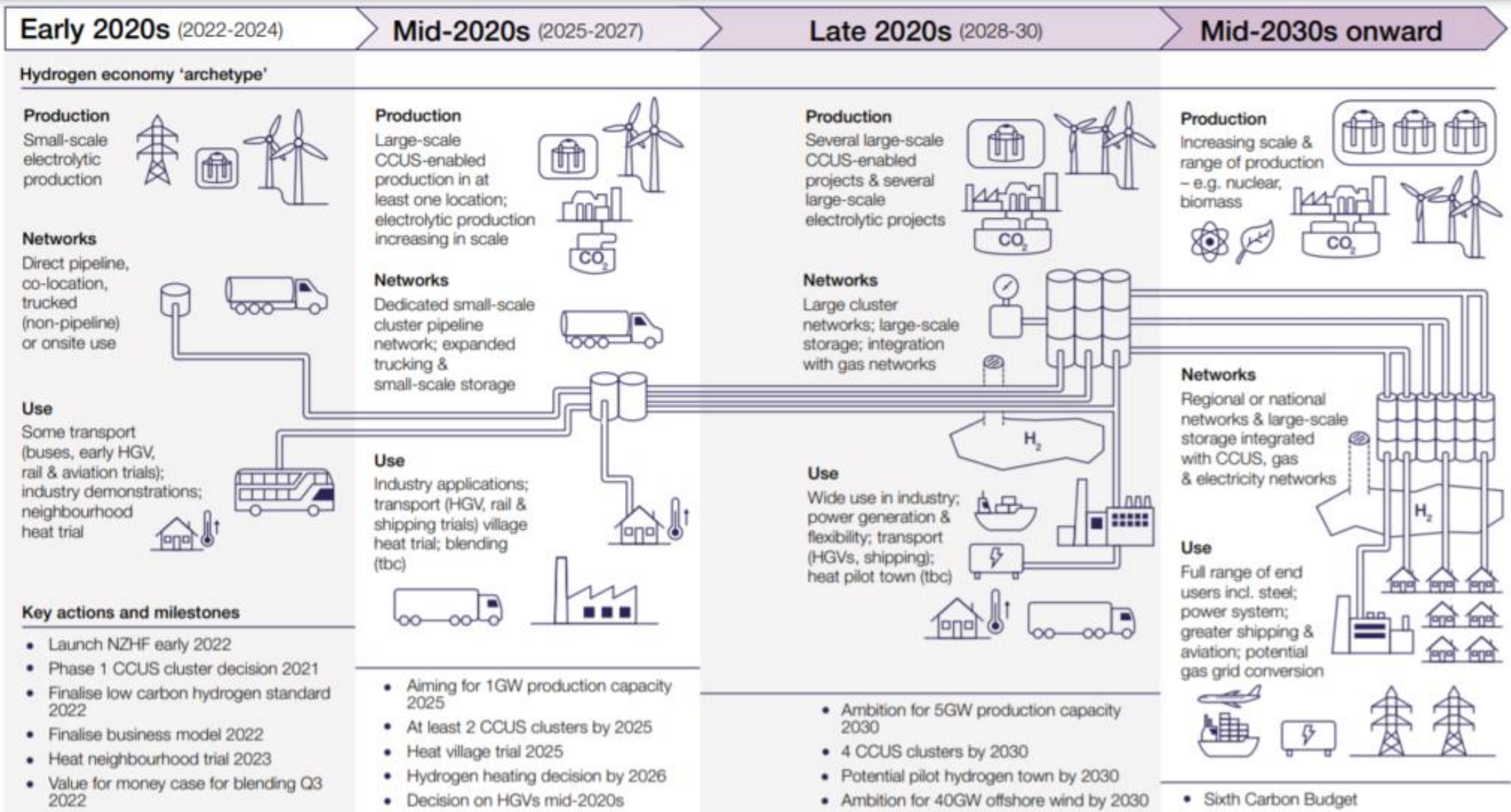




In December 2020, the UK PM set out an ambitious 10 Point Plan for a green industrial revolution, one of the key points of which was the production of 5 GW of low carbon hydrogen in the UK by 2030.

OUR TEN-POINT PLAN TO CREATE 250,000 GREEN JOBS

- ▶ Offshore wind to power every home, supporting up to **60,000 jobs**
- ▶ Develop the **first town heated entirely by hydrogen** by the end of the decade
- ▶ Advancing nuclear as **a clean energy source**
- ▶ Backing our car manufacturers to accelerate the transition to **electric vehicles**
- ▶ Investing in **public transport, cycling and walking**
- ▶ Supporting industries to become **greener in zero-emission planes and ships**
- ▶ Making our homes, schools and hospitals greener, whilst creating **50,000 jobs by 2030**
- ▶ Become a world-leader in **carbon-capture tech**
- ▶ Planting **30,000 hectares of trees every year to protect our environment**
- ▶ Making the City of London the **global centre of green finance**



The case for low carbon hydrogen

- Hydrogen potential role in meeting net zero.
- Hydrogen opportunities for UK firms

Scaling Up the Hydrogen Economy

- Production.
- Distribution.
- Use.
- Creating Market.

Realizing Economic Benefits

- Building World Class Supply Chain.
- Creating Jobs.
- Attract Investment.
- Export Opportunities.

Demonstrating International Leadership

- The UK in international partnerships.
- Opportunities for bilateral and regional collaboration.

Monitoring and evaluation

- monitor its progress to ensure it meets the objectives set out in the first two chapters.

The UK government estimates that the market stimulation promised by the U.K. Hydrogen Strategy could facilitate up to £4 billion of private sector investment in the U.K

- **£1 billion** Fund for Carbon Capture and Storage Infrastructure which will support the development CCUS Infrastructure in UK;
- Continuing to support R&D and innovation in low carbon hydrogen production and use, as well as reducing the economic, social and technological barriers. This will include the launch of a **£60 million** low Carbon Hydrogen (such as green & blue) Supply 2 Competition to create new solutions for hydrogen supply;
- Raise investments by developing a Hydrogen Business Model through developing hydrogen projects which will support hydrogen economy with long term revenue to overcome cost challenges;
- **£240 million** fund through the Net Zero Hydrogen Fund that will include Government co-investment to support low carbon hydrogen production in the lead up to the Government's 2030 5GW goals.

PRODUCTION

PROJECT NAME	LOCATION
1 HyNet 1 & 2	Liverpool Bay Area
2 Dolphyn	Aberdeen
3 Gigstack	Grimsby
4 Acorn Hydrogen Project	Aberdeen
5 HyPER	Cranfield
6 Surf'N'Turf	Orkney
7 Bacton Hub	Bacton
8 Orion	Shetland Islands

MOBILITY

PROJECT NAME	LOCATION
1 Towards commercial deployment of FCEV buses and hydrogen refuelling	Aberdeen Liverpool
2 Hydrogen Mobility Expansion Project II	Crawley
3 Northern Ireland Hydrogen Transport	Belfast
4 Tees Valley Hydrogen Initiative	Middlesbrough & Stockton on Tees
5 Riversimple Clean Mobility Fleet	Monmouthshire
6 HydroFlex	Birmingham
7 HySeas III	Orkney
8 HyFlyer	Orkney

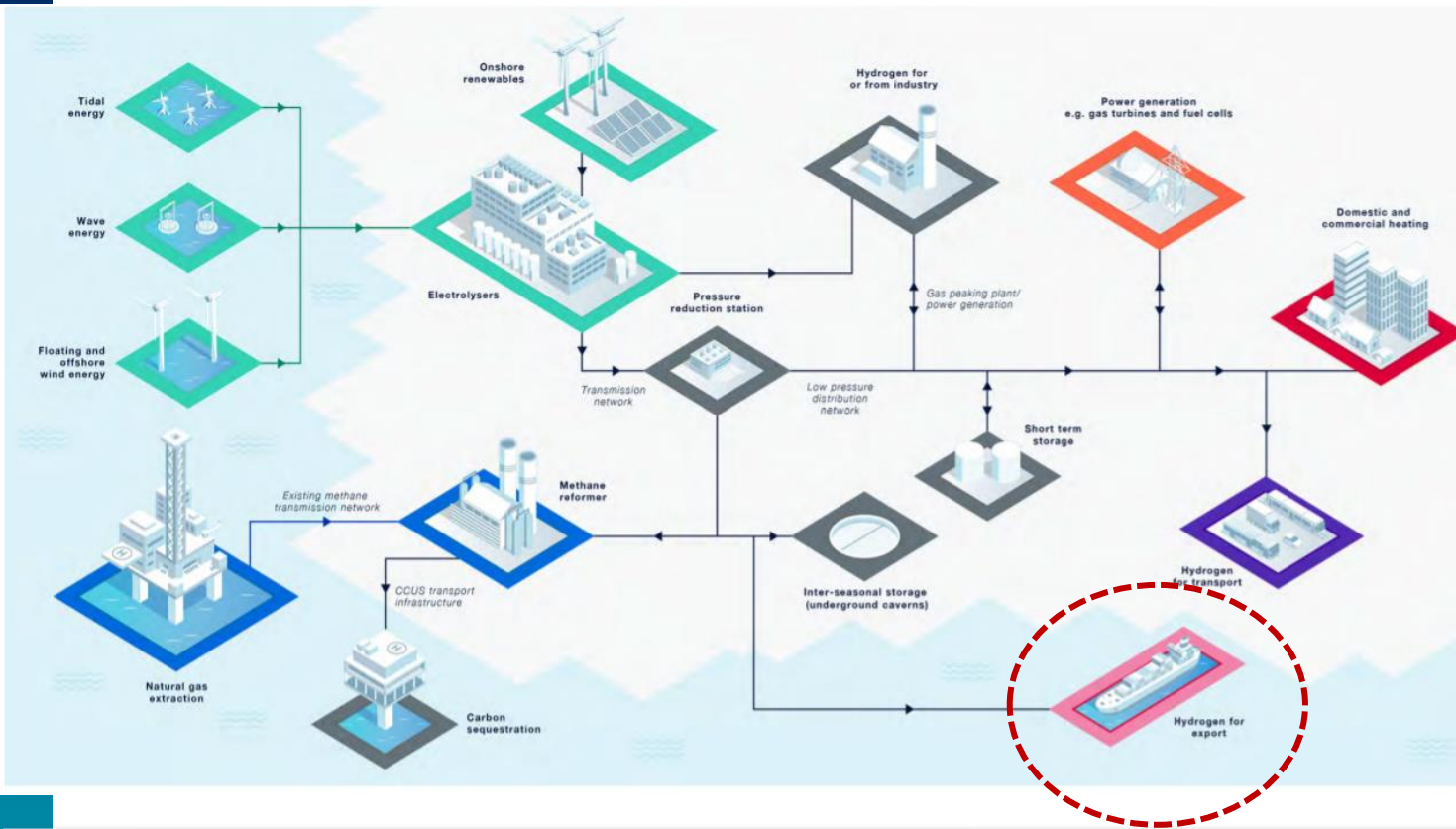


INDUSTRY

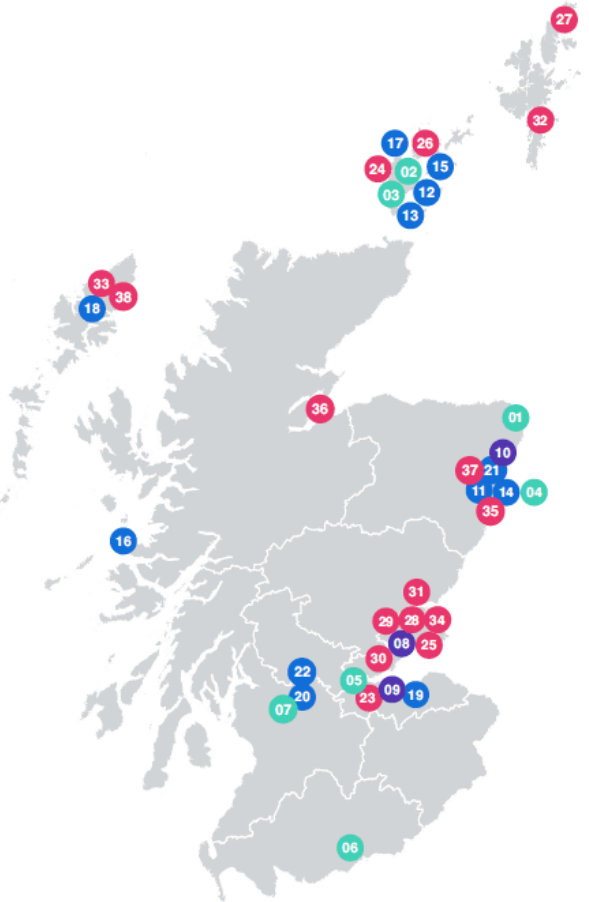
PROJECT NAME	LOCATION
1 Scotland's Net Zero Infrastructure	Scotland
2 Net Zero Teeside Project	Teeside
3 Humber Industrial Decarbonisation Deployment Project	Humber
4 HyNet CCUS	North West & North Wales
5 South Wales Industrial Cluster	South Wales
6 Green Hydrogen for Humber	Humberside
7 HyNet North West	North West & North Wales
8 State-of-the-art fuel mix for UK cement production to test the path for net zero	North West
9 Alternative fuel switching technologies for the glass sector	Yorkshire
10 Hydrogen Alternatives to Gas for Calcium Lime Manufacturing	Buxton

GAS NETWORK

PROJECT NAME	LOCATION
1 Hy4HEat	TBC
2 H21	Leeds (Yorkshire)
3 Hy Deploy 1 & 2	Keele & North of England
4 H100 Feed Study	Levenmouth
5 Energy Kingdom	Milford Haven
6 BIG HIT	Orkney



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|--|--|
| 01 Project Acorn | 20 Glasgow hydrogen transport project |
| 02 Hydrogen Offshore Production Project | 21 TECA fuel cell |
| 03 Surf 'n' Turf | 22 Glasgow hydrogen bus project |
| 04 Dolphyn ERM | 23 HyStorPor |
| 05 Caledonian Clean Energy Project | 24 BIG HIT |
| 06 Chapelcross | 25 Methiltoone |
| 07 Green hydrogen for Scotland | 26 REFlex |
| 08 H100 | 27 Promoting Unst Renewable Energy |
| 09 Grangemouth to Granton future local transmission system | 28 The Hydrogen Office |
| 10 Aberdeen Vision | 29 Levenmouth Community Energy Project |
| 11 Hydrogen Bus Project | 30 East Neuk Power to Hydrogen |
| 12 HySeas I - III | 31 Michelin Scotland Innovation Parc |
| 13 HySpirits | 32 Shetland Hub |
| 14 HyTrEc | 33 100% Green Hydrogen Hub |
| 15 HyDIME | 34 Hydrogen Accelerator |
| 16 SWIFTH2 | 35 Aberdeen Hydrogen Hub |
| 17 HyFlyer | 36 Cromarty Firth Hydrogen Hub |
| 18 Stornoway hydrogen refueler | 37 Energy Transition Zone |
| 19 Hydrogen refuelling station | 38 Outer Hebrides Local Energy Hub |

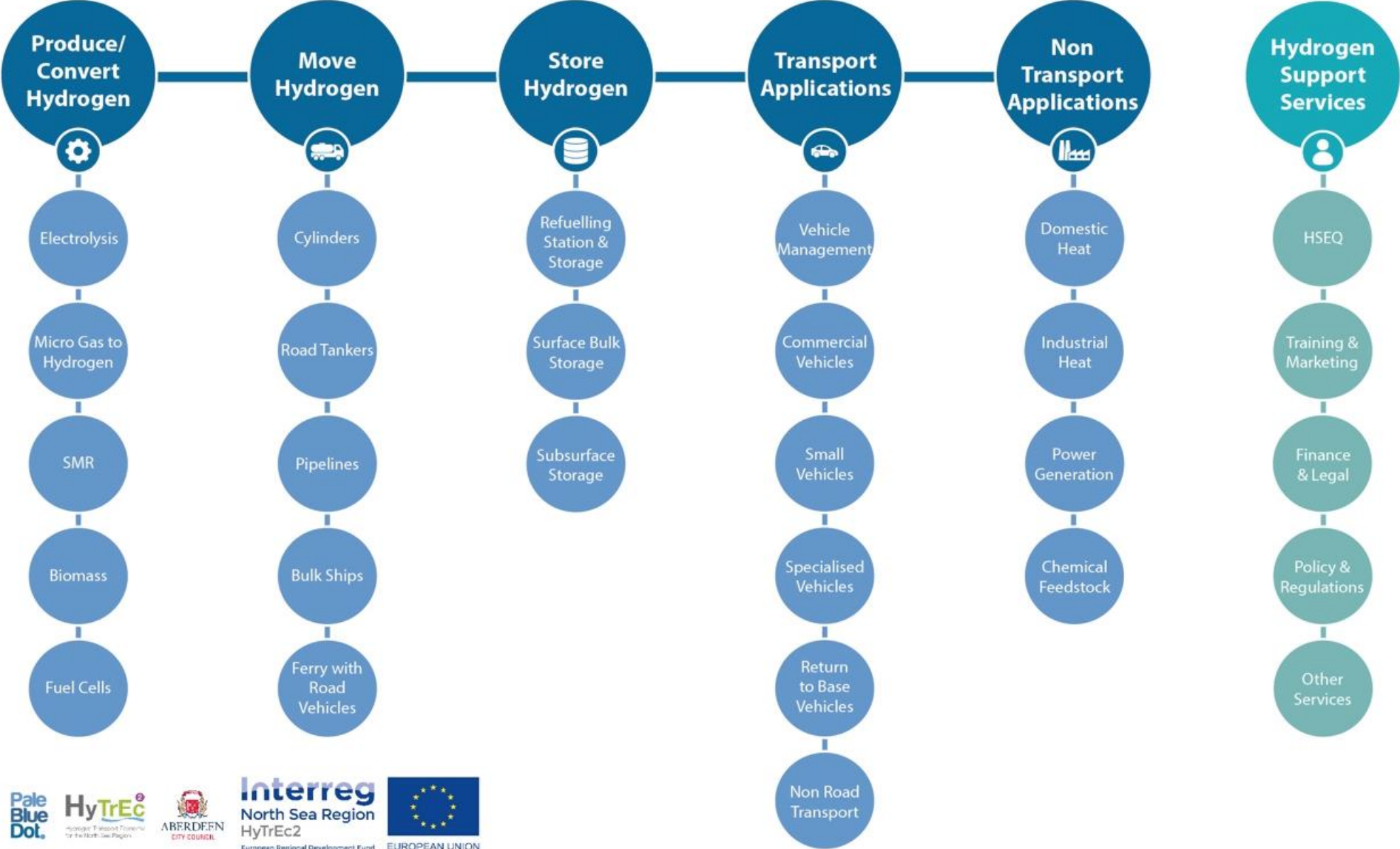


KEY

- Production
- Transmission/distribution
- End user
- Multi-vector

Scottish-German collaboration aims to unlock €20 billion EU green hydrogen market

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Published: 13:33, 10 November 2021 | Updated: 13:34, 10 November 2021





Thank you

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**BUSINESS
FINLAND**