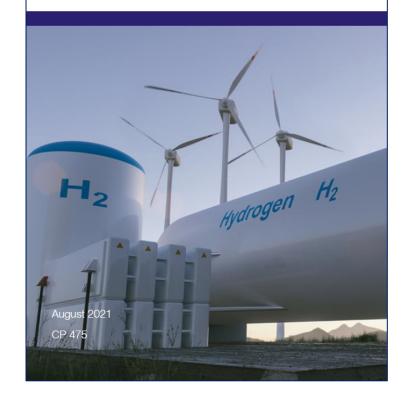
UK Hydrogen Strategy

Friday 17th September 2021



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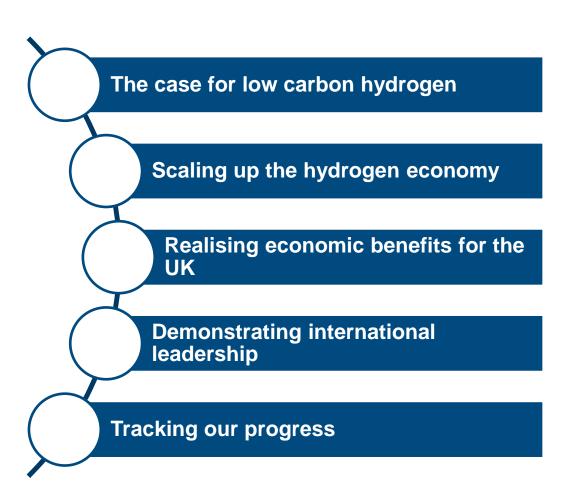


UK Hydrogen Strategy: Summary

First ever UK Hydrogen Strategy focuses on **driving progress to scale up in the 2020s**, to deliver 5GW production ambition by 2030 and position low carbon hydrogen to help meet Carbon Budget 6 and Net Zero commitments.

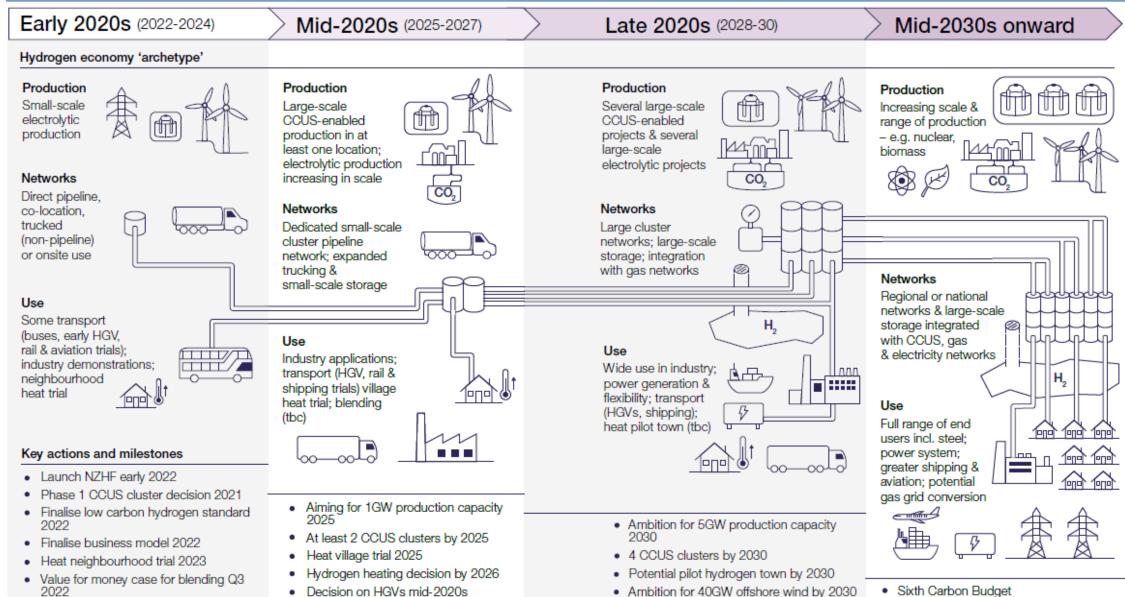
Key elements:

- 'Twin track' approach to production, supporting a variety of production methods including electrolytic and CCUS-enabled
- Sets out how we will work closely with stakeholders to establish network and storage infrastructure
- On demand side, expect industry to be a lead market in near term, with increasing demand in power, heavy transport & potentially heating
- Sets out support for early expansion of a low carbon hydrogen market over 2020s, incl. through Hydrogen Business Model
- Seeks to secure economic opportunities from outset 9,000
 UK jobs & £900m GVA by 2030, unlocking £4bn investment





Hydrogen Economy 2020s Roadmap: govt & industry delivering together



Supporting documents: Hydrogen Business Model consultation

The objective of the hydrogen business model is to incentivise the production and use of low carbon hydrogen, and help us achieve our 5GW ambition by 2030. It is designed to provide hydrogen producers with revenue support to overcome the operating cost gap between low carbon hydrogen and fossil fuels in order to unlock private investment in hydrogen projects.

Approach to model design

Primary focus on mitigating two key risks:

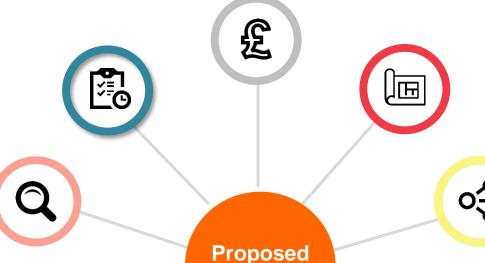
- Market price risk
- Volume risk

Scope and delivery mechanism

- Producers as recipients of subsidy
- New production that meets the 'low carbon hydrogen standard'
- Open to range of end users
- Private law contract

'Minded to' positions for payment mechanism:

- Price support via variable premium
- Volume support provided indirectly via sliding scale of price support



Seeking views on options for further design features with potential variations for different production technologies, including:

- Indexation
- Contract length
- Scaling of future production volumes

Allocation to vary for:

- Projects eligible to CCUS-cluster sequencing process
- Projects not eligible to cluster sequencing (e.g. electrolytic projects)



Framework

Supporting documents: NZHF consultation

The £240m Net Zero Hydrogen Fund is intended to:

- Stimulate new low carbon hydrogen production in the early 2020s by supporting projects with upfront costs; and,
- Stimulate a future pipeline of projects to contribute towards meeting our 5GW ambition

The consultation is seeking views from industry on:

Scope

- Support multiple production technologies, including the main types of production (CCUS-enabled and electrolytic hydrogen)
- Focus on projects that can realistically deploy during the 2020s to contribute to 5GW ambition by 2030.

Type of funding

Grant funding (to be co-funded with private sector funding) for both capital and development costs.

Type of activity: CAPEX and DEVEX

- Expect two types of projects to come forward for capital co-funding:
 - 1. Those that will also require a hydrogen specific business model (and may combine NZHF with a business model)
 - 2. Those that don't require a business model to take FID
- Also propose to offer companies development funding (co-funded) to support feasibility and FEED studies.

Eligibility & project assessment criteria

 Core eligibility and assessment criteria to ensure projects that apply are credible, new low carbon hydrogen production projects in the UK.

Delivery

Propose to run a series of competitions at regular intervals.

Geographical coverage

Anticipate the Fund to be funded and delivered on a UK-wide basis to support the levelling up agenda.

Supporting documents: Low Carbon Hydrogen Standard consultation

- Intent of standard is to ensure any new low carbon hydrogen production HMG supports makes a direct contribution to our carbon reduction targets.
- Standard could be developed into a **certification scheme to underpin deployment** of low carbon hydrogen production and **support future international trade**.
- Need to consider cost / burden to industry of complex compliance requirements.
- Have consulted on the options considered as part of the UK
 Hydrogen Strategy Package and invite stakeholder views
 and evidence relating to a UK low carbon hydrogen
 standard. This will ensure that the different options can be
 fully tested and refined where appropriate.
- Debate on emissions intensity of different production methods highlights the important role of the standard.

Need to encourage growth...

...while managing VfM and CO2 risks

Encouraging pipeline

Learning by doing

Not overburdening industry Subsidising high carbon H2

Gaming the system



Categories

Recommend one label for "low carbon"

hydrogen

Should a single or multiple categories approach be taken?

System boundary and Chain of Custody

- Point of production
 Point of use
- 3) Point of use + in use emissions

What is your view on point of production vs. point of use?

GHG emissions threshold

Single threshold, potentially set at 15-20gCO2/MJ H2

What should the threshold be?

Should the GHG
emissions threshold
be set at a higher
level in the early
stages of hydrogen
deployment, with a
trajectory to decrease
over time?

Low carbon electricity use and additionality

Determine how the use of low carbon electricity should be accounted for and the evidence that is required.

What evidence should BEIS consider ahead of making decisions?

How should grid electrolysis be taken into account?

Should there be an additionality requirement?

Consultation Questions

Options



Implementation of Hydrogen Strategy roadmap and commitments

Design and delivery of NZHF and Business Model alongside a standard for low carbon hydrogen – consultations will close on 25 October

Further policy work on **networks/ storage** and on **demand** side, and greater focus on public engagement

Regular updates, with **first planned for early 2022**: detail on hydrogen production strategy, networks and storage reviews, Business Model & NZHF, sector development action plan

Net Zero Strategy to be published ahead of COP26