



International Partnership
for Hydrogen and Fuel Cells
in the Economy

United Kingdom Update

41st IPHE Steering Committee Meeting

20th March 2024

New Delhi, India

New Hydrogen Publications *United Kingdom*

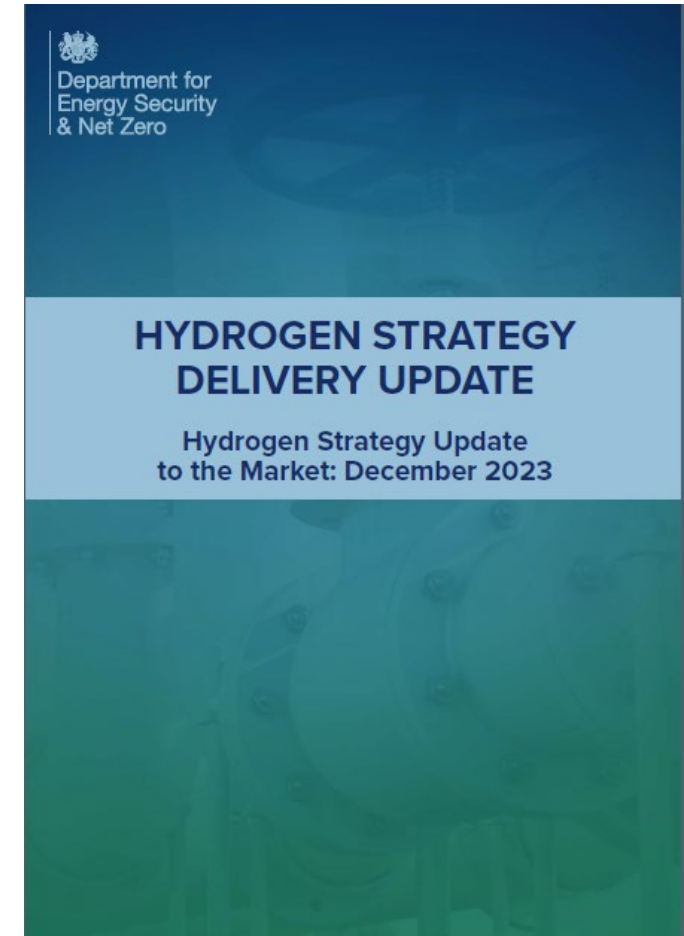
The **Hydrogen Strategy Delivery Update (December 2023)** sets out the approach to developing a thriving low carbon hydrogen sector in the UK to meet our increased ambition for up to 10GW of low carbon hydrogen production capacity by 2030.

The **Hydrogen Production Delivery Roadmap (December 2023)** sets out how we expect the hydrogen production landscape to evolve towards 2035, and the key opportunities and challenges that we may face.

The **Hydrogen Transport and Storage (T&S) Networks Pathway (December 2023)** sets out the next steps in our vision for the strategic development of UK hydrogen T&S infrastructure.

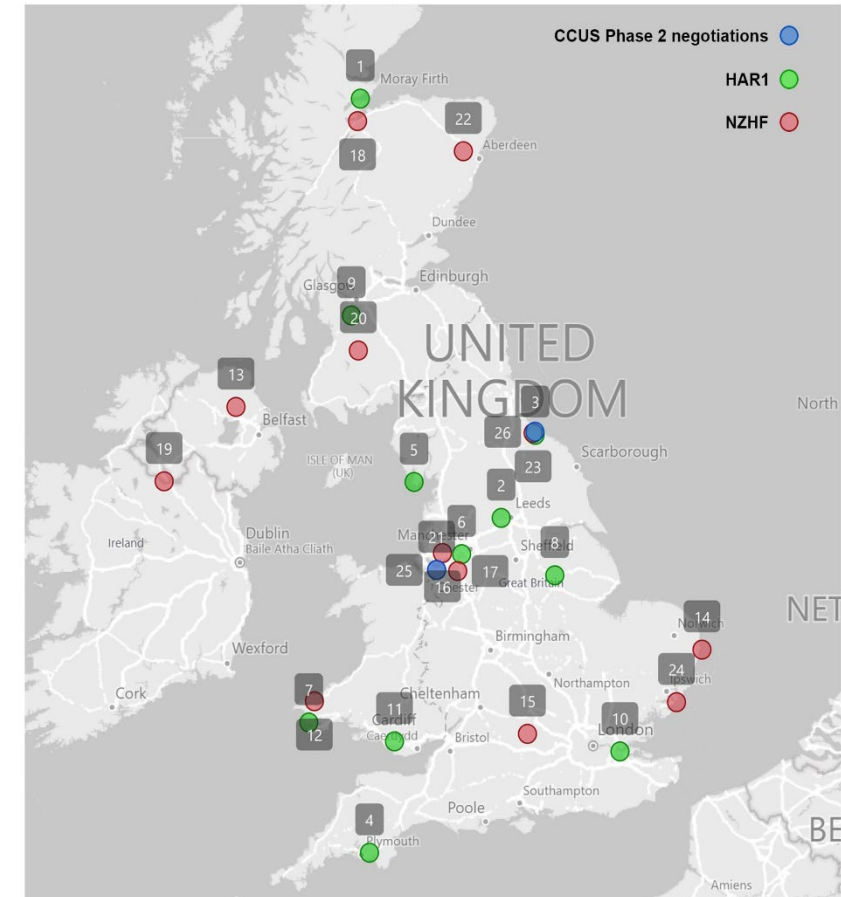
The **Government Response to a consultation on hydrogen blending (December 2023)** sets out a strategic policy decision to support blending of up to 20% hydrogen by volume into the GB gas distribution networks, if enabled.

The **Hydrogen to power need and design for market intervention consultation (December 2023)** seeks views on our position that market intervention could be required to support hydrogen to power to deploy, including design options.



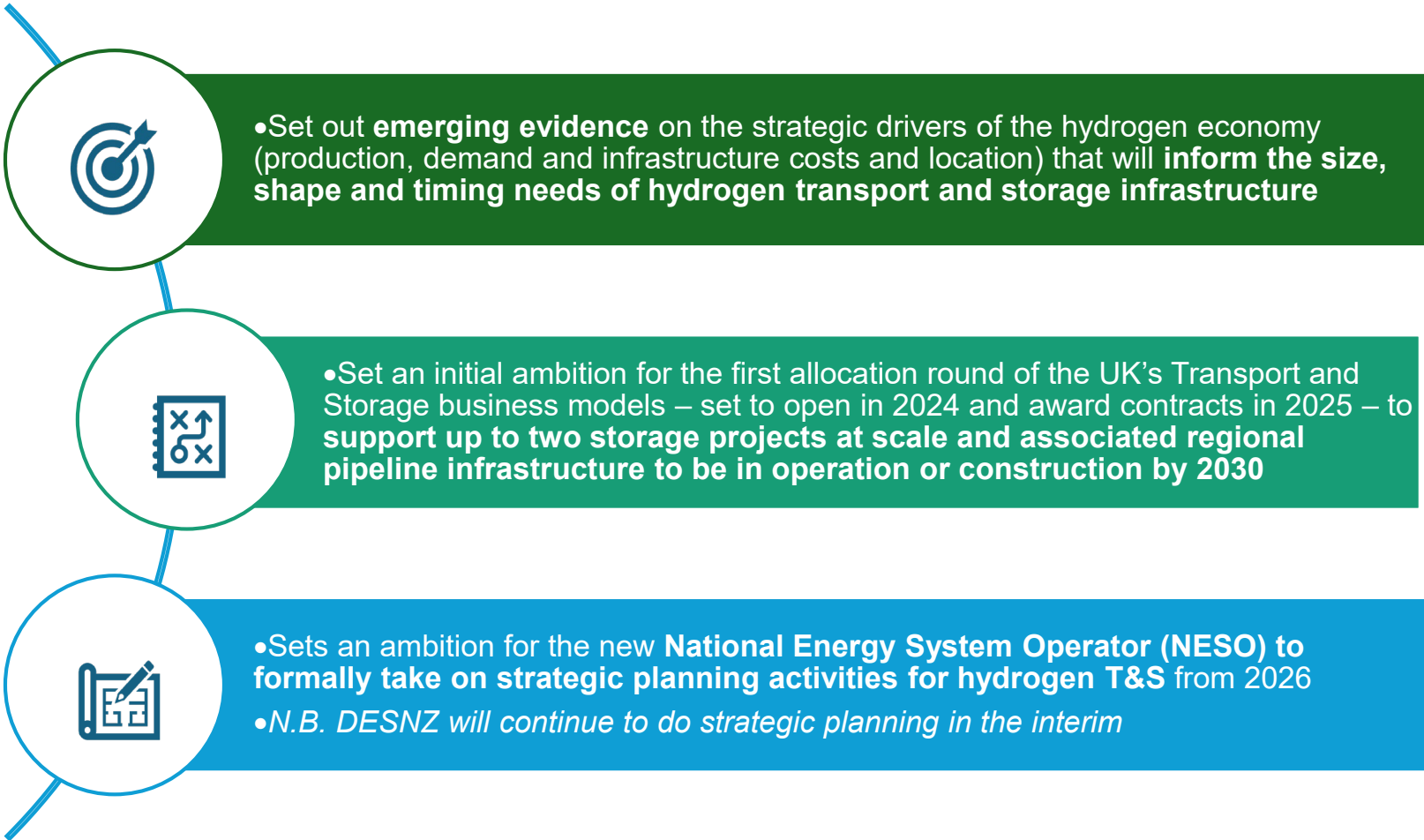
H2 Production *United Kingdom*

- In December 2023, we announced **11 major new green hydrogen projects** across the UK (under 'HAR1'), delivering **125MW** of new electrolytic hydrogen production capacity
 - **>£2bn revenue support** from the UK's Hydrogen Production Business Model (HPBM) and **>£90m CAPEX** from the UK's Net Zero Hydrogen Fund (NZHF)
- We also **opened a second allocation round of funding** ('HAR2') to provide **up to an extra 875MW** of production capacity
- We published a **Hydrogen Production Delivery Roadmap** which sets out proposals for **annual allocation rounds from 2025 to 2030**, helping to provide certainty for industry
 - Expectation to have up to **6GW electrolytic capacity by 2030**, as part of our overall ambition for up to 10GW low carbon hydrogen capacity by 2030



Successful projects through the NZHF and HAR1, which have been announced as of December 2023, and the CCUS-enabled hydrogen projects in the latest stage of the Track 1 cluster sequencing process

H2 Networks & Storage *United Kingdom*

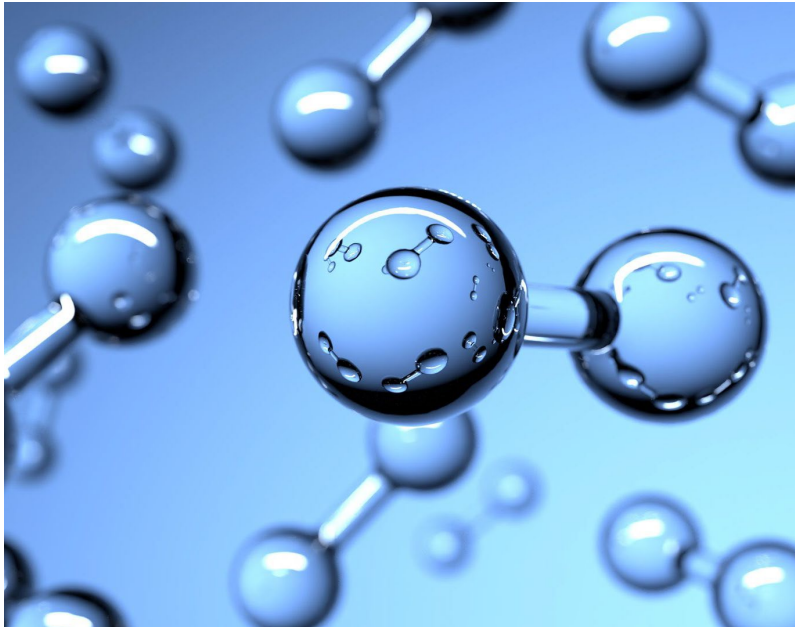


H2 Regulations & Standards *United Kingdom*

- The [Energy Act 2023](#) included legislative powers to bring forward the **hydrogen production, transport and storage business models**

- We published the [Low Carbon Hydrogen Certification Scheme Government Response](#) in October 2023
 - Confirmed the design of the UK’s low carbon hydrogen certification scheme
 - Stated our intention to publish a ‘**pathway to international alignment**’ ahead of the scheme’s launch in 2025, setting out how both the certification scheme and the UK LHCS will evolve in the future to facilitate international trade

- In December 2023, we published **Version 3 of the [UK’s Low Carbon Hydrogen Standard](#)** (LHCS), which sets our GHG emissions threshold for hydrogen to be considered truly low carbon, in line with our Carbon Budget and Net Zero targets



Wider H2 Economy inc. R&I *United Kingdom*

- To support the expansion of strong clean energy supply chains, in November 2023 & March 2024 we announced funding for a **£1.2bn Green Industries Growth Accelerator (GIGA)** fund for UK sectors including hydrogen and CCUS, to seize growth opportunities through the transition to net zero
 - **£390m** overall earmarked for supply chain support for hydrogen and CCUS
- The UK Government's £1 billion Net Zero Innovation Portfolio (NZIP) has allocated **>£170 million to hydrogen innovation projects**



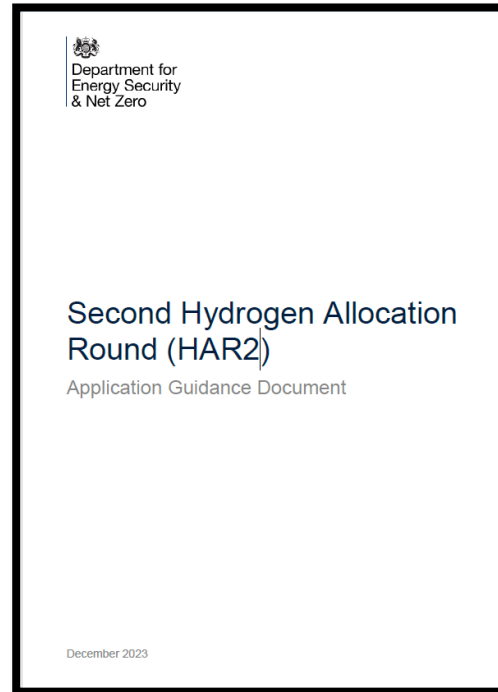
In November 2023, we announced £55m of joint government-industry investment as part of the Advanced Manufacturing Plan (AMP), incl. a £5.5m project aiming to develop and demonstrate a **fuel control system for hydrogen gas turbine engine**

In October 2023, four winning projects were announced as part of the £200m Zero Emission HGV and Infrastructure Demonstrator Programme, with two of these **HGV projects demonstrating hydrogen and fuel cells**



Examples of Lessons Learned *United Kingdom*

- **Electrolytic Hydrogen Allocation Round 1:** in December 2023 the UK government announced 11 projects that were successful in getting HPBM support via the first Hydrogen Allocation Round (HAR1), contracting 125MW. At the same time, we launched HAR2, a second round 7x bigger than HAR1.
- We've run independent process review of HAR1, as well as extensive internal lesson learned workshops, and have fed many of these lessons into the design of HAR2



Example of lessons learned from HAR1:

- We moved from 6 to 4 assessment criteria for HAR2, with a view to removing speculative questions/criteria which were hard to verify. This was to improve consistency of assessment and scoring.
- We have used lessons from HAR1 negotiations to improve cost benchmarks and cost challenges, to drive down overall costs for HAR2

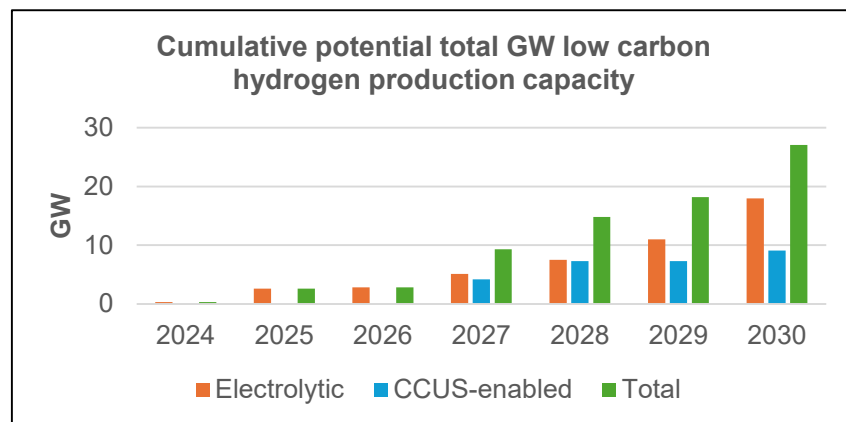
United Kingdom – Profile March 2024

Deployment Goals

- Ambition for **up to 10GW** of low carbon hydrogen production capacity **by 2030**, with up to **6GW of this electrolytic** production
- Interim ambition for up to **2GW** of low carbon production capacity in construction or operation by **2025** (1GW electrolytic, 1GW CCUS)

Status of Deployments

- 27GW of known hydrogen projects identified in the UK pipeline (through to 2037)
- The first electrolytic allocation round offered contracts totalling 125MW of capacity across 11 projects



Leading Government Hydrogen Initiatives and Funding

- **£240million Net Zero Hydrogen Fund** – providing **CAPEX** support
- Hydrogen **Production** Business Model – providing revenue support
 - 1st allocation round (HAR1) awarded **>£2billion** to 11 projects over a period of 15 years
 - 2nd allocation round applications close in April
- Hydrogen **Transport** Business Model
 - Regulated asset base (RAB) model with revenue support
 - 1st allocation round launches autumn 2024
- Hydrogen **Storage** Business Model
 - Provides a revenue ‘floor’ with 15 years of revenue support
 - 1st allocation round launches autumn 2024
- **£1.2bn** Green Industries Growth Accelerator (GIGA) providing **supply chain support** (inc. to the UK hydrogen sector)
- Over **£170m** on **hydrogen innovation**

Thank you



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