Department for
Energy Security
& Net Zero

Hydrogen Update to the Market

July 2025

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Ministerial Foreword

From the moment we came into power last summer, we were clear that hydrogen has a fundamental role to play in not one but two of our core Missions. First, it can help us grow the economy - with thousands of new jobs and opportunities breathing new life into our industrial heartlands. Second, it can help us become a Clean Energy Superpower – by replacing our dependence on unstable fossil fuel markets with clean, secure energy that we control.

Almost a year on, our commitment to hydrogen as a central pillar of the UK's clean energy future is as strong as ever. Since the last Update to the Market in December 2024, we have published our Industrial Strategy, which sets out commitments to continue driving deployment through the Hydrogen Allocation Rounds and the launch of our new Hydrogen to Power Business Model in 2026.

These plans have been backed up by the Spending Review, which confirmed over £500 million support for hydrogen infrastructure. This will enable the development of the first regional hydrogen transport and storage network, which will aim to connect producers with vital end users – such as power and industry – for the first time.

Since the last Hydrogen Strategy was published four years ago, we have seen a huge amount of progress in this sector but also change. Electrification technologies have moved on rapidly, pointing to a more focused and essential role for hydrogen complementing electrification in our energy system. Looking forward, hydrogen can help us decarbonise critical, hard-to-electrify industries, creating and retaining good jobs, attracting investment, and positioning UK firms to take advantage of international opportunities. It can also provide low-carbon dispatchable power and inter-seasonal energy storage, to help balance a renewables-based power system.

To ensure our approach reflects the latest evidence, we will aim to publish a UK Hydrogen Strategy this autumn. This Strategy will outline our vision for hydrogen. It will be grounded in evidence and set out clear priorities for collaboration with industry. It will also detail our plans to get on with the job of delivering these projects over the coming decade.

This Government is serious about hydrogen, and we will continue to do everything we can to put the UK at the forefront of the global hydrogen revolution — unlocking billions in investment, creating a new generation of high-quality jobs, and driving clean growth.

Sarah Jones MP, Minister of State for Industry

Introduction

Low carbon hydrogen is essential to achieve the Government's Clean Energy Superpower and Growth Missions and has a critical role to play in the UK's clean energy transition.

It is vital for the decarbonisation of hard-to-electrify industrial sectors and heavy transport and will help to deliver new clean energy industries which can support good jobs, across various sectors, in our industrial heartlands and coastal communities. We have the strong domestic expertise and favourable geology, geography and infrastructure to develop a thriving low carbon hydrogen sector in the UK.

Since the last Hydrogen Update to the Market, the Government has made significant strides in advancing the UK hydrogen economy. Recognised as a key growth sector in the Industrial Strategy, hydrogen has been supported through a clear deployment trajectory and the introduction of significant new policies. The hydrogen industry is also represented at the Clean Energy Sector Council, created in January to support the development of the Clean Energy Industries Sector Plan, as part of the Industrial Strategy.

Following the success of the first Hydrogen Allocation Round (HAR1), on 7th April 2025, the Government announced a shortlist of 27 projects across England, Scotland, and Wales invited to the next stage of the second Hydrogen Allocation Round (HAR2) and we expect to announce successful projects in early 2026. We aim to launch the third Hydrogen Allocation Round (HAR3) by 2026 and the fourth Hydrogen Allocation Round (HAR4) from 2028. This marks a clear signal of our commitment to scaling up hydrogen production.

Government has also confirmed over £500 million to enable the development of the first regional hydrogen transport and storage network. We expect to take final investment decisions this Parliament, for the first network to become operational from 2031. This landmark, multi-year spending review settlement allows us to scale up hydrogen deployment, building on the initial small-scale projects that have helped kick-start the industry, and delivering on our ambition to deploy the large-scale hydrogen infrastructure needed for future decades. This will unlock hydrogen's role in clean power and help to realise the potential of large-scale hydrogen storage in maximising renewable energy use and supporting the transition to a decarbonised energy system.

Furthermore, we will aim to launch the first hydrogen transport and storage allocation rounds in 2026 and, as announced in the Industrial Strategy, our new Hydrogen to Power Business Model will also be launched next year.

In addition to this, at Spring Statement 2025, the Government committed to removing Climate Change Levy costs from electricity used in electrolysis to produce hydrogen and is now analysing consultation responses to determine the best legislative route to remove these costs. This measure will reduce production costs and support the growth of low carbon hydrogen, which will play an important role in decarbonising the power system and hard-to-electrify sectors.

This progress demonstrates the Government's commitment to delivering a world-class hydrogen sector, and our approach must continue to reflect the latest evidence to ensure that hydrogen achieves its unique role in our Clean Energy Superpower and Growth Missions. This is why in autumn this year, we will aim to publish a UK Hydrogen Strategy. The Strategy will set out our vision and objectives, and how we intend to work together with industry to continue to transform ambition into action.

In this July 2025 Hydrogen Update to the Market, we provide a comprehensive account of the progress achieved since the December 2024 update. It details the key milestones reached by the Government so far in 2025 and sets out a forward-looking agenda outlining the next steps and emerging opportunities. In pursuit of the UK's Clean Energy Superpower Mission, the Government remains firmly committed to advancing a world-leading hydrogen sector at pace.

Use of Hydrogen

Hydrogen has an important role in helping to achieve our Clean Energy Superpower Mission. As a fuel, it can provide low carbon dispatchable power generation over days and weeks to support the delivery of a clean and secure power system.

Hydrogen also has a role in transitioning crucial UK industries towards a clean, homegrown source of fuel. Hydrogen can decarbonise hard-to-electrify sectors including industry, refineries and heavy transport, complementing our wider electrification efforts and accelerating progress towards net zero.

Power

Hydrogen to Power is a key low carbon dispatchable generation technology. It can deploy at a range of scales, providing a decarbonisation pathway for unabated gas generation, and when connected to large-scale hydrogen storage, is one of very few technologies which can deliver inter-seasonal, long duration, low carbon energy storage.

The Clean Power 2030 Action Plan and independent analysis from the National Energy System Operator agree that Hydrogen to Power could add significant system benefits to a clean power system, with even relatively small levels of operational capacity, and reduce system costs. Our analysis indicates that Hydrogen to Power is also cost effective at relatively low load factors, providing a key role in a post-2030 power system as greater renewable deployment reduces the running hours for flexible capacity.

Hydrogen to Power Business Model

The Government is driving Hydrogen to Power deployment forward through its commitment to the introduction of a Hydrogen to Power Business Model to de-risk Hydrogen to Power investment by mitigating deployment barriers. As set out in the Industrial Strategy, we have committed to launching our new Hydrogen to Power Business Model in 2026.

The December 2024 Government response to the consultation on the need and design for Hydrogen to Power market intervention confirmed the Dispatchable Power Agreement style mechanism was the most effective form of business model to support Hydrogen to Power deployment. This is intended to derisk investment in Hydrogen to Power by mitigating deployment barriers, namely first-of-a-kind technology risk and cross-chain risk resulting from a nascent hydrogen network. This will support deployment of hydrogen to power plants whilst ensuring value for money.

We will launch a market engagement exercise later this year outlining further design details for the Hydrogen to Power Business Model, including our minded to positions on eligibility and assessment criteria and proposed next steps for allocating support through the business model.

We will ensure that the development of the Hydrogen to Power Business Model is supported through extensive market engagement. The Hydrogen to Power Expert Working Group was established earlier this year and we will continue to use this forum to test the Hydrogen to Power Business Model as the design evolves.

The Department for Energy Security and Net Zero has commissioned Baringa to review and assess cost and performance assumptions for a range of hydrogen-fired power generation archetypes which could feasibly deploy by 2035, as well as provide an updated view on key barriers and possible mitigation actions. These findings are intended to ensure the Department has access to the most robust data available as it develops the Hydrogen to Power Business Model. We expect to receive final outputs from this research soon and aim to publish its findings alongside or as part of the Hydrogen to Power Business Model market engagement.

Innovative Hydrogen to Power projects

On 31st March 2025, we published a call for evidence seeking industry views on bringing forward innovative Hydrogen to Power projects ahead of large-scale hydrogen infrastructure coming online. We are considering responses to that call for evidence and will provide an update in due course.

Industry

The evidence is increasingly clear that electrification will play a major role in most industrial decarbonisation. Hydrogen's role is therefore expected to be more focused in helping decarbonise industrial processes that are especially difficult to electrify such as in chemical production and refining. Alongside this, hydrogen has an important role in enabling industrial electrification through its vital contribution to a clean and resilient power system. We will continue to seek views and evidence on this as we set out a Hydrogen Strategy later this year and work to help decarbonise industry in line with our Carbon Budgets.

Government has an ambitious range of policies to incentivise and support industry to invest in low carbon hydrogen. This is primarily through the Hydrogen Production Business Model and the confirmed £500 million to enable the development of the first regional hydrogen transport and storage network that will connect hydrogen production with end users such as industry and power. Other areas of recent progress Government has made to encourage the uptake of hydrogen in industry and remove barriers are set out below:

- Following the publication of the Government response to Enabling or requiring hydrogen-ready industrial boiler equipment: call for evidence in December 2022, the Department for Energy Security and Net Zero sponsored the British Standards Institution to develop a Publicly Available Specification for hydrogen-ready industrial boiler equipment. The Publicly Available Specification was published in March 2025 and it will improve safety, enable reliable testing and performance, align the market, promote innovation and support decarbonisation of large hydrogen-fired equipment.

- In September 2024, the Department commissioned research to assess the merits of extending the Decarbonisation Readiness requirements, which includes the option for hydrogen fuel switching to also include combustion plants solely for the generation of heat. This research is now complete, and Government will provide an update in due course.
- The Industrial Energy Transformation Fund made £420 million of funding available to support industrial sites with high energy use to transition to a low carbon future, including hydrogen fuel switches. The Fund has now closed to new applicants and has successfully supported over 150 projects - some of them will not complete until 2028.
- In February 2025, a consultation was launched on the planned approach for the Government's steel strategy, which has now closed. In this we requested that independent experts from the Materials Processing Institute review and provide a recommendation on the viability of primary steelmaking technologies in the UK, including Direct Reduced Iron using natural gas or hydrogen. This review is ongoing, and findings will inform a Steel Strategy due to be published later this year.

Off-road machinery

Off-road machinery broadly refers to any mobile machine, transportable equipment or vehicle not intended for the transport of goods or passengers on the road, and which has a combustion engine. Examples include construction machinery and agricultural machinery such as excavators, generators, and tractors.

Alongside other technologies, Government supports the use of hydrogen either in a fuel cell or in an internal combustion engine as decarbonisation options for off-road machinery. Hydrogen could be particularly well-suited for larger, higher-powered machines that are mobile, have heavy duty cycles, require round-the-clock working, or operate on remote or grid-constrained sites.

The Government acknowledges that it has a role in this net zero transition and has committed to publish an off-road machinery decarbonisation strategy. The strategy will be informed by the recent call for evidence on options to support the development and deployment of low and zero carbon off-road machinery technologies, while securing economic opportunities for the UK.

Following a consultation by the Department for Transport, a statutory instrument was laid before Parliament on 7th April and came into force on 29th April 2025 to allow the use of hydrogen powered off-road machinery (also called non-road mobile machinery) and agricultural vehicles on the road. Previously the use of hydrogen powered off-road machinery on the road in the UK had not been permitted under Regulation 94 of The Road Vehicles (Construction and Use) Regulations 1986. The Government consultation response was published alongside the statutory instrument.

Transport

The Department for Energy Security and Net Zero and the Department for Transport are working together to ensure the optimal use of hydrogen in transport, in order to both decarbonise the sector as well as to capture the economic opportunities that hydrogen can bring.

Whilst the Government is technology neutral on zero-emission options, it is expected that battery electric will remain the dominant technology for cars, vans and buses. Hydrogen and its derivatives will have an important, complementary role to play in decarbonising heavier transport applications where the potential for electrification is more limited or uncertain and the availability of biofuels is constrained. This is particularly the case for uses with longer ranges, rapid refuelling requirements or greater energy density needs.

We expect that hydrogen could, in future, be used both as a fuel in sectors such as aviation, maritime and heavy goods vehicles, and also as a key input to the production of other low carbon fuels for heavy transport such as ammonia and methanol in maritime, and Sustainable Aviation Fuel in aviation.

Cross-modal

The Tees Valley Hydrogen Transport Hub brings together hydrogen supply (refuelling infrastructure) and demand (transport applications) in Tees Valley. Demonstration projects will run to March 2026 and are supporting the use of hydrogen as a fuel for a range of road vehicles and airside support vehicles, as well as new publicly accessible refuelling infrastructure, demonstrating the commercial viability of hydrogen in transport.

Maritime

In January, an additional £30 million was announced for UK Shipping Office for Reducing Emissions (SHORE) funding (on top of the £206 million of funding between 2022 and 2025) to support the sixth round of the Clean Maritime Demonstration Competition for innovative clean maritime technologies and skills for maritime decarbonisation. Previous rounds of the competition have included hydrogen-related projects and have seen funding delivered to over 350 organisations, bringing in more than £100 million of private investment across the UK.

In April, the Government published the Maritime Decarbonisation Strategy which included a commitment to regulate the greenhouse gas emission intensity of maritime fuels and energy sources. Subject to consultation in 2026, the Government will introduce domestic fuel regulations to drive the uptake of zero and near-zero greenhouse gas emission fuels and energy sources, including hydrogen and hydrogen-derived fuels, taking into account developments on fuel regulation at the International Maritime Organization.

The UK is pleased that International Maritime Organization Member States reached agreement on a landmark deal in April to reduce greenhouse gas emissions from international shipping. The agreed measures combine fuel regulation with emissions pricing. If legally adopted in

October, this will lay a strong foundation for the future of international maritime decarbonisation and incentivise the use of zero and near-zero greenhouse gas emission fuels.

The UK Emissions Trading Scheme will also be expanded to include emissions from domestic maritime based on ship activity. This expansion will be from 2026 and will apply the scheme to ships over 5,000 gross tonnage. The UK and the EU have agreed to work towards linking the UK Emissions Trading Scheme and EU Emissions Trading System. Under the agreement linking the UK Emissions Trading Scheme and EU Emissions Trading System, both domestic and international maritime emissions will be included in the scope of the UK Emissions Trading Scheme. The details and timings of this are subject to ongoing negotiations.

In December 2024, the International Maritime Organization approved interim guidelines for the safety of ships using ammonia as fuel. The International Maritime Organization had published interim guidelines for the use of methanol as fuel in 2020 and aims to finalise guidelines for the use of hydrogen as fuel in 2025.

Aviation

In January, the Government successfully launched the UK's Sustainable Aviation Fuel Mandate, which aims to secure Sustainable Aviation Fuel demand by obligating the supply of an increasing amount of Sustainable Aviation Fuel in the UK's overall aviation fuel mix. Hydrogen used directly as aviation fuel or in the synthesis of other aviation fuels will be eligible for support under the Mandate, providing it meets the eligibility criteria. The Sustainable Aviation Fuel Mandate has a separate power-to-liquid fuel sub-target – power-to-liquid fuels incorporate low carbon hydrogen as a feedstock.

The Government recently introduced the Sustainable Aviation Fuel Revenue Certainty Mechanism into Parliament through the Sustainable Aviation Fuel Bill, passing its second reading on 11th June with all legislation expected to be in place by the end of 2026. The Revenue Certainty Mechanism will be industry-funded through a levy on aviation fuel suppliers, with the Department for Transport continuing to engage with industry on the details of this, including pricing. The new legislation will help industry meet its requirements under the Sustainable Aviation Fuel Mandate, supporting domestic Sustainable Aviation Fuel production by providing revenue certainty to encourage investment in the construction of Sustainable Aviation Fuel plants across the UK. This may include the production of Sustainable Aviation Fuel using hydrogen as a feedstock.

£135 million has previously been allocated via the Advanced Fuels Fund to support the development of a total of 13 Sustainable Aviation Fuel projects here in the UK, including a number of power-to-liquid projects making use of hydrogen as a feedstock. A third competition window closed on 28th March 2025, with £63 million available, including a power-to-liquid sub-pot of £32 million. Assessment is ongoing and winners will be announced in due course. Building on the success of this scheme, Spending Review 2025 committed further funding to support Sustainable Aviation Fuel projects through to 2029-30.

The Civil Aviation Authority is expanding its sandbox safe trial activity for hydrogen propulsion to help inform the regulatory framework for this nascent technology and encourage investment. With Department for Transport funding for financial year 2025/26 confirmed, the number of participants is increasing from three to 13.

Through the Aerospace Technology Institute Programme, Government and industry have co-invested almost £400 million in hydrogen aircraft technology since 2019.

The Jet Zero Taskforce was established at the end of 2024, and convenes Government and stakeholders from across the UK aviation sector to identify, and advise on, unblocking the key barriers in delivering greener aviation. Under the Jet Zero Taskforce, a Task and Finish Group has been established to review barriers to the commercial operation of zero-carbon hydrogen aircraft. This group will report on its findings by the end of 2025.

Surface transport

The up to £200 million Zero Emission Heavy Goods Vehicle and Infrastructure Demonstrator programme, funded by the Department for Transport and Innovate UK is supporting the roll-out of over 300 zero-emission battery electric and hydrogen fuel cell Heavy Goods Vehicles in the 40-44t weight category, alongside their recharging and refuelling infrastructure. Phase 1: Procurement and Infrastructure Development runs between 2024 and 2026, with Phase 2: On-Road Demonstration running between 2026 and 2031. The programme will build an evidence base on which zero-emission Heavy Goods Vehicle technology is better suited to specific use cases, informing commercial investment decisions.

The Renewable Transport Fuel Obligation supports the use of low carbon fuels, in surface transport. Hydrogen and advanced fuels utilising hydrogen as a feedstock qualify for a higher level of support than traditional biofuels. Small but growing amounts of hydrogen have been supplied under the scheme so far. We recently ran a Call for Evidence as part of the statutory review of the 2018 changes to the Renewable Transport Fuel Obligation which included target levels and how fuels are rewarded. We will publish a summary of responses and Government response in due course.

Heat in buildings

Government wants to provide strategic clarity on decarbonising home heating as soon as possible in order to best support our Mission to make the UK a Clean Energy Superpower.

The Government is assessing the current evidence on hydrogen for heating and will be consulting this year on the role that it could play in our heat decarbonisation strategy.

Blending

Government remains committed to assessing the case for supporting and enabling blending into the existing Great British gas distribution and transmission networks. We have published a consultation which seeks to gather additional evidence on the feasibility, costs and benefits of transmission-level blending. This will help inform policy work on whether to support and enable

transmission-level blending. We aim to publish the Government response to this consultation in 2025.

This work sits alongside our policy development on distribution-level blending and ongoing engagement with the Health and Safety Executive to ensure any safety evidence for blending is assessed independently and robustly.

Hydrogen production

We encourage a range of hydrogen production technologies provided they can meet the Low Carbon Hydrogen Standard and contribute to our broader hydrogen production strategy, including in terms of their environmental and wider energy system impacts.

Since the publication of the UK Hydrogen Strategy in 2021, we have made rapid progress and are delivering on our hydrogen objectives, supporting projects that will create real jobs and growth across the UK, from Cromarty and Whitelee in Scotland to Langage in the South West of England – these projects are contributing to the Government's ambition to make the UK a Clean Energy Superpower.

Funding hydrogen production

Hydrogen Production Business Model

The Hydrogen Production Business Model incentivises investment in new low carbon hydrogen production and encourages users to switch to low carbon hydrogen by making it a price competitive decarbonisation option.

The Hydrogen Allocation Rounds represent the main delivery programme for support to the production of low carbon hydrogen in the UK, allocating subsidy through the Hydrogen Production Business Model. HAR1 delivered, at the time, the largest number of commercial scale green hydrogen projects announced at once anywhere in Europe. Building on the success of that, 27 projects have been shortlisted under HAR2. Future Hydrogen Allocation Rounds will continue to develop UK hydrogen production capacity.

In parallel, Hydrogen Production Business Model support to Carbon Capture Usage and Storage (CCUS)-enabled hydrogen projects is allocated through the CCUS cluster programme. Progress on Hydrogen Allocation Rounds and the CCUS programme is set out below.

HAR1

The Low Carbon Contracts Company has now signed Low Carbon Hydrogen Agreements[1] with 10 of the 11 HAR1 projects. We are working collaboratively with the project developer of the final HAR1 project to ensure they are ready to sign the Low Carbon Hydrogen Agreement as soon as possible. The Department for Energy Security and Net Zero continues to work closely with HAR1 project developers and the Low Carbon Contracts Company[2] to enable projects to begin construction and pave the way for future Hydrogen Allocation Rounds.

[1] The Low Carbon Hydrogen Agreement Standard Terms published for HAR1 projects, along with Low Carbon Hydrogen Agreements Key Terms Summary Document can be found here: Hydrogen production business model - GOV.UK

[2] The HAR1 project and contract details as published by Low Carbon Contracts Company (the Government's designated Low Carbon Hydrogen Agreements counterparty) can be found on their Schemes Register.

We expect all of these projects to become operational between 2025 and April 2028, kickstarting the UK's green hydrogen production at scale. These projects are expected to access over £2 billion over 15 years in revenue support from the Hydrogen Production Business Model and over £90 million in capital expenditure support via the Net Zero Hydrogen Fund. Over £400 million of private capital investment has been committed by the projects upfront between 2024 and 2026, with over 700 direct jobs created in construction and operation.

HAR2

On 7 April 2025 the Government announced a shortlist of 27 projects across England, Scotland and Wales that have been invited to the next stage of the HAR2 process, which includes due diligence and cost assurance. This announcement reinforces the Government's recognition of the key role low carbon hydrogen will play in delivering our Clean Energy Superpower and Growth Missions as a key enabler of a low carbon and renewables-based energy system.

HAR2 is a highly competitive round with 87 initial applications from a diverse range of locations, offtaker types, and capacities. As the round was oversubscribed, a more strategic approach has been taken to the shortlisting process, focusing on project deliverability, portfolio diversity and value-for-money factors, which included consideration of cost, scale, location and supply to hard-to-abate sectors. This approach is outlined further in the 'Use of Hydrogen' section of this document.

Our aim is to achieve lower average hydrogen production costs than seen in HAR1. Therefore, alongside the shortlist we published a Cost Challenge Document which underlines this and that projects must demonstrate value for money and justify costs across key components. Furthermore, we are exploring options to update the Low Carbon Hydrogen Agreement and Low Carbon Hydrogen Standard for HAR2 to better support future hydrogen projects and our objectives.

As with HAR1, we will not support projects at any cost and we will only support those projects that are deliverable, affordable, and represent value for money.

We are currently undertaking due diligence and a cost assurance process on shortlisted projects, which includes technical and financial scrutiny and a detailed review of cost data. Negotiations with projects which pass the due diligence and the cost assurance process will follow, with the aim to commence these in the autumn. Guidance on negotiations will be given to the HAR2 projects progressing to this stage in due course. We expect to announce which projects will be awarded a Low Carbon Hydrogen Agreement in early 2026.

Future Hydrogen Allocation Rounds

It is important to provide potential projects and the supply chain with an indication on future Hydrogen Allocation Rounds. That is why we have committed to future Hydrogen Allocation Rounds, with an aim to launch HAR3 by 2026 and HAR4 from 2028.

We are currently developing our approach to HAR3 and HAR4, with a view to support end uses such as low carbon hydrogen for dispatchable power and hard-to-electrify industrial and transport sectors. It will be important that HAR3 and HAR4 support the development of the first regional hydrogen network, as well as continue to support the growth of the supply chain, bringing with it private sector investment and new jobs across the country.

Building on the lessons being learnt from HAR1 and HAR2, we are looking to streamline the Hydrogen Allocation Round process, to shorten the time between application and shortlist, and shortlist to award. We will seek feedback on the proposed design and delivery of HAR3 through a market engagement exercise which we aim to publish later this year.

We will also publish a review of the Hydrogen Allocation Rounds later this year, setting out the proposed approach to future Hydrogen Allocation Rounds beyond HAR4. The review will assess whether, from 2030, we can transition to a price-based competitive allocation model. It will also explore potential design features and delivery mechanisms, such as the possible use of an independent allocation body.

Carbon Capture, Usage and Storage (CCUS) clusters

The East Coast Cluster reached financial close in December 2024 and the HyNet Transport and Storage Network in April 2025. These first clusters will deliver thousands of jobs and clean homegrown energy for years to come. Together these two clusters will help remove up to 8.5 million tonnes of carbon emissions each year. Two CCUS-enabled hydrogen projects are in negotiations with Government with the potential to provide up to 1GW of low carbon hydrogen production capacity.

Furthermore, the HyNet expansion process aims to select additional CCUS projects - that can connect via pipeline to the HyNet system by 2030 - to take into negotiations. This process will culminate in the announcement of a project negotiation list. The Department for Energy Security and Net Zero is aiming to announce the project negotiation list over the summer period.

The Government is providing increased backing to UK CCUS by allocating £9.4 billion in capital budgets over the Spending Review period. This will maximise deployment to fill the storage capacity of the East Coast Cluster and HyNet Cluster. The Government has also announced its support for the Acorn and Viking clusters and is providing the development funding to advance their delivery, subject to business cases, with the aim of reaching final investment decision later this Parliament, subject to project readiness and affordability

In the longer term, it is important that industry and Government enable the development of a self-sustaining UK CCUS sector that supports delivery of our Missions, creates jobs and reduces emissions.

We will be consulting on the approach for non-pipeline transport and engaging on the strategic development of CO2 transport and storage networks in this year.

Gas Shipper Obligation

The Gas Shipper Obligation is intended to be the long-term funding mechanism for initial hydrogen production projects funded through the Hydrogen Production Business Model. It may also fund further hydrogen projects, subject to future decisions on the hydrogen programme. The department consulted on the design of the Gas Shipper Obligation from January to April of this year. We are assessing consultation feedback and expect to publish a Government response this year.

Climate Change Levy: Electrolytic hydrogen

At Spring Statement 2025, the Government committed to removing Climate Change Levy costs from electricity used in electrolysis to produce hydrogen. This will lower costs and support the growth of low carbon hydrogen production. The consultation to determine the best legislative route to remove these Climate Change Levy costs has now closed. Responses are being analysed and the Government will respond in due course.

Low Carbon Hydrogen Standard

The Low Carbon Hydrogen Standard establishes a maximum greenhouse gas emissions threshold for hydrogen production to qualify as 'low carbon.' It also outlines a methodology for calculating these emissions. Adhering to this standard ensures that Government-supported hydrogen production directly contributes to achieving our carbon reduction targets.

The Low Carbon Hydrogen Standard was first published in 2022, establishing the foundational criteria for low carbon hydrogen production. Two subsequent updates to the standard were published in 2023, refining our methodology, adding new eligible production pathways and providing further clarity to the market to ensure the requirements could be effectively applied under the Hydrogen Production Business Model.

The Low Carbon Hydrogen Standard was last updated in December 2023, and we are planning to publish version 4 in 2025. We are also planning to provide an update on the low carbon certification scheme in 2025 and are exploring options to update the Low Carbon Hydrogen Agreement and Low Carbon Hydrogen Standard for HAR2 to better support future hydrogen projects and our objectives.

The future iterations of the Low Carbon Hydrogen Standard will explore potential updates related to transport and storage emissions, international alignment and the introduction of new production pathways.

Hydrogen production technologies, impact and integration

Water usage for hydrogen production

The Department has published the Water Demand for Hydrogen Production report, produced by the Climate Services for a Net Zero World consortium. This report sets out the expected water demand of leading production technologies – Proton Exchange Membrane, alkaline and solid oxide electrolysers, as well as methane reformation with CCUS. It shows that water demand varies significantly based on the water source, production technology and cooling method used.

The report estimates that water demand for hydrogen production will form less than 1% of total useable water on the UK mainland in 2035. However, it also recognises that water availability varies across regions, with several areas in the UK being water constrained.

The Environment Agency has published a report on the environmental capacity of industrial clusters, which provides information about the water availability and other environmental challenges of the Humber, Teesside and HyNet industrial clusters. The Environmental Agency has also recently produced the National Framework for Water Resources 2025 which points to the future challenge of water demand in England and Wales. Section 7: Taking action on water for energy makes direct reference to the need for water in order for CCUS and hydrogen to fulfil their vital role in reaching net zero.

The Department continues to work closely with environmental regulators to integrate regional water availability challenges into strategic planning for developing the hydrogen economy.

Electricity usage and grid integration

We are continuing to assess the types of hydrogen production, configurations and locations that are optimal from an electricity system perspective. Projects seeking support under HAR1 and HAR2 have provided insights into the power arrangements of real-world UK production. Most of these projects aim to use long term power purchase agreements powered by multiple generation assets to guarantee their costs and ensure they can meet the Low Carbon Hydrogen Standard while also having acceptable utilisation rates. We are continuing to consider how future projects can be incentivised to provide greater benefits to the grid while also balancing commercial requirements.

Hydrogen transport and storage networks

Hydrogen transport and storage networks are key to connect vital end users – such as power and industry - with production, by transporting the hydrogen between production and demand, and allowing for use of storage when supply and demand do not match. Hydrogen transport and storage is critical to enabling the hydrogen economy to function, both for hard-to-electrify sectors and for use in balancing the electricity system through Hydrogen to Power, supporting the Clean Power Mission.

That is why Government has committed over £500 million through Spending Review 2025 for the development of the UK's first regional hydrogen transport and storage network, enabling local production, storage, and transport of low-carbon hydrogen to power key sectors. We expect to take final investment decisions this Parliament, with the aim for this first network to become operational from 2031.

Hydrogen Transport and Storage Business Models

The Hydrogen Transport Business Model aims to incentivise investment in hydrogen transport infrastructure, and the Hydrogen Storage Business Model aims to provide support to large scale geological hydrogen storage.

We are developing the Hydrogen Transport Business Model as a Regulated Asset Base model, alongside a Government support mechanism. After engaging with the market and exploring options for the design of the Hydrogen Storage Business Model our minded to position continues to be that the most appropriate business model is a revenue cap and floor mechanism to be awarded via a subsidy competition. We will provide an update on the commercial design of the Transport and Storage Business Models in due course.

The hydrogen value chain is highly interdependent, and we recognise the need to co-ordinate our hydrogen business model competitions and provide as much certainty to industry about timings and interactions as possible. We intend to provide more detailed thinking on this in the upcoming Hydrogen Strategy.

We are aiming to open the first allocation rounds for the Hydrogen Transport Business Model and Hydrogen Storage Business Model in the first half of 2026.

We will continue to engage with hydrogen transport and storage projects on the commercial and allocation designs of the Transport and Storage Business Models via our industry forums.

Strategic planning for hydrogen transport and storage infrastructure

Since the release of the Transport and Storage Pathway publication in December 2023, the hydrogen economy has evolved, shaping the requirements for future transport and storage infrastructure. We are, therefore, considering the timings and approach for a Pathway update to provide a refreshed outlook on transport and storage infrastructure needs as the National Energy System Operator continues to build its capability to plan hydrogen transport and storage infrastructure.

The National Energy System Operator will start delivering strategic planning outputs for hydrogen infrastructure from 2026, focusing on the value hydrogen brings to the wider energy system. We are developing a document, in close collaboration with Ofgem and the National Energy System Operator, setting out how Government envisages the National Energy System Operator will carry out its responsibilities for strategic planning for hydrogen infrastructure.

We intend to publish this document later this year, which will look to ensure that the hydrogen system is integrated with the strategic planning of the wider energy system. The Government intends for the National Energy System Operator to consider hydrogen from the outset in its strategic planning, including hydrogen production and storage, and this is why we included it in our commission to the National Energy System Operator to develop the Strategic Spatial Energy Plan - due to be published by late 2026.

Regulatory framework

To scale up delivery of the hydrogen economy, an appropriate market and regulatory framework is required to bring forward private investment across the value chain.

We continue to work closely with industry, regulatory bodies and devolved administrations to ensure that appropriate regulatory frameworks are in place for low-carbon hydrogen infrastructure, including through the Hydrogen Delivery Council's Regulators Forum and the Transport and Storage Working Group. We are taking a proactive approach to identify and address existing and emerging regulatory challenges for the hydrogen economy.

Market framework

The Gas Act 1986 provides a market framework for the conveyance of gas, which includes hydrogen, through pipes. Through an arrangement of licences and codes, obligations and prohibitions, it allocates roles and responsibilities to market participants and sets out how they must interact with one another.

We recognise that the market framework is an important enabler for the hydrogen economy. It must be capable of supporting the very first small-scale hydrogen pipeline projects and be flexible as the hydrogen economy matures.

We have launched a consultation this summer on a proposed economic regulatory framework for 100% hydrogen pipelines.

Non-economic regulation

Effective onshore and offshore regulatory frameworks, such as planning, health and safety, environment, licensing, and permitting, are critical to establishing low-carbon hydrogen networks.

We will continue to work across Government, with the devolved administrations, and with regulators to ensure needs continue to be met as the hydrogen economy develops. This includes supporting the ongoing work of the Hydrogen Delivery Council's Regulator Forum, which facilitates knowledge-sharing on relevant legislative and regulatory matters to support development across the hydrogen value chain.

Hydrogen sector development

The clean energy transition is the economic opportunity of the 21st century, and hydrogen has a critical role to play, as we build the industries of the future here in the UK. The UK is well placed to be a global leader in both hydrogen deployment and supply chains, given the shared skills and infrastructure from the oil and gas sector, existing strengths in innovation and our supportive policy environment.

The hydrogen industry will create investment and good jobs across the UK's industrial heartlands. Job creation in the hydrogen economy has the potential to span various sectors, including engineering, construction, manufacturing, infrastructure and research and development. It is vital for the decarbonisation of hard-to-electrify industrial sectors and heavy transport and is a key transitional sector for oil and gas, ensuring jobs are retained across the UK's industrial heartlands.

The Government is committed to strengthening its partnership with businesses and trade unions to invest in the UK's future, including through Great British Energy and the National Wealth Fund. The Government has actively engaged with industry and created effective policies such as hydrogen business models which catalyse private investment. But there is still more work to do, to ensure that UK workers have the skills and qualifications to access jobs and support sector growth; and to ensure that the jobs they access are good quality ones. The creation of Skills England and the Office for Clean Energy Jobs will help to address these challenges.

We also want to support our domestic hydrogen sector to fully participate in, and benefit from, the opportunities of the global transition to low carbon hydrogen, positioning the UK as an exporter of hydrogen goods and services and as an important hydrogen investment destination. We are also in a strong position in the future to export hydrogen (the molecule) due to our significant renewable energy potential and proximity to hydrogen demand centres.

Investment

The future global hydrogen market size is likely to be in excess of $1 trillion by 2050[3], and the UK is well positioned to secure critical global investments across the whole hydrogen value chain. For instance, projects from HAR1 are set to commit over £400 million of private capital investment between 2024 and 2026.

The Government has taken key steps to support investment into the UK hydrogen sector and unlock critical private sector investment across the whole value chain. In June, we published our Industrial Strategy that includes sector plans for each of the key growth sectors. The Government's approach to catalytic public investment outlined in the Clean Energy Industries Chapter will unlock investment, accelerate technological progress, and enable the delivery of

[3] Deloitte (2023) Green hydrogen: Energizing the path to net zero

clean energy projects. The Government will use catalytic public investment to help raise private investment, ensuring that global investors and companies invest here and build here.

As outlined in the Catalytic Finance Action Plan, we will leverage investment into clean energy sectors via Great British Energy, including to supply chains aligned with the Clean Energy Industries Action Plan.

The National Wealth Fund has committed to spend at least £5.8 billion in five clean energy and advanced manufacturing sub-sectors over this Parliament, of which low carbon hydrogen is one. To support delivering this, the National Wealth Fund's economic capital limit will be increased from £4.5 billion to £7 billion in its financial framework to support its greater financial capacity and enable a greater risk appetite. This provides more flexibility to commit greater economic capital to higher risk investments, including equity, in support of the National Wealth Fund's strategic objectives and priority sectors.

As part of the Industrial Strategy, our Clean Energy Industries Sector Plan set out how the Government plans to seize the major opportunities the UK has in clean energy industries like hydrogen, by tackling barriers to growth and supporting the creation of good jobs, ensuring that the UK captures the opportunities created in the transition to net zero. This includes working with industry to help build market confidence and increased private investment in the UK Clean Energy Sector and relevant infrastructure. The Hydrogen Sector Plan will aim to remove key barriers to growth, such as regulation, deployment uncertainty and high upfront costs associated with deploying projects across the whole value chain.

Supply chains and sector exports

The Government recognises the need for strong, home-grown clean energy supply chains to support good jobs and support sustainable economic growth as we accelerate to net zero. The export market for UK manufacturers in CCUS and electrolytic hydrogen production equipment and fuel cells could range between £800 million and £2.2 billion to 2030, potentially increasing to £5.8 billion and £9.8 billion by 2050[4].

Across the UK, hydrogen sector companies continue to build on domestic success by exporting hydrogen equipment and services across the world, reinforcing their role in global hydrogen supply chains, with jobs and growth benefits for the UK.

Johnson Matthey, which employs 3,500 people in the UK alone, has entered into a long-term collaboration in Germany with Bosch and SFC Energy to supply advanced fuel cell components. In Sheffield, ITM Power has announced deals for 20MW of Proton Exchange Membrane electrolysers to various German projects, as well as a 20MW project for a Norwegian hydrogen hub and a strategic partnership with Deutsche Bahn AG. Ceres Power, based in Sussex, continues its international expansion with new partnerships announced in Japan, Taiwan and India, and AFC Energy, based in Surrey, has partnered with industrial distributor TAMGO to supply its hydrogen-powered fuel cell generators across 17 countries in

[4] Optimat Wood: Supply Chains to Support a Hydrogen Economy (2022)

the Middle East and North Africa, as well as deploying UK-manufactured fuel cells and batteries in Spain.

The Hydrogen Sector Plan in the Clean Energy Industries chapter of the Industrial Strategy announced several policies to support the UK hydrogen supply chain:

- Ensuring the sector benefits from the comprehensive Public Financial Institution offers that target clean energy industries to encourage private investment into sustainable UK supply chains. This offer includes:
    - A new £1 billion Clean Energy Supply Chain fund aligned with the Clean Energy Industries Sector Plan, which will offer support to companies who have significant potential to grow supply chains, and demonstrates our commitment to supporting UK supply chains.
    - Empowering the National Wealth Fund with a total £27.8 billion in capital to enable it to take on higher-risk investments, including equity. It will invest in capital intensive projects, businesses and assets, with at least £5.8 billion targeting carbon capture, low carbon hydrogen, gigafactories, ports and green steel over this Parliament.
    - Launching a £4 billion British Business Bank Industrial Strategy Growth Capital scale up and start up financing package to deploy more capital to target the scale-up gap.
- Building on the success of the Contracts for Difference Clean Industry Bonus, we are considering expanding the Clean Industry Bonus to hydrogen and will consult on any proposals.
- Welcoming the industry-led voluntary ambition of 50% UK local content for hydrogen across the value chain from 2030. We will work with industry to introduce monitoring and evaluation to determine the health and success of the supply chain in relation to the existing industry voluntary content ambition, which could include exploring stronger incentives around reporting
- Supporting developers to be aware of the suppliers available when making procurement decisions for critical components, including working with projects to deliver “Meet the Specifier” and “Meet the Buyer” events to stimulate supply chain competitiveness. These events will aim be complemented by the North Sea Transition Authority’s online supply chain matchmaking tool.

This package of policies will help to overcome key barriers to supply chain growth such as higher upfront costs of deploying manufacturing, a highly competitive international supply chain available to projects, and limited supply chain visibility of UK manufacturers, ensuring that we capture the critical supply chain opportunities available to the UK.

We continue to work across Government to support access to finance for hydrogen supply chain projects, including those with export potential (through UK Export Finance). This includes identifying routes to unlock sustainable and bankable transactions in both UK and international markets.

The Hydrogen Propulsion Manufacturing Taskforce continues its work to explore the strengths and opportunities for hydrogen propulsion manufacturing in the UK. The vision of this joint Government-industry initiative was recently published: Hydrogen Propulsion Manufacturing Taskforce, which sets out aspirations for hydrogen propulsion through to 2050.

Jobs and skills

The scale up of clean energy industries like hydrogen will play a key part in stimulating a wealth of new good jobs and economic opportunities across the country.

In February 2025 the Hydrogen Skills Alliance launched Empowering the Future: A Strategic Skills Plan for the UK Hydrogen Economy. Overseen by the Hydrogen Delivery Council's Jobs, Skills and Supply Chains Working Group, the document outlines a strategic plan of action for hydrogen skills and calls for a collaborative approach that is fast, dynamic and complements the existing skills ecosystem.

The Hydrogen Skills Framework, launched in April 2025, was the first deliverable from Empowering the Future: A Strategic Skills Plan for the UK Hydrogen Economy. It is a new, open-source, proof-of concept skills framework to help employers develop the skills needed to build their future workforces. The framework will enable the creation of industry-recognised qualifications and quality assured training programmes, ensuring alignment with the hydrogen sector's evolving needs.

Government is working with industry to design a comprehensive hydrogen and carbon capture and storage curriculum, while building a robust network of provider expertise to support workforce development and drive sector growth, with Government committing seed funding for this work. This will be complemented by cross-cutting actions across clean energy sectors led by the Office for Clean Energy Jobs, to be set out in the forthcoming Clean Energy Workforce Strategy.

To be published this year, the Clean Energy Workforce Strategy will set out how Government, industry and trade unions will come together to address skills and workforce challenges to deliver the Clean Energy Superpower Mission, including Clean Power 2030.

International trade and engagement

While our immediate priority remains establishing the UK hydrogen economy, international collaboration is vital to ensuring the potential of hydrogen is effectively unlocked. By sharing expertise, building common standards, and working together to remove deployment barriers, we can expedite hydrogen's contribution to tackling climate change and help shape the global hydrogen economy, in addition to unlocking opportunities for UK hydrogen businesses overseas.

So far this year we have held policy exchanges with Austria, Brazil, Chile, Denmark, the European Commission, France, Germany, Ireland, Japan, the Netherlands, New Zealand, and Peru, as well as joint Government-industry roundtables with the Netherlands and Kazakhstan.

In addition to a wide range of existing bilateral partnerships, we have recently committed to further strengthening our cooperation on hydrogen with the Netherlands, Germany, and France.

The UK and EU have also jointly committed to 'continued technical regulatory exchanges on new energy technologies such as hydrogen, carbon capture, usage and storage and biomethane' following the UK-EU Summit held on 19th May.

In April 2025, a joint UK-Germany study on hydrogen trade was published at a launch event at the German Ambassador's Residence in London. Undertaken jointly by Arup, DENA (the German Energy Agency) and Adelphi, this study considers the feasibility of, and steps required to enable, pipeline-based hydrogen trade between the UK and Germany in the future. It sets out the building blocks needed to enable future trade, and we will be working closely with our German counterparts over the coming months to consider next steps, including on areas such as regulatory alignment and stakeholder engagement.

In early 2025, we became involved in the hydrogen subgroup of the North Seas Energy Cooperation, and as part of this, will be working with our North Seas partners to jointly consider common challenges to offshore hydrogen infrastructure development, including relating to licencing, permitting, financing, regulatory frameworks and hydrogen equipment supply chains related across the North Seas.

Multilaterally, we continue to co-lead the Hydrogen Breakthrough Agenda and Mission Innovation's Clean Hydrogen Mission. We are active participants in the Clean Energy Ministerial Hydrogen Initiative, in particular the Northwest European Hydrogen Monitor, which was published in May 2025. We also participate across various working groups and task forces in the International Partnership for Hydrogen and Fuel Cells in the Economy.

Research and innovation

The UK continues to support groundbreaking research and innovation in hydrogen throughout the value chain. Recent highlights include:

- From the commercialisation-focused £1 billion Net Zero Innovation Portfolio:
    - The Low Carbon Hydrogen Supply 2 competition has supported a number of demonstrator projects. Environmental Resources Management received £8.6 million to test its offshore pipe connectors (risers) and run a world-leading demonstration of electrolysis using seawater in Wales. ITM received £7.7 million for its Gigatest project which deployed and validated the use of new manufacturing equipment to help automate production processes and to improve

quality standards, with the potential to enable greater manufacturing capacity by the end of the project.

  - The Hydrogen BECCS (bioenergy with carbon capture and storage) Innovation Programme has generated hydrogen across England, Northern Ireland and Wales with highlights including United Utilities generating hydrogen from biogas at their Trafford wastewater site and the production of hydrogen for dual-fuel combustion by Compact Syngas Solutions at Deeside.
  - The Industrial Fuel Switching Programme has supported several pioneering demonstrations, including a world-first whisky distillation using hydrogen, a world-first crematorium trial, and a recent successful test of the industrial-scale use of hydrogen in a recycling furnace in Warrington by Novelis.

- UKHyRES, the UK Hub for Research Challenges in Hydrogen and Alternative Liquid Fuels, is backed by UK Research and Innovation's Engineering and Physical Sciences Research Council. After a competitive process, 10 research projects have recently been awarded a combined total of nearly £3 million for pioneering studies across a mix of disciplines.
- Between 2023 and 2025, the Natural Environment Research Council and The Department for Energy Security and Net Zero funded a research programme to improve our understanding of the climate and air quality impacts of hydrogen energy. A two-day workshop was held in March 2025 with a broad range of attendees from research and industry to share and discuss the key results and findings from the programme, where it was highlighted that the climate benefits of a hydrogen economy are greatest when atmospheric release is reduced as far as possible. More details of the programme are given at https://h2envimpacts.org.uk/

Hydrogen Delivery Council

The Hydrogen Delivery Council brings together stakeholders from across the hydrogen value chain and is the primary forum for Government and industry to collaborate in achieving the UK's hydrogen ambitions. It is currently co-chaired by Minister Jones, Minister of State at the Department for Energy Security and Net Zero, and the Department for Business and Trade and Jane Toogood, industry co-chair.

The Trade Union Congress was invited to join the Hydrogen Delivery Council following the change in Government last year, strengthening collaboration on workforce and skills in the hydrogen sector.

The Council oversees six key industry working groups:

- **Hydrogen Transport and Storage Working Group**
  This group has been developing options for a hydrogen market framework, considering the allocation of roles and responsibilities to participants in 100% hydrogen pipeline networks. This has been carried out through a dedicated sub-group, including industry representatives from across the value chain.
- **Offtaker Working Group**
  In October 2024, the Offtaker Working Group finalised a report outlining short-term barriers to hydrogen uptake. The group continues developing the recommendations of this report and exploring best use cases with real-world data. The Hydrogen Internal Combustion Engine Subgroup, that sat within the Offtaker Working Group, concluded their work, producing a report on hydrogen internal combustion engines in off-road machinery in October 2024.
- **Low Carbon Hydrogen Standard and Certification Working Group**
  The Low Carbon Hydrogen Standard and Certification Working Group is concentrated on shaping the UK's Low Carbon Hydrogen Standard and Certification Scheme, with reference to international models. Members are contributing to both policy and design discussions.
- **Hydrogen Production Working Group**
  The Hydrogen Production Working Group supports the development of hydrogen production policy and includes workstreams on the environmental impacts of hydrogen production, effective system integration of electrolysers, and how to support a wide range of production technologies.
- **Jobs, Skills and Supply Chains Working Group**
  The Jobs, Skills, and Supply Chains Woking Group is overseeing development and implementation of two strategies:
    - The Hydrogen UK-led UK Hydrogen Supply Chain Strategic Assessment - phase one published in September 2024, phase two published in June this year.

  - The Hydrogen Skills Alliance-led, Empowering the Future: A Strategic Skills Plan for the UK Hydrogen Economy, published in February 2025.

A membership review is planned to ensure we have the right representation across the value chain, including from trade unions.

- **Hydrogen Regulators Forum**
  The Hydrogen Regulators Forum continues to focus on the hydrogen regulatory agenda, priority regulatory challenges, and promoting greater co-ordination and policy action amongst relevant regulators.

Upcoming opportunities

Upcoming hydrogen policy milestones and opportunities to provide feedback on our policy development include:

Hydrogen Strategy	• We intend to publish a UK Hydrogen Strategy in Autumn this year.
Use of hydrogen	• As set out in the 2025 Industrial Strategy, we have committed to launching our new Hydrogen to Power Business Model in 2026. • The UK government has committed to publishing a new Industrial Decarbonisation Strategy by 2026, which alongside the Industrial Strategy, will support the transition towards our net zero target across the economy. • The Government intends on publishing a steel strategy later this year. This will be informed by the ongoing review Government asked the Material Processing Institute to conduct on primary steel making in the UK, including Direct Reduced Iron using natural gas and hydrogen. • A consultation on regulation to reduce greenhouse gas emissions from UK domestic and international maritime fuels will be launched in 2026. • Negotiations to adopt the International Maritime Organization's global maritime greenhouse gas measures (agreed in April) are taking place in October. • The UK Emissions Trading Scheme will expand in 2026 to include emissions from domestic maritime based on ship activity and will apply to ships over 5,000 gross tonnage.

Hydrogen production	• We will aim to complete HAR2 in early 2026. • We will seek feedback on the proposed design and delivery of HAR3 through a market engagement exercise which we aim to publish later this year. • We will publish a review of the Hydrogen Allocation Rounds beyond HAR4 later this year. • We aim for HAR3 to be launched in 2026. • We aim for HAR4 to be launched in 2028. • We will publish the next version of the Low Carbon Hydrogen Standard in 2025. • We are planning to provide an update on the low carbon hydrogen certification scheme in 2025.
Networks and storage	• We aim to establish the UK's first regional hydrogen transport and storage network from 2031, which will facilitate the production, storage and transportation of low-carbon hydrogen to power key sectors locally. • We are aiming to open the first allocation rounds for the Hydrogen Transport Business Model and Hydrogen Storage Business Model in the first half of 2026. We will continue to engage with stakeholders and intend to provide an update on both business models in the upcoming Hydrogen Strategy. • We are developing a document, in close collaboration with Ofgem and the National Energy System Operator, setting out how Government envisages the National Energy System Operator's roles and responsibilities as they take on strategic planning of hydrogen transport and storage infrastructure, and intend to publish later this year.
Sector development	• The National Wealth Fund has committed to spend at least £5.8 billion in five clean energy and advanced manufacturing sub-sectors over this Parliament, of which low carbon hydrogen is one. • We are considering expanding the Clean Industry Bonus to hydrogen and will consult on any proposals. • We welcome the industry-led voluntary ambition of 50% UK local content for hydrogen across the value chain from 2030. We will work with industry to introduce monitoring and evaluation to determine the health and success of the supply chain in relation to the existing industry voluntary content ambition, which could include exploring stronger incentives around reporting.

Conclusion

Low-carbon hydrogen is at the heart of the Government's Missions to Kickstart Economic Growth and become a Clean Energy Superpower. This sixth Hydrogen Update to the Market highlights the strides made in 2025 to turn that ambition into action.

We have built an investable policy framework and now we are delivering. Backed by Government support, hydrogen projects are moving from plans to reality, creating jobs, driving growth, and powering the UK's clean energy future.

Momentum is building: 27 projects shortlisted in HAR2 span England, Scotland, and Wales — building on the success of HAR1 and accelerating the hydrogen rollout nationwide.

This autumn, we will unveil a revamped UK Hydrogen Strategy — evidence-led, impact-focused, and designed to fast-track delivery. It will sharpen our priorities, deepen industry collaboration, and unlock the full potential of hydrogen over the next decade.

The Hydrogen Allocation Rounds will keep driving low-carbon hydrogen production in the UK, backed by the Hydrogen Production Business Model. In 2026, we aim to also launch the first rounds for the Hydrogen Transport and Storage Models and the new Hydrogen to Power Business Model. And from 2031 onwards, we will aim to roll out the UK's first regional hydrogen network — enabling local production, storage, and transport of low-carbon hydrogen to power key sectors.

Our vision is clear: a thriving low-carbon hydrogen economy that decarbonises hard-to-electrify sectors, strengthens energy security, and fuels good jobs and economic growth across the UK.

We will continue working hand-in-hand with industry, investors, innovators, workers and trade unions to turn this vision into reality—project by project, region by region.

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