



International Partnership
for Hydrogen and Fuel Cells
in the Economy

United Kingdom Update

40th IPHE Steering Committee Meeting

4 – 5 October 2023

Washington DC, United States

Announcements / New Initiatives United Kingdom

Recent Announcements, Government Funding & Policies

- April 2023: Published an update to our [Low Carbon Hydrogen Standard](#) and an updated [hydrogen investor roadmap](#), showcasing the UK's hydrogen offer and spotlighting investment opportunities across the hydrogen value chain.
- May 2023: Published a call for [evidence on price-based competitive allocation for low carbon hydrogen production](#).
- August 2023:
 - Invited [17 electrolytic hydrogen production projects to negotiations](#) as part of the first electrolytic hydrogen allocation round.
 - Published the [draft terms of the Low Carbon Hydrogen Agreement](#), the contract underpinning the UK's hydrogen production business model.
 - Published the [Government's response to the consultation on hydrogen transport and storage infrastructure](#) setting out high-level design options for hydrogen transport and storage business models.
- We introduced legislative measures in the [Energy Bill](#) intended to support the design of the new hydrogen transport and storage business models by 2025.
- September 2023: Published a [consultation on hydrogen blending](#) into GB gas distribution networks to help us further assess the case for hydrogen blending and lead options for its implementation, if enabled.
- September 2023: Published the Government response to the [offshore hydrogen regulation consultation](#), setting out initial regulatory proposals for offshore hydrogen pipelines and storage.

Announcements / New Initiatives United Kingdom

Department for Energy Security & Net Zero - Demonstration, Research and Innovation :

- June 2023: **Hydrogen BECCS innovation programme** announced £21.2 million funding for 5 projects to turn biomass and waste into hydrogen with CCUS.
- June 2023: **Industrial Fuel Switching 2 competition** announced that £49.7 million was awarded to 13 Projects, to support the physical demonstration of fuel switching.
- September 2023: The Net Zero Innovation Portfolio **Industrial Hydrogen Accelerator programme** awarded funding for innovation projects that can demonstrate end-to-end industrial fuel switching to hydrogen
- September 2023: **Red Diesel Replacement programme** awarded Phase 2 demonstration support to 6 projects demonstrating low carbon solutions to replace red diesel technologies.



HYDESS (Hydrogen for the decarbonisation of Sheffield steel) – Industrial Hydrogen Accelerator winner, Sept 2023



Bay Hydrogen Hub – Hydrogen4Hanson' project, Industrial Hydrogen Accelerator winner, Sept 2023



Project supported by UK Govt in August 2023, run by ULEMCo to develop hydrogen-powered airport ground-based support vehicles

Announcements / New Initiatives United Kingdom

Department for Transport - Demonstration, Research and Innovation

- The most recent **Tees Valley Hydrogen Transport Hub** projects (sharing £8m of public funding) will use hydrogen via fuel cells for use in vans and supermarket delivery trucks, as well as through hydrogen combustion engines for airside specialist vehicles and handling equipment. Government is also supporting the development of new skills in the area, with £300k funding for Tees Valley Combined Authority to upskill the local workforce.
- On 8 September 2023, the **Zero Emission Bus Regional Areas (ZEBRA) 2 scheme** was announced. The scheme will provide up to £129m funding for LTAs in England (outside London) to support the introduction of hundreds of ZEBs (either battery electric or hydrogen fuel cell) and associated infrastructure. Funding will be awarded in March 2024
- **Zero Emission Vessels and Infrastructure (ZEVI) competition**, with £80m available to accelerate the roll out of zero emission solutions for vessels and port-side infrastructure that are nearing commercialisation. Two winners worth a combined £8.6m focus on hydrogen and hydrogen derived fuels were announced in September 2023.
- **Clean Maritime Research Hub** was announced in September 2023. It will carry out early research in clean maritime, with a joint funding allocation between UK SHORE and the Engineering and Physical Sciences Research Council of £7.4m.
- **Clean Maritime Demonstration Competition (CMDC3)** with over £60m allocated to 19 projects to conduct technology and system demonstrations in clean maritime solutions between April 2023 and March 2025, with six projects exploring the use of hydrogen and/or hydrogen derived fuels.
- **Clean Maritime Demonstration Competition (CMDC4)** will allocate £34m to real-world demonstrations, pre-deployment trials, and feasibility studies of innovative clean maritime solutions. 4th round for applications closed in late September 2023. CMDC4 winners will deliver from April 2024 to March 2025.

United Kingdom – Profile October 2023

Status of Deployments

- Up to 20GW of low carbon hydrogen production projects in UK pipeline
- Almost 50 projects in public domain, electrolytic and CCUS-enabled H2
- Up to 250MW of new electrolytic hydrogen production capacity from first Hydrogen Allocation Round for electrolytic projects (receiving NZHF and Hydrogen Production Business Model support): 17 projects invited to negotiations totalling 262MW.

Leading Government Initiatives

- UK Hydrogen Strategy (2021), plus 6-monthly updates to market. Last update published in August 2023.
- **Funding:** Hydrogen Investment Package, incl. Hydrogen Production Business Model (revenue support) and £240m Net Zero Hydrogen Fund (capital support)
- Hydrogen Certification scheme to be developed by 2025. Consultation closed in April. Response published later in 2023.
- UK Low Carbon Hydrogen Standard. Version 3 to be published later this year.

Focus Areas

- Production: electrolytic & CCUS-enabled hydrogen
- Low carbon H2 standard & certification scheme
- H2 production, transport and storage business models
- Use & fuel switching in industry
- Hydrogen to power
- Transport (incl. shipping/aviation)
- Heating & blending trials

Deployment Goals

- Ambition for up to 10 GW of low carbon hydrogen production capacity by 2030 – with at least 5GW electrolytic

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Key Collaborations – International

- April 2023: Signed the **Orstend Declaration** of energy ministers of the North Seas to support the development of a well-functioning market for hydrogen in the region.
- May 2023: Agreed a Joint Statement for developing **UK-Japan energy partnership**, formalising cooperation across energy innovation, including in hydrogen.
- Signed MoUs with **Denmark** (May 2023) and **Ireland** (September 2023), to formalise our cooperation on the energy transition, including on hydrogen.
- July 2023: Co-launched and joined the **International Trade Forum** at the 14th Clean Energy Ministerial (CEM14).
- **Breakthrough Agenda:**
 - Report published in September 2023 by the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA) and the UN Climate Change High-Level Champions (UN HLAC).
 - Work continues to coordinate actions and deliverables for COP28.
- September 2023: We followed up on our joint statement of cooperation with **Norway** with discussions aimed at building our collaboration on hydrogen and CCUS following the signing of our MoU annex in March 2023.
- September 2023: Launched and signed the **UK-Germany Hydrogen Partnership**.

Thank you



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