XOSERVE

DELIVERING DECARB

July 2025

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01 Notable news

First commercial-scale green hydrogen projects underway

A significant milestone for the UK's decarbonisation journey has been reached, as the first 10 commercial-scale green hydrogen projects from the Government's flagship Hydrogen Allocation Round (HAR1) are now cleared for construction.

These projects, spanning key industrial heartlands like South Wales, Bradford, North Scotland and Teesside, are set to create over 700 highly skilled jobs, including opportunities for apprentices, graduates, pipefitters and engineers. Beyond job creation, this initiative is attracting substantial private investment, with over £400 million committed between 2024 and 2026.

Read the full announcement

World's largest cement decarbonisation project advances

The Chancellor has revealed a £28.6 million National Wealth Fund investment in the Peak Cluster carbon capture scheme. As the world's largest cement decarbonisation project, it's set to prevent over 3 million tonnes of CO_2 a year.

The initiative is further bolstered by £31 million from private partners, including Holcim, Tarmac, Breedon, SigmaRoc and Summit Energy Evolution. The project aims to create around 3,500 jobs across Derbyshire, Staffordshire and the North West, invigorating industrial growth in these areas.

Get the full story

EnergyPathways and Hazer team up for MESH

EnergyPathways is partnering with Australian firm Hazer to deploy its hydrogen production technology for the MESH (Marram Energy Storage HUB) infrastructure project. EnergyPathways has secured exclusive UK access to Hazer's technology for 12 months to develop a clean hydrogen storage facility.

Concept engineering studies are now underway for a facility with an indicative hydrogen production capacity of 90 MW (20,000 tonnes per annum). This hydrogen will support flexible clean power generation and ammonia production for UK use and export.

Get all the details

01 Notable news

From sugar cane waste to green hydrogen

Researchers from the University of Johannesburg have developed an industrial process that can turn crushed sugar cane waste into green hydrogen. The Sorption-Enhanced Chemical Looping Gasification (SECLG) simulation indicates far greater energy efficiency than conventional methods.

Unlike current large-scale biomass gasification plants, the process produces far less tar, carbon monoxide, carbon dioxide and nitrogen. The high green hydrogen yield (between 62-69%) and low impurities could drastically reduce economic costs.

Learn more

Hydrogen blending study results published

The Department for Energy Security and Net Zero (DESNZ) has released the results of a crucial hydrogen blending study by Arup. Assessing different blend percentages of up to 2, 5 and 20%, the analysis examines the potential impacts of hydrogen blending on the National Transmission System (NTS).

The study considers the potential safety, operability, performance and efficiency impacts on end users and Original Equipment Manufacturers (OEMs). It also explores any required modifications to equipment or processes, the associated costs of these, and timelines for operational readiness.

Read the results

01 Notable news

Clean Flexibility Roadmap unveiled

The Government has published the Clean Flexibility Roadmap, providing its vision for a sustainable, agile and consumer-focused electricity system.

The roadmap, developed by the UK Government, Ofgem and NESO, alongside energy industry stakeholders and consumer groups, outlines the enablers required to deliver both short- and long-duration flexibility, and the enduring governance framework to facilitate implementation. Hydrogen, biomethane and CCS are featured heavily in the roadmap and recognised for their role in providing low-carbon dispatchable power, critical for supporting grid balancing.

Review the Clean Flexibility Roadmap

Ofgem consults on RIIO-3 Draft Determinations

Ofgem is calling for responses on its Draft Determinations for the RIIO-3 price control. Covering the electricity transmission, gas distribution and gas transmission sectors, RIIO is a framework that ensures network companies have sufficient revenue to efficiently run and invest in networks.

The RIIO-3 price control will run for five years, from 1 April 2026 to 31 March 2031. Under the RIIO3 price controls, new investments by gas distribution networks will have an accelerated depreciation profile that ensures they are fully paid back by the net zero target date of 2050. In this year's RIIO, Ofgem are considering new mechanisms for enabling increased biomethane injections into the gas grid. Responses to this consultation must be submitted by 26 August 2025.

Submit your response

01 Notable news

Aberdeen workers helped towards clean energy roles

Around 200 oil and gas workers in Aberdeen will receive tailored support to transition into clean energy roles. The Oil and Gas Transition Training Fund, which is backed by £900,000 of UK Government funding, aims to build the pipeline of skilled workers for Great Britain's clean energy future.

Open to current and former oil and gas workers, the initiative offers careers advice and training funding, supporting access to opportunities in growing sectors like offshore wind, hydrogen and carbon capture and storage.

Find out more

Siemens and Paragon aim for self-sufficient hydrogen production

A partnership between Siemens and Paragon resources could make grey hydrogen history with a revolutionary process. Instead of using electrolysis or natural gas, the Paragon system reacts recycled aluminium with water in the presence of a proprietary catalyst, which creates a clean chemical reaction.

Siemens is now expected to help scale this technology, including digital infrastructure and optimisation tools through its Xcelerator platform. This will help speed up the pace of change in clean hydrogen production.

Read the full story

02 Spotlight on...

This month, NESO published its pivotal Future Energy Scenarios (FES) 2025: Pathway to Net Zero. The first edition since NESO's formation, it offers critical insights into the UK's clean energy journey.

3 net zero pathways

FES 2025 outlines three distinct pathways towards net zero:

1. **Holistic Transition**

   This involves a balanced mix of electrification and hydrogen, with a target of no unabated gas on the network by 2050.

2. **Electric Engagement**

   This features the highest peak electricity demand, requiring high levels of nuclear, renewables and bioenergy with carbon capture and storage.

3. **Hydrogen Evolution**

   This sees fast progress of hydrogen in industry and heat, with higher reliance on hydrogen power leading to reduced renewable and nuclear capacities.

Each of these scenarios is underpinned by four 'waves of action'.

- **Foundation:** Progress made over the past two decades
- **Acceleration:** From today to 2030
- **Growth:** From 2030 to 2040
- **Horizon:** From 2040 to 2050 and beyond

The evolving role of gas

FES 2025 confirms the gas network's essential, yet evolved, role in a multi-fuel, low-carbon energy system. Gaseous fuels remain crucial for energy needs and system flexibility, but infrastructure must evolve to support biomethane injection, hydrogen blending and flexible flows. And while natural gas demand is predicted to fall significantly by 2050, up to a third could be used for hydrogen production. As a result, long-term policy clarity for biomethane subsidies and hydrogen levies is vital.

View the Future Energy Scenarios

NESO
National Energy System Operator

02 Spotlight on...

Key fuel insights

- **Biomethane**

  Biomethane shows exciting potential, with availability exceeding pathway requirements and the ability to meet up to 38% of gas demand in 2050. With 5.5 TWh of biomethane injected into the gas grid in 2024, by 2050 this is estimated to increase to 64 TWh in the Holistic Transition pathway and 57 TWh in Hydrogen Evolution pathway.

- **Hydrogen**

  A vital decarbonisation enabler, the Holistic Transition and Hydrogen Evolution pathways see upward of 30 TWh of low-carbon hydrogen by 2035, and up to 325 TWh by 2050. However, due to the rising demand for hydrogen in industry, power generation and road transport, scaling to meet this need will be a key challenge.

- **Carbon capture and storage (CCS)**

  There is a targeted and strategic need for CCS, with pathways using over 65 MtCO2 /yr of CCS by 2050. As such, rapid infra-structure development is crucial, and the lack of formal planning for these networks is highlighted.

- **Blending**

  Blending is forecast to mainly involve biomethane, and all scenarios except Electric Engagement show significant amounts of biomethane blending by 2050. Hydrogen blending is only briefly mentioned and is expected to take place from 2025-2030.

Ultimately, coordinated, whole-system planning is essential to unlock investment, secure flexibility and deliver a faster, more cost-effective net zero transition. Our net zero energy future depends on the right infrastructure being in the right place at the right time.

As we shift towards an integrated, homegrown energy system, it's clear what's needed most is a change in thinking.

03 Policy Milestones

The path to a decarbonised energy system will be marked with significant policy milestones and project developments. As the gas industry continues its efforts to transition to net zero, understanding these key events is essential. Here we highlight the policy announcements, project milestones and consultations impacting the decarbonisation of gas.

Key regulatory insights

- Hydrogen update to the market

The Government has shared an update on the UK hydrogen policy progress. This summarises key developments in the first half of 2025, and gives a glimpse of upcoming opportunities.

- CCS development funding approved

Ofgem has approved a £147.5 million development allowance for Net Zero North Sea Storage. This funding supports crucial stage check activities for offshore carbon dioxide storage systems (CS006/CS007), reflecting updated cost estimates.

Upcoming opportunities to influence energy policy

Several important consultations are currently open or closing soon, offering stakeholders a chance to provide expert input on key aspects of the decarbonisation transition:

1. DESNZ is seeking views on the proposed changes to the **economic regulatory framework for 100% hydrogen pipeline networks**, established under the Gas Act 1986. This framework is vital for enabling the low-carbon hydrogen economy and supporting decarbonisation of power, industry and heavy transport.

   Submit your response by 9 September 2025

2. DESNZ has launched a consultation seeking views on policy options to **expand the market for low-carbon industrial products**, with an initial focus on sectors like steel, cement, and concrete. This aims to establish a framework, guidance and tools to help buyers identify and compare lower-carbon industrial products, driving demand for decarbonised materials for net zero infrastructure.

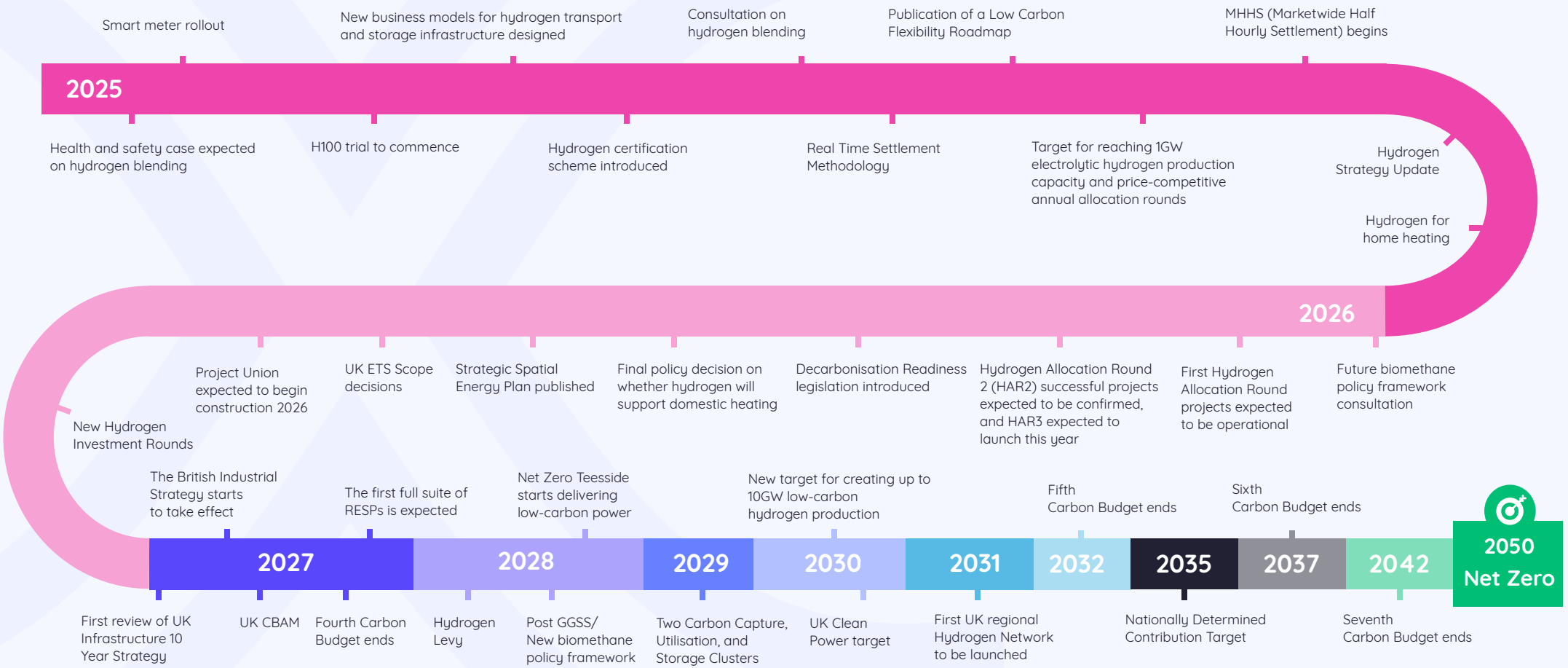
   Submit your response by 15 September 2025

3. DESNZ is consulting on the potential strategic and economic value of **blending hydrogen into the GB gas transmission network**. It is seeking views on commercial, market, technical and billing arrangements, and implications for end users.

   Submit your response by 16 September 2025

03 Policy Milestones

Key Government energy policy/regulatory milestones:



04 Things to look out for

Although Parliament is now in its summer recess, there are plenty of consultations and strategies ongoing. The next DeliveringDecarb edition will keep you informed of any announcements, new data or research on the potential future role and benefits of biomethane, hydrogen and gas blending.

Plus, you can expect valuable insights into any major projects in the hydrogen and decarbonisation sector.

For now, here are some upcoming publications to keep an eye on in the near term:

Expected August 2025:

- Gas Shipper Obligation consultation response

Expected Autumn 2025:

- UK Government's Updated Hydrogen Strategy

Expected end of 2025:

- Consultation on hydrogen for home heating
- Hydrogen transport and storage market framework consultation response
- Gas system resilience consultation
- Network investment and cost recovery call for evidence

If you can't wait till next month's issue for the latest updates, be sure to follow **@Xoserve** on LinkedIn for comments and key takeaways as they happen.

05 Dates for your diary

Here are some upcoming dates in September when you can meet the Decarbonisation Team. We'd love to see you there.

Gas Distribution Networks monthly decarbonisation meeting	Monday 1 September
Hydrogen Information Sharing Group	Friday 5 September

We also host Hydrogen Implementation Forums for Shippers, IGTs and Meters on a quarterly basis. To join these or enquire about our meetings above, please email: decarbonisation@xoserve.com

06 Keeping in touch

If you've found any of the topics in this month's newsletter particularly interesting, please get in touch or share your comments on LinkedIn, tagging @Xoserve.

You can also delve deeper into decarbonisation with our Decarb Discussions podcast, which covers topics from different industry perspectives. To get involved and have your voice heard on our podcast channel, please get in touch.

To help you stay ahead of the curve, we've created the Decarbonisation Knowledge Centre, for the latest news, exciting new projects, and important policy updates. We're confident you'll find a wealth of valuable resources on decarbonisation. If you'd like to suggest any ideas, please contact: decarbonisation@xoserve.com

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