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### **Welcome to the penultimate DeliveringDecarb newsletter of 2024!**

As November unfolds, the energy sector has seen a surge of activity, with key reports and announcements shaping the future of decarbonisation. While Bonfire Night lit up the skies, the colder evenings have brought into focus the critical role of reliable, affordable heat in keeping homes warm.

Recent snowfall across parts of the UK underscores the pressing need to ensure vulnerable energy customers are supported amid rising costs. As the country continues its journey towards net zero, affordability and accessibility must remain at the forefront of the energy transition.

This month, we spotlight pivotal developments, including hydrogen's expanding role in decarbonising industry and transport, and insights from the Autumn Budget impacting the energy landscape. These stories highlight the dynamic changes underway and the collective efforts needed to navigate this transition.

Take a moment to explore the updates and reflections shaping the path to a cleaner, more sustainable energy future. Thank you for your continued engagement in this vital journey!

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## 01 Notable news

### **Government study recommends actions for decarbonising industry**

DESNZ has published its findings on the Industry of Future Programme, carried out by a delivery partner Atkins, investigating a range of options available to industry for decarbonisation. Three targets are set out by the programme, which includes site CO2 reductions of 20% by 2025, 66% by 2035 and 90% by 2050 as well as recommendations for sites and the Government.

Key recommendations for sites:

- Effective decarbonisation requires detailed modelling, planning, and understanding of energy use.
- On-site biogenic fuel use offers a cost-effective solution where biofuel procurement is challenging
- Renewable Gas Guarantees of Origin (RGGOs) can serve as short-term solutions

for hard-to-decarbonise sites but lack long-term scalability

Key recommendations for Government:

- Develop a national strategy for essential grid upgrades to achieve net zero.
- Prioritize the establishment of an independent Future System Operator (FSO) to oversee hydrogen infrastructure development.
- Address uncertainties in energy cost forecasting with deeper reviews to reduce risks for industry investments.

The report concludes that with adequate infrastructure, government policy, and industrial investment, many sectors could target decarbonisation by 2040, aligning with the UK's net zero goals.

[Read the full study](#)

### **Plans to ban gas boilers in most new homes in England by 2027**

New legislation, part of The Future Homes Standard, will require new-build homes to install heat pumps or other non-gas alternatives, with plans to ban gas boilers in most new homes by 2027.

The ban is expected to cut carbon emissions from new homes by 75%. However, concerns have been raised about the feasibility of the plan, such as the supply of heat pumps not meeting the increased demand and the increased reliance on electricity for heating straining the National Grid.

[Read more on the story](#)

## 01 Notable news



### Labour delivered its first Autumn Budget

At the end of October, Rachel Reeves, Chancellor of the Exchequer, delivered the Autumn Budget revealing key measures to support the UK's transition into cleaner energy. The key changes in the energy sector include:

#### Energy Profits Levy (EPL)

- EPL on oil and gas companies rose from 35% to 38% in November, extending to March 2030.
- The move has raised concerns about the impact on domestic oil and gas production and the potential for increased reliance on imports.
- The 100% first-year capital allowances within the EPL will remain in effect.
- The decarbonisation investment allowance will be retained, and its uplift will be reduced to 66%.
- A consultation is scheduled for publication in 2025 to address how the taxation of offshore oil and gas will respond to price shocks after the EPL concludes.

#### Clean energy

- £2 billion of funding was announced for 11 green hydrogen projects.

- Creating the national wealth fund to catalyse over £70bn of private investment in the UK's clean energy and growth industries.
- The Government has committed £125 million to Great British Energy.
- £500 million has been allocated to hydrogen production and infrastructure.
- £2 billion of funding was confirmed for the 11 HAR1 green hydrogen projects. These were initially announced by the previous Conservative government in December last year.

#### Carbon Capture

- The Government will provide tax relief for oil and gas companies selling assets to Carbon Capture Usage and Storage (CCUS) companies and exempt related payments from the EPL.
- It's pledged a further £3.9 billion for CCS projects between 2025-2026.

## 01 Notable news

### Offshore oil and gas emissions

- A new environmental guidance for assessing scope 3 emissions from oil and gas projects is in development.
- A consultation has been opened to gather input on the draft guidance.
- Finalised guidance and a Government response to the consultation are expected in spring 2025.

### Climate Change Levy (CCL)

- From April 2026, the UK Government will increase the CCL rates for electricity, gas, and solid fuels in line with inflation to maintain the incentive for energy efficiency.
- The liquefied petroleum gas rate will remain frozen to ensure consistency with other portable fuels used in off-grid commercial premises.

[Read the Autumn Budget](#)



## 01 Notable news



### **Britain's renewable energy generation falls due to light winds**

The UK aims to decarbonise its electricity system by 2030 by phasing out the use of its 32 main gas-fired power stations. The UK's National Energy System Operator (NESO) also anticipates that the country will experience its first periods of complete decarbonisation—when no gas is required—in 2025.

However, the dark and windless weather has led to a significant drop in Britain's renewable energy generation this month. This record “dunkelflaute” spell, characterised by low

winds and sunshine, highlights the challenge of renewable energy intermittency, as the grid must have a reliable source of low-carbon power available at all times.

[Read more on the story](#)



### **University researchers produced hydrogen from waste with carbon capture**

Researchers at the University of York have generated hydrogen from waste while capturing carbon dioxide. The H2Boost project,

a collaboration between the University of York and the University of Leeds, uses a process called “dark fermentation” to convert organic waste into biohydrogen.

This method, which uses everyday waste as a feedstock for hydrogen production, captures and reuses all by-products, making it a waste-free process. Funded by the Government's Net Zero Innovation Portfolio, this technology has the potential to contribute significantly to the UK's net zero ambitions by providing a sustainable source of clean energy.

[Find out more](#)

## 01 Notable news

### **Funding for the UK's largest hydrogen production facility confirmed**

Chancellor Rachel Reeves has confirmed funding for the construction of the UK's largest hydrogen production facility in Bradford. The Bradford Low Carbon Hydrogen project, located on a former gas storage site, is the largest among 11 green hydrogen initiatives set to receive a share of £2 billion from the Government.

It will have the capacity to produce 12.5 tonnes of hydrogen each day, removing around 800 diesel buses from West Yorkshire's roads daily. The project is being developed through a partnership between N-Gen and Hygen, with support from Bradford Council.

The hydrogen generated at this site will support the decarbonisation of various sectors, including heavy transport. It can also serve as a replacement for natural gas in industrial processes.

[Read the full story](#)



## 02 Spotlight on...NESO's Clean Power 2030 report



Following on from their [Winter Outlook 2024](#) last month, The National Energy System Operator (NESO) released their Clean Power 2030 report outlining pathways for Great Britain to achieve a clean power system by 2030.

Key takeaways for the gas industry:

Reduced role for gas-fired power stations: A successful transition to clean power will significantly reduce the role of gas-fired power stations, expected to make up less than

5% of the future generation mix. This shift will potentially impact gas networks with decreased demand and reduced asset utilisation.

Transition to low carbon solutions: Enhancing coordination between gas and electricity networks is crucial for a smooth energy transition. Gas networks will need to adapt by supporting the integration of low-carbon dispatchable technologies, such as hydrogen and carbon capture and storage.

Regulatory considerations: The expansion and integration of clean energy will require changes to regulatory frameworks that could impact how gas networks plan and finance their future operations. This may involve changes to operating expenses and capital expenditures to support low-carbon technologies and system improvements.

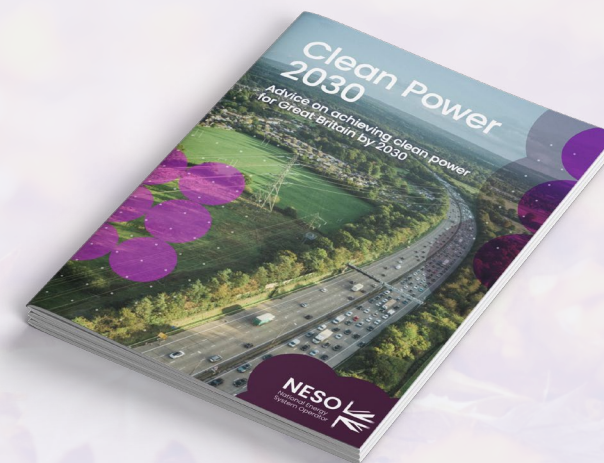
Potential risks and opportunities: While the reduced dependence on gas for power generation poses a risk to traditional gas

networks, the development of a hydrogen market and carbon capture and storage could offer new opportunities.

Stakeholder engagement: Clear communication and strong stakeholder engagement, including industry and consumers, will be paramount in addressing concerns and aligning efforts towards net zero goals.

For the key highlights, [read our latest blog](#)

Or [access the full NESO report](#).



## 03 Things to look out for

The recent funding for the UK's largest hydrogen production facility in Bradford and the recommendations for hydrogen infrastructure in the Industry of Future Programme demonstrate hydrogen's potential as a decarbonisation solution.

As we approach the end of 2024, it's a great time to reflect on hydrogen's journey so far and look ahead to the new year with anticipation for further announcements and project developments. To keep your finger on the pulse of hydrogen technology and other low-carbon gases, be sure to visit Xserve's Decarbonisation Knowledge Centre for the latest insights and trends shaping the future of energy.

[Take me there](#)





## 04 Policy milestones

Here are key Government Energy policy/regulatory milestones:

- **2024** - Energy Bill expected to complete
- **2024** - NESO formed
- **2024** - Health and safety case expected on hydrogen blending
- **2025** - Smart meter rollout
- **2025** - Hydrogen blending in domestic networks (at the earliest)
- **2025** - H100 trial to commence
- **2025** - New business models for hydrogen transport and storage infrastructure designed
- **2025** - Hydrogen certification scheme introduced
- **2025** - Target for reaching 1GW electrolytic hydrogen production capacity and price competitive annual allocation rounds
- **2026** - Final policy decision on whether hydrogen will support domestic heating
- **2026** - MHHS (Marketwide Half Hourly Settlement) begins
- **2030** - New target for creating up to 10GW low carbon hydrogen production
- **2030** - Hydrogen town trial to commence
- **2030** - UK Clean Power target



## 05 Dates for your diary

We'd love to see you at our Hydrogen Implementation forums. To join, please email [decarbonisation@xoserve.com](mailto:decarbonisation@xoserve.com)

### Come say hello

The Xoserve Decarbonisation Team will be attending these events, so why not join us and say hello?

|   |                           |               |
|---|---------------------------|---------------|
| <b>DN Update</b>                              | Monday 2nd December 2024  | 10:00 - 11:30 |
| <b>Shipper Hydrogen Implementation Forum</b>  | Friday 20th December 2024 | 10:00 - 11:00 |
| <b>IGT Hydrogen Implementation Forum</b>      | Friday 20th December 2024 | 11:30 - 12:30 |
| <b>Metering Hydrogen Implementation Forum</b> | Friday 20th December 2024 | 14:00 - 15:00 |

|                                     |                            |                      |
|-------------------------------------|----------------------------|----------------------|
| <b>Hydrogen Researcher Festival</b> | Tuesday 10th December 2024 | Cranfield University |
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## 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 @Xserve.

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@xserve.com](mailto:decarbonisation@xserve.com)

