

## Contents

### Happy New Year!

Welcome to the first DeliveringDecarb newsletter of 2024. As we move deeper into winter, frosty mornings are giving way (for some) to snow-filled days. As well as plummeting temperatures, January is also a time for reflection on the past year and looking forward to the year ahead. Before we dive into the first round-up of this year's news stories, let's take a moment to reflect on the energy news from 2023.

At the start of 2023, the Department for Energy Security and Net Zero (DESNZ) was established with a focus on "cutting bills, cutting emissions and cutting our dependence on international energy supplies." A few months later, wind power exceeded gas generation for the very first time. In September, the Government opened its hydrogen blending consultation and just before the year ended announced that they would support the blending of up to 20% of hydrogen into Britain's gas networks. By blending up to 20% hydrogen into the gas grid with existing natural gas, around 6 million tonnes of carbon dioxide emissions could be saved every year.

Let's jump into the new year and see how 2024 is starting to shape up.

### 01 Notable news

### 02 Spotlight on... Domestic Heating

### 03 Things to look out for

### 04 Policy milestones

### 05 Dates for your diary

### 06 Keeping in touch

## 01 Notable news

### UK produced enough renewable energy to power all its homes last year

UK-based renewables generated over 90TWh of energy in 2023, according to the Energy and Climate Intelligence Unit (ECIU). The Power Tracker from ECIU also found that generating the same amount of power using gas from power stations, would require 180TWh of gas – equivalent to heating more than 20 million UK homes.

According to the report, nuclear and biomass generated around 60TWh in total over 2023, replacing the gas demand from an estimated 10 million homes. With the UK having higher gas dependency than any other country in Europe, Jess Ralston, the ECIU's head of energy, said: "The choice for the UK is stark – boost British renewables or import more gas at a price we can't control."

[Explore more findings from the report](#)

### Electricity generated from fossil fuel drops to the lowest level in over 60 years

The UK's usage of fossil fuels for generating electricity has reached its lowest point in 66 years, according to a report from Carbon Brief. In 2023, there was a 22% year-on-year reduction in the use of fossil fuels, resulting in them making up just 33% of the country's electricity supply. In 2008, the UK's usage of fossil fuels peaked, but it has since dropped by two-thirds, with last year's fossil fuel-generated electricity totalling 104 TWh, the lowest since 1957.

In addition, renewable electricity output has increased sixfold since 2008, leading to low-carbon energy sources accounting for 56% of the UK's electricity generation. According to National Grid ESO, December also marked the 15th consecutive month when zero-carbon generation outpaced fossil fuel generation.

Although this is a significant milestone, it's still a long way from achieving the Government's target of a 95% low-carbon energy mix by 2030 and a fully decarbonised grid by 2035. Due to a decrease in nuclear output, low-carbon electricity generation has also fallen just short of the 2022 low-carbon peak of 57%.

[Access Carbon Brief's full analysis](#)



## 01 Notable news

### Large-scale 'hydrogen hub' approved for Ellesmere Port

Ellesmere Port is set to be the home of the UK's largest hydrogen production plant after plans were approved for EET Hydrogen's first large-scale, low-carbon plant. Consisting of HPP1 and HPP2, the 'hydrogen hub' will enable local industrial and power generation businesses to switch from fossil fuels to low-carbon energy. According to EET Hydrogen, this will help to reduce the North West's carbon emissions by 2.5 million tonnes a year - the equivalent of taking 1.1 million cars off the roads.

Construction is anticipated to start on HPP1 in 2024, with low carbon produced at the site by 2027. The hydrogen hub will be developed in phases with the first plant (HPP1) at 350MW capacity, the second (HPP2) at 1,000MW capacity and an overall target capacity of more than 4,000MW by 2030.

[Read the full story](#)

### Amazon fuels forklifts with hydrogen produced on-site

Amazon has partnered with Plug Power to manufacture hydrogen fuel at one of its fulfilment centres. The electrolyser has been installed at a location in Colorado and will produce fuel for nearly 225 forklift trucks. This is a first for Amazon, which is also exploring the possibility of combining the electrolyser with renewable energy generated on-site in the future.

Back in the UK, the Government are supporting a new Tees Valley hydrogen refuelling station for heavy goods vehicles (HGVs). £7 million of funding will develop a public refuelling station to provide green hydrogen with the initial capacity to serve at least 25 HGVs every day.

Have a look at both stories from [Amazon](#) and [Tees Valley](#).



## 01 Notable news

### Counterparty for the Hydrogen Production Business Model announced

The Department for Energy Security and Net Zero (DESNZ) has announced that the Low Carbon Contracts Company (LCCC) will take on the management of new hydrogen production contracts. The business model for hydrogen contracts is similar to the Contracts for Difference (CfD) scheme, where the subsidy is the difference between a strike price and a reference price. LCCC will soon be directed to offer contracts with the 11 hydrogen projects located across the UK, which were announced by the Government last month.

LCCC CEO, Neil McDermott said: “This is an important development in the hydrogen sector and in our country’s journey towards Net Zero. We are excited to work with these new projects and expand our role in the development of the hydrogen economy.”

[Read the Government’s announcement](#)

### DESNZ defines complex-to-decarbonise homes

The Department for Energy Security and Net Zero published a research report that aims to identify complex-to-decarbonise homes and recommend retrofit solutions. The report defined Complex-to-decarbonise (CTD) homes as those with “one of a combination of certain physical, locational, occupant demographic, or behavioural attributes which may constrain the design and delivery of measures to improve energy efficiency, decarbonise heating, and realise occupant benefits.”

One of the prominent outcomes was an emergent theme from the interviews of the long-term consequences of not retrofitting CTD homes, which could raise issues for landlords, owners, and occupants. For example, limiting the ability to deliver a just transition, leaving some homes and their occupants behind in decarbonisation.

[Dive into the full report](#)



## 01 Notable news

### UK Government unveils plan to boost energy efficiency in historic homes

New plans have been published by multiple Government departments, including the Department for Energy Security and Net Zero, following a review to address challenges in retrofitting energy-efficient measures in historic homes.

The report outlines current actions and future commitments to support those who own and live in historic homes to improve energy efficiency, including reforms to planning policies; guidance and information on skills and training for local authorities and the construction industry; as well as implementing affordability and financial incentives such as Green Home Finance Accelerator.

[Access the Government's guidance report](#)

### Biogas featured for the first time in the IEA's Renewables 2023 report

The International Energy Agency (IEA) published a report titled, Renewables 2023: Analysis and Forecasts to 2028. The report states that the world added 50% more renewable energy capacity in 2023 than in 2022. Additionally, the next five years are expected to see even faster growth in the renewable energy sector. This year's forecast also included biogas and biomethane for the first time.

The IEA anticipates a growth rate increase from 19% (2017-2022) to 32% (2023-2028) for the sector, attributed to impactful new policies introduced in over 13 countries in the past year. Most of the growth in biogas over the next five years will be in Europe and North America, due in part to established infrastructure and experience.

[Download the IEA's Renewables 2023](#)

### Report suggests curtailed wind could supply the UK with green hydrogen

Policy Exchange has called for Government intervention to promote the adoption of electrolyzers in heavily curtailed areas in its latest report. The document produced in collaboration with LCP Delta reveals the volume of wasted wind generation in 2022 is equal to more than 118,000 tonnes of green hydrogen, with this figure expected to rise to 455,000 tonnes by 2029.

The report further highlighted that delays in the deployment of grid upgrades and new storage technologies are costing Britain as much as £1 billion a year in wasted renewable power, a total that could rise to £3.5 billion by the 2030s, Policy Exchange calculates.

[Have a look at the Turning Wasted Wind into Clean Hydrogen report](#)

## 02 Spotlight on... Domestic Heating

Did you know that parts of England experienced -11C this month? And if that wasn't enough, temperatures in Scotland hit a bone-chilling -14C, making it the coldest January night since 2019! While we all love to snuggle up in a warm blanket during winter, energy prices have skyrocketed, making it tough for many to stay warm.

As the UK tries to decarbonise gas, domestic heating is a major topic of conversation amongst industry and policymakers. Despite the rising popularity of heat pumps, natural gas remains the primary source of heat for almost 80% of the UK. This makes it challenging to transition away from gas, especially at the pace required to meet the net zero emission targets. So, what do you think we can do to tackle this issue?

One option to reduce carbon emissions from domestic heating is to use electric technology such as heat pumps, but doing so would require significant investment to upgrade the grid to manage power demand. Another option

is to use low-carbon gas such as hydrogen or biomethane to replace natural gas. However, the gas industry cannot prepare for this unless the Government provides the necessary commercial frameworks and firm policies. The energy industry must have discussions to decide on the best solution, but with time running out, it may become a luxury we cannot afford.

If you'd like to explore the topic of decarbonising domestic further, check out our blogs, podcasts and articles.

[Blog: Preparing the UK's housing stock for a low-carbon future](#)

[Podcast: The decarbonisation of domestic heating](#)

[Article: Is Britain ready to embrace hydrogen blending?](#)



## 03 Things to look out for

At the end of the year, Matthew Cole, Head of Fuel Bank Foundation, spoke about why our future energy system must work for everyone and how data could help us overhaul the energy grant system on the final episode of Decarb Discussions for 2023. If you haven't had the chance to listen, take a break from your day, make yourself a cup of coffee, tea, or hot chocolate and stream the episode on demand. Alternatively, you can head on over to our blog page to read about the work that Fuel Bank is doing and the importance of a fair transition. If you've already listened to the podcast and read the blog, don't worry. There will be more to share from Fuel Bank soon enough, so watch this space!



- [Blog: Creating a future energy system that works for everyone.](#)
- [Podcast: Considering fuel poverty as the energy system changes](#)



## 04 Policy milestones

Here are key Government energy policy / regulatory milestones:

- **2024** - H100 trial to commence
- **2024** - Energy Bill expected to complete
- **2024** - Future systems operator appointed
- **2024** - Smart meter rollout completed
- **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





## 05 Dates for your diary

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

<b>Networks Meeting</b>	Monday 5th February 2024	10:00 - 11:30
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<b>Shipper Meeting</b>	Monday 26th February 2024	10:00 - 12:00
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<b>Metering Meeting</b>	Thursday 15th February 2024	10:00 - 11:00
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<b>IGT Meeting</b>	Monday 12th February 2024	14:00 - 15:00
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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 @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.

Don't forget to sign up to our industry 'intranet'. An exclusive resource for the gas industry, the intranet is designed to keep you up to speed with the latest news, new projects and policy changes. It acts as a central repository for essential information related to your industry, some of which may not yet be available as a public resource. If you would like access to this site, please contact:

[box.xoserve.decarbonisation@xoserve.com](mailto:box.xoserve.decarbonisation@xoserve.com)

