SLAUGHTER AND MAY/

23 JANUARY 2025

UK ENERGY AND INFRASTRUCTURE: WHAT'S TO COME IN 2025

Trends to watch in 2025

With the Labour government in place following last year's general election, we expect to see a step change in UK energy and infrastructure policy. The government is expected to accelerate the implementation of its flagship commitments, ushering in new (or in some cases rebranded) public bodies such as the National Wealth Fund, National Energy System Operator, Great British Energy and Great British Railways, which will start to exercise their mandates. We also expect the government's focus on growth will permeate policy across all sub-sectors, shaping UK industry and strengthening domestic supply chains, and culminating with the publication of a new Industrial Strategy. However, whilst inflation figures are falling, higher costs of borrowing will put pressure on the Chancellor to reconcile growth ambitions with budgetary constraints ahead of the comprehensive spending review in the spring.

On the international stage, a Labour government promises to reset engagement with the EU as preparations for a review of the Trade and Cooperation Agreement get underway, which may lead to greater scope for cooperation on key issues for both parties such as carbon markets, energy markets, and carbon capture and storage. However, rising protectionism and resource nationalism in the global geopolitical environment could exacerbate trade disputes, threatening to increase costs and disrupt supply chain stability. With capital poised for deployment across the energy and infrastructure sectors, we consider what may lie ahead for the UK in 2025.

5 key topics to watch in 2025:

- **Water** - Appeals from Ofwat's final price review determinations for the water sector are expected in February with the Independent Water Commission's report to follow in the spring. Greater clarity on funding and potential sector reforms may enable investment and divestment decisions and new funding (debt and equity) plans to be deployed in the sector in 2025.

- **Digital network investment to support AI** – We expect Ofcom to hold spectrum allocation auctions for high-bandwidth technologies—like 5G and 6G networks (which are crucial for AI-driven applications)—during 2025. In addition, we may observe further measures encouraging shared access to network infrastructure, greater public investment schemes and subsidies to expand high-speed network access. Additional clarity on sustainability requirements and national security protocols, cyber security standards, as well as possible open access and interoperability mandates could also significantly reshape the sector this year.

- **Industrial Strategy** – The publication of the Industrial Strategy and the government's focus on economic growth are likely to have implications for a range of energy and infrastructure assets including digital and nuclear supply chains, industrial decarbonisation (including deployment of electrification, hydrogen or carbon capture solutions) as well as import/export policy.

- **Clean power and flexible capacity** - With a commitment to substantially decarbonise the power system by 2030, 2025 will see implementation of a raft of measures set out in the Clean Power 2030 Action Plan (CP30), published by the Department for Energy Security and Net Zero (DESNZ) in late 2024. We anticipate these measures will boost UK renewable energy development but will also require significant investment in nuclear power and flexible generation to balance the system.

- **Electricity networks and market reforms** - Pivotal decisions on regulatory changes are expected in 2025, impacting networks and markets in Great Britain (**GB**), including the conclusion of the Review of Electricity Market Arrangements (REMA) programme and implementation of the electricity connections review.

1. Renewables: Doubling down on development

Renewable energy development is set to accelerate further in 2025 as the government takes steps towards its ambitious decarbonisation targets and begins to implement the Clean Power 2030 Action Plan (**CP30**).

In relation to offshore wind, CP30 estimates that the UK needs 43-50GW by 2030, a reduction as compared to Labour's pre-election plans, but an ambitious target given that current installed capacity is 14.8GW. This new capacity will continue to be supported under the Contract for Difference (**CfD**) mechanism. Allocation Round (**AR**) 6 in September 2024 awarded CfDs totalling 3.36GW of capacity to two new offshore wind projects, 1.58GW to projects which had rebid capacity from AR4 and 400MW to one floating offshore wind project, a significant improvement on AR5. CP30 states the aim to deliver 2030 capacity by securing at least 12GW across the next two to three allocation rounds – AR7, AR8 and, depending on the speed at which projects deploy, AR9. Plans for reform of the CfD are likely to crystallise during 2025 with measures such as changes to eligibility, auction parameters and the length of the term under review. Looking further ahead, additional reforms to the CfD may emerge following the outcome of the REMA programme (see below) but will not be implemented until AR9 at the earliest.

In relation to floating offshore wind projects, the financing of the Green Volt project will be an important milestone for the sub-sector. We are also expecting the outcome of the Crown Estate Offshore Wind Leasing Round 5 (also known as the *Celtic Sea* leasing round) in 2025, which targets 4.5GW of floating offshore wind capacity.

To capture wider value from offshore wind, 2025's AR7 will see the Clean Industry Bonus scheme implemented for the first time, aiming to incentivise investment in ports and key components. To enter CfD AR7, all projects will need to achieve a minimum standard of at least £100 million per GW for a fixed bottom offshore wind farm and £50 million per GW for floating offshore wind (indexed). Generators may compete for additional payments where they make extra commitments, but failure by a generator to meet its commitments will result in deductions from its CfD revenues.

Onshore wind is likely to make a comeback in 2025; CP30 estimates a further 12.8-14.8GW is required. Developments will be assisted by the lifting of the de facto ban on new installations in England, re-admission of projects above 100MW to the Nationally Significant Infrastructure Projects regime and establishment of the Onshore Wind Industry Taskforce. As early renewables projects near the end of their period of support, CP30 also includes a commitment to minimise any capacity that may be lost before 2030, including through supporting repowering of onshore through the CfD scheme from AR7. Solar's prospects in 2025 also appear promising following the government's grant of Development Consent Orders for three projects soon after the general election in 2024. Finally, the government intends to respond to the consultation on transitional support arrangements for large-scale biomass shortly.

Funding from the National Wealth Fund (**NWF**) and Great British Energy (**GBE**) are likely to be deployed to support the CP30's clean energy ambitions. In the renewables sector, NWF could play an important role in the deployment of floating offshore wind, where the commercial lending market is more nascent, as well as crowding-in investment into associated port infrastructure and the manufacturing supply chain. GBE is also expected to commence its investment and development role in 2025, initially supported via the NWF. CP30 confirms that GBE will (co)lead projects through the pre-development and potentially the construction and operation phases, with further detail as to its precise role likely to emerge once the Bill passes.

However, planning and grid bottlenecks are still to be tackled in 2025. CP30 aims to address these by boosting local planning capacity and flexibility to prioritise critical energy infrastructure, supporting grid and battery storage enhancement (see below).

2. Electricity Storage and Flexible Power: New support mechanisms to be introduced

CP30 sets out the need for higher levels of dispatchable and flexible generation and storage capacity by 2030 to complement the high level of variable renewable generation mentioned above. The plan envisages that, in 2030, Britain will require 2 - 7GW of low carbon dispatchable power (such as power with carbon capture and storage (**CCS**) and hydrogen to power (**H2P**)), 35GW of unabated gas-fired power generation and 49 – 59GW of flexibility (including batteries, pumped hydro storage and other storage such as liquid air, as well as interconnectors and consumer-led flexibility). To deliver this, the government continues to explore the design of electricity markets (see further below). However, alongside this it will make targeted market

interventions where it considers that market failures exist.

In relation to electricity storage, reductions in battery technology costs, support under the capacity and ancillary service markets together with a greater price variance between peak and low-price periods, mean that a bespoke support scheme for battery technologies is not considered necessary in the GB market. However, following the announcement in autumn last year, 2025 will see new Long Duration Electricity Storage (**LDES**) projects supported via a cap and floor scheme to promote investment. For more information on the cap and floor scheme, please see our blog post here. Ofgem has now issued a Call for Input seeking views on issues including project eligibility criteria and assessment methodology. Ofgem will publish a technical decision document in Q1 2025 setting out further details of the scheme along with development of the wider licensing framework, with the intention of opening the scheme to applicants in Q2 2025.

In relation to low carbon dispatchable power, as 2024 drew to a close, we saw the UK's first power with carbon capture and storage (**Power CCS**) project, Net Zero Teesside, reach its Financial Investment Decision (**FID**), supported via a bespoke contract, the Dispatchable Power Agreement, with the Low Carbon Contracts Company as counterparty. Please also see the CCUS section below.

2025 will also see a focus on H2P as the government embarks on the design of a H2P business model (**H2PBM**) following the publication of the results of the consultation on the H2PBM in December 2024. Further details on the H2PBM are anticipated in spring 2025. We also expect to see legislation brought forward to amend the Environmental Permitting (England and Wales) Regulations 2016 to implement the government response to the Decarbonisation Readiness government consultation. Amendments will ensure that new build and substantially refurbished combustion power plants in England are constructed with a viable route to decarbonise, either through retrofitting carbon capture technology or converting to hydrogen firing. The requirements will come into force from 28 February 2026.

Finally, CP30 included a commitment to continue reforms of the Capacity Market (**CM**). Policy proposals to be implemented include permitted augmentation of storage, introducing a new 9-year capex threshold for low carbon projects and making 3-year CM agreements available to low carbon technologies requiring no capital expenditure. We also expect the outcome of a consultation and call for evidence to better enable consumer-led flexibility in the CM.

3. Nuclear: Fuelling innovation and investment

Having launched in 2023, the role of the state-owned enterprise Great British Nuclear (**GBN**) is becoming increasingly well-defined. Thus far, GBN's contributions have centred on the UK government's small modular reactor (**SMR**) technology selection process, which has now progressed significantly. In November 2024, negotiations commenced between GBN and four shortlisted SMR bidders (GE Hitachi, Holtec, Rolls Royce SMR and Westinghouse), with a final decision expected in spring 2025. Beyond SMRs, GBN is also expected to play a pivotal role in large-scale gigawatt, advanced modular reactor, and microreactor technology projects, streamlining public and private funding for nuclear development, and addressing critical enablers such as supply chain integration and planning challenges. Existing regulatory frameworks and standards are evolving in response to advancements in reactor technologies. For instance, as some companies like Rolls-Royce develop microreactor technologies—designed for specialised applications such as container ships, data centres, and spacecraft—regulators are exploring bespoke regulatory frameworks, capable of accommodating flexible deployment in non-traditional settings, while maintaining rigorous safety standards for decentralised operations.

Large-scale nuclear projects also remain a priority for the UK government. The August 2024 announcement of a £5.5 billion development expenditure subsidy scheme for the proposed Sizewell C power station underscored the new Labour government's commitment to nuclear energy. This support paves the way for FID, expected in 2025. However, recent developments, such as the rumoured increase in projected costs to £40 billion for Sizewell C and a recommendation from the French national auditor urging EDF to limit its exposure on Hinkley Point C and prioritise domestic projects before committing to Sizewell C, indicate that the path to FID may continue to experience significant challenges. Alongside new projects like Sizewell C, Hinkley Point C, and a potential third power station at Wylfa, initiatives to extend the operating lives of existing nuclear infrastructure are gaining further momentum. EDF and Centrica have announced extensions to the operational lifespans of four advanced gas-cooled reactors, with revised shutdown dates set for 2027 and 2030, and EDF is considering plans to extend Sizewell B's operational life by 20 years.

The UK government has also reaffirmed its commitment to fusion energy. Most recently, it pledged £410 million to accelerate the development of nuclear fusion technologies. Domestically, plans to deliver the UK's first prototype commercial fusion power plant, the Spherical Tokamak for Energy Production (**STEP**) in Nottinghamshire — designed to demonstrate the feasibility of delivering net energy from fusion at a commercially viable scale — continue to advance, marked by the launch of a private sector-partner selection process in November 2024. The production of fusion-grade steel in the UK for the first time signals reduced production costs and increased efficiencies, paving the way for the commercial viability of fusion technologies. Internationally, the UK government is collaborating with the US government and Tokamak Energy to invest in lithium-based fusion research, reinforcing its leadership in cutting-edge nuclear innovation.

Another emerging area of focus is the convergence of nuclear energy and artificial intelligence. In January 2025, the UK government announced the establishment of an AI Energy Council to explore opportunities to accelerate investment in renewable and innovative energy solutions, including SMRs. Concurrently, the government announced the UK's first "AI Growth Zone" in Culham, the headquarters of the UK Atomic Energy Authority (**UKAEA**). In spring 2025, it plans to launch the selection process for a private sector partner to develop one of the UK's largest AI data centres at this site to deliver secure, dedicated public sector computing capacity to support critical infrastructure, and other national priorities. This data centre would begin with 100MW of capacity, scaling up to 500MW. The initiative not only underscores the UK's ambition to harness AI in advancing its nuclear energy objectives, but also highlights the potential role of nuclear power in meeting the significant energy demands of AI data centres, creating a mutually reinforcing relationship between these innovative technologies.

4. Energy Networks: Shake up of electricity networks gets underway

2025 will be an important year for power networks in GB. CP30 forecasts electricity demand will double by 2050 because of electrification, requiring significant investment in network infrastructure. The newly formed National Energy System Operator (**NESO**), an independent, public corporation responsible for planning GB's electricity and gas networks and operating the electricity system, estimates implementation of CP30 will require around £10 billion of investment in electricity transmission network assets per year between 2025 and 2030.

To deliver this, we expect a raft of wider system planning reforms and initiatives as NESO steps into its role. In 2024, the UK, Scottish and Welsh governments jointly commissioned NESO to prepare a Strategic Spatial Energy Plan (**SSEP**), which will include proposals for the development of electricity generation and storage (including hydrogen). NESO is expected to publish the SSEP in 2026. Alongside this, NESO is also developing a Centralised Strategic Network Plan (**CSNP**) for transmission network infrastructure as well as Regional Energy Strategic Plans (**RESP**), working with regional stakeholders to develop recommendations for the energy mix locally. We expect significant engagement on the SSEP, the CSNP and the RESP during 2025, including the outcomes of consultations currently ongoing on methodology and governance issues by NESO and Ofgem. In the nearer term, NESO is also expected to deliver a transitional CSNP as an update to its recommendations on network reinforcement published last year.

With the electricity grid connection queue in GB standing at 734GW in December 2024 (exceeding even needs for 2050), a different approach queue to management will be rolled out in 2025. Building on the Connections Action Plan, Ofgem outlined the steps to move to a "First Ready and needed, First connected approach" in an open letter in September 2024, explaining that implementation of the new connections process will require amendments to electricity licences and code modifications. We have now seen a number of these launched including the Connections end-to end review consultation and a consultation on licence changes for NESO and electricity transmission licensees (distribution licence holders were consulted about the policy intent only, rather than specific changes). NESO is taking forward code modifications to implement the new connections process, known as Target Model Option 4 (**TMO4+**), which includes the Gate 2 readiness criteria which projects will need to achieve in future to be allocated their connection dates, connection points and queue position to connect to or use the electricity transition system. As part of the transition to the new connection process, Ofgem approved NESO pausing transmission connection applications from 29 January 2025 (with exceptions for transmission connected demand and to support wider GB energy needs). It is anticipated that the new process will be launched by 31 May 2025 at the latest.

Whilst there is recognition of the need for reform, managing an orderly and equitable transition to the

new regime will be a delicate exercise and will inevitably impact valuations of project development portfolios.

Gas networks are also in transition, with NESO again taking on a strategic planning role. NESO published its Gas Network Capability Needs Report in December 2024. This will feed into the RIIO-3 national gas transmission price controls (see below) and is seen as a stepping-stone to the CSNP. NESO will also prepare a Gas Options Advice Document by the end of 2025 setting out proposals for network development and reinforcement in response to National Gas Transmission's Strategic Planning Options Proposal (also expected this year). Alongside this, the government is continuing to develop the regulatory framework for low carbon hydrogen, including consulting on transportation and storage business models and a new Gas Shipper Obligation to fund new hydrogen infrastructure (please also see the hydrogen section below).

In this context, 2025 will see the outcome of RIIO-3 price controls covering the period 2026-2031 for Electricity Transmission, Gas Transmission and Gas Distribution, with draft determinations (in the summer) and final determinations (in the winter) by Ofgem, following submission of business plans in December 2024, laying the foundations for much needed network investment to take place.

Energy networks companies may also be impacted by changes to their licences during 2025 when the outcomes of several engagement exercises are published. These include the response to the Ring fence review: energy networks call for input, which sought views on proposals to modify ring fence licence conditions within the energy network infrastructure which operate to isolate an energy network company from activities of the wider group it is a part of. Other consultations focused on the legislative framework for future onshore transmission tender exercises that will apply to the award of a Competitively Appointed Transmission Owner (**CATO**) licence to design, build, operate and maintain onshore assets.

To support grid infrastructure development, the government will introduce a Planning and Infrastructure Bill in 2025 with measures to streamline the delivery of critical infrastructure in the planning process. These will include changes to environmental impact and outcome reporting. This will be supported by the new National Infrastructure and Service Transformation Authority.

5. Energy Markets: Key decisions may reshape the power market

Following industry frustration over the time taken by the Review of Electricity Market Arrangements (**REMA**) programme, 2025 looks set to crystallise decisions. The REMA Autumn update published in December 2024 committed to conclude policy development "around mid-2025", aligning with CfD AR7 timetables. Importantly, REMA's scope includes a decision on wholesale power price reform in GB. The government has now ruled out centralised dispatch but is still assessing policy options involving measures which could be implemented under a reformed national pricing model as well as a zonal pricing model (dividing GB into multiple zones with different wholesale electricity prices). To maintain confidence, REMA is also considering legacy and transition arrangements in the context of wholesale market designs. In particular, the government has committed to treat agreements under the next CfD AR7 in the same way as existing CfD agreements in relation to any legacy or transitional arrangements so that offshore wind delivery would be insulated from zonal price risk, should zonal pricing be adopted in future. REMA is also considering reforms of the CfD for renewables and the CM. In relation to the CfD, a range of options remain open including maintaining the existing design, a move to a capacity-based CfD or to a deemed CfD, but the government has indicated that no substantial changes will be made until AR9 at the earliest.

2025 will also see a review by DESNZ of the role of Ofgem, the energy regulator in GB. A call for evidence has been launched as a "first step to repair Great Britain's retail energy market" closing at the end of February, with the review set to conclude in the spring. This is seeking input on Ofgem's mandate, duties, powers, remit, the standards it sets and avenues for redress, as well as its role in supporting growth and the Industrial Strategy. Ofgem's current remit includes regulating gas and electricity markets, heat networks, the regulated asset base model for nuclear power and carbon dioxide transport and storage networks and overseeing NESO. As a result, the outcome of the review may have wide-ranging consequences across the GB energy regulatory landscape.

6. Carbon Capture, Usage and Storage (CCUS): Construction to start on the first UK projects

2024 was an important year for the UK's CCUS industry. After previous false starts, we saw the UK government confirm £21.7 billion of funding for the launch of the UK's first carbon capture projects; two clusters in

Teesside and Merseyside (known as Track-1 clusters) will help to remove over 8.5 million tonnes of carbon emissions each year. A further milestone was achieved in December 2024 when two projects reached FID in Teesside: the East Coast CO2 transport and storage (**T&S**) network under development by the Northern Endurance Partnership (**NEP**) and a CCS-enabled gas fired power plant, Net Zero Teesside Power, under development by Equinor and bp. To enable the East Coast cluster, the North Sea Transition Authority (**NSTA**) issued the CO2 Storage permit, the first ever in the UK, and Ofgem issued the first economic licence, establishing the regulated asset base model and government support package for the cluster under the Energy Act 2023. Construction is due to begin in mid-2025. We anticipate that the second cluster, HyNet, will reach FID within H1 2025.

Progress on the next two CCS clusters (known as Track-2 clusters), the Acorn and Viking T&S networks, however, was delayed with a further update expected now in the spring at the earliest. Similarly, the process to allocate further capacity to the Track 1 clusters (known as Track-1 expansion) was also delayed. With CCUS expected to feature prominently within the UK's Industrial Strategy (currently under consultation), industry will be hoping for renewed commitments from government in relation to these programmes.

From an emitter perspective, whilst the support schemes for industrial carbon capture, Energy from Waste with carbon capture, power CCS and low carbon hydrogen production were largely finalised in 2024, we expect work to continue throughout 2025 to further develop these, and in particular in relation to the ICC and Waste contracts for Track-1 expansion and Track-2, where proposals include moving to a carbon market reference price. Work will also accelerate on other CCS user business models including those to support greenhouse gas removals (**GGRs**) and power bioenergy with carbon capture and storage (**Power BECCS**). To facilitate this, we also expect enabling actions on the wider regulatory framework for carbon removals and negative emissions (see the Carbon Markets section below). As support schemes proliferate, the government will also take steps to minimise the potential for double subsidy of projects via other low carbon fuel revenue support schemes, such as the Renewable Transport Fuel Obligation and the Sustainable Aviation Fuel mandate (see further below).

2024 also saw significant developments in the wider regulatory framework for CCUS. Notably Ofgem took on responsibility for regulating the CO2 T&S networks and, as part of this regulatory role, published key documents including its decision on the proposed enforcement approach to CO2 T&S licences and guidance on ultimate controller undertakings, license re-openers, cost assessment, economic regulation and price control financial models. The government also published the CCS Network Code and released a policy paper introducing a new measure to remove tax barriers facing oil and gas companies which prevented the transfer and repurposing of suitable assets from use in oil and gas to use in CCUS functions, allowing oil and gas companies to repurpose assets without being financially disadvantaged, as an alternative to decommissioning the assets. We expect work to continue throughout 2025 to develop the supporting regulatory framework further, including a review of regulation relating to third party access to CO2 T&S infrastructure and consultation relating to enabling non-pipeline transportation (**NPT**) of CO2 following publication of a summary of responses to a call for evidence on NPT and cross-border CO2 networks.

7. Low carbon hydrogen: FIDs expected but further commitment needed

2024 failed to deliver the levels of activity in the hydrogen sector hoped for. At the end of 2024, DESNZ published its Hydrogen Strategy Update to the Market (the **December Update**), emphasising that hydrogen has a critical role in helping to achieve its 'Clean Energy Superpower Mission' and asserting that the UK is now "firmly in delivery mode". Hydrogen was also one of the five sectors which will benefit from the additional £5.8 billion allocated to the NWF to be deployed to finance projects with a view to transitioning to private finance.

In relation to electrolytic hydrogen production, following the announcement of 11 projects to be offered contracts under the first electrolytic hydrogen allocation round (**HAR1**), totalling 125MW capacity, the Low Carbon Contracts Company (**LCCC**) signed the first three Low Carbon Hydrogen Agreements (**LCHA**) in December (the list of successful projects having been announced 12 months previously) with the first project expected to become operational later this year. It is expected that LCHAs will be issued to the remaining HAR1 projects in early 2025. Whilst the second hydrogen allocation round (**HAR2**) was launched in December 2023, DESNZ is yet to publish a shortlist of HAR2 projects (disappointingly no date is set in the December Update). A market engagement exercise for the proposed design and delivery of HAR 3 is also expected in 2025. DESNZ also intends to review the design of the allocation rounds beyond round 4, which could include moving to an independent allocation

body and a price-based competitive allocation (for example, auction) model.

In relation to CCS-enabled hydrogen production, we also expect further progress on the Track-1 hydrogen production projects, such as EETH's Hydrogen Production Plant 1 which is likely to align its FID to that of the HyNet Cluster. For further information in relation to CCUS, please see the section (above).

All LCHA supported projects are currently required to meet version 3 of the Low Carbon Hydrogen Standard (**LCHS**), which defines the emissions intensity threshold for hydrogen supported under the LCHA. DESNZ however plans to develop version 4 of the LCHS during 2025 and it will continue to refine the requirements in preparation for the launch of a Low Carbon Hydrogen Certification Scheme, aimed at facilitating the trade of hydrogen, both within the UK and internationally.

In relation to hydrogen transportation and storage, following publication in 2023 of the minded-to position on the high-level designs of the hydrogen transport business model (the **HTBM**), the hydrogen storage business model (the **HSBM**) and of the Hydrogen Transport and Storage Networks Pathway, there was little progress in 2024. However, in the December Update DESNZ committed to publishing details of the first rounds (as well as the next phase of strategic planning) in 2025, and to open the rounds as soon as possible with the ambition of bringing up to two hydrogen storage projects and associated regional pipeline infrastructure into construction or operation by 2030, supported under the HTBM and HSBM. To ensure a strategic approach to network development, aligned with power and gas system requirements, from 2026 the government intends NESO to be responsible for strategic planning of hydrogen transport and storage infrastructure, with its scope of activities to be taken forward in early 2025 (including through consultation and industry engagement).

Importantly, a consultation regarding the Gas Shipper Obligation, the funding mechanism for the LCHA, HTBM and HSBM, was launched in early January 2025, with an expected implementation date in 2027. The consultation explores options for the design of a levy on gas shippers (and ultimately gas consumers) to recover the funding costs of these business models. As such, this is a crucial development for the sector and key for its long-term investability. Taking forward the positive Strategic Policy Decision on hydrogen blending into the gas distribution networks, the government intends to consult on transmission-level blending this year and to make a strategic policy decision on whether to support this. It also intends to publish a consultation on hydrogen for heating.

In relation to international hydrogen markets, the government has restated its interest in the facilitation of the trade of hydrogen, including seeking to reconcile UK standards and certification for low carbon hydrogen with international requirements, understanding options for international transportation, networks, and storage. DESNZ commissioned a study, published in May, on exporting hydrogen to continental Europe. It has also commenced a joint study with Germany to consider the feasibility of a hydrogen pipeline between the UK and Germany in the future, which is planned to be published in early 2025.

8. Alternative Fuels: Measures seek to grow the domestic market

With low carbon fuels set to play an increasingly important role in decarbonising UK transport, 2025 has already seen a milestone achieved as the Sustainable Aviation Fuel (SAF) Mandate officially came into force on 1 January. Operating as a tradeable certificate scheme, the SAF Mandate is designed to secure demand for SAFs by compelling eligible aviation fuel suppliers to ensure that SAFs make up an increasing proportion of overall aviation fuel supply: the target is set at 2% for 2025 but is due to increase to 10% in 2030 and 22% in 2040.

Eligible fuels include waste-derived biofuels and recycled carbon fuels, all of which must meet strict sustainability criteria (including achieving at least 50% greenhouse gas reductions relative to fossil jet fuel). The SAF Mandate will also incentivise the development of "power-to-liquid" aviation fuel (created using green hydrogen and captured carbon dioxide) by introducing a dedicated requirement that 0.2% of aviation fuel supplied must be power-to-liquid from 2028, rising to 3.5% in 2040. Please see above for further information on low carbon hydrogen. Together, these measures could deliver up to 6.3 Mt of carbon savings per year by 2040. To support the mandate and attract investment in new SAF plants in the UK, the government intends to introduce a Sustainable Aviation Fuel (Revenue Support Mechanism) Bill. SAF producers, consumers and potential investors will be expecting further details of how this measure could work in a consultation to be launched by the government in early 2025. The government is aware of the interaction between a potential revenue support mechanism for SAFs and other forms of support (including for low carbon hydrogen and CCUS) and its emerging policy aims to align such support to avoid providing double subsidies.

Across low carbon fuels more broadly, the government is consulting on how to improve the Renewable Transport Fuel Obligation (**RTFO**) which requires suppliers of liquid fossil fuels to supply a certain percentage of renewable fuel to the market. In particular, the consultation seeks views on the level at which RTFO targets are set, how low carbon fuels are rewarded under the obligation, and the treatment of fuels derived from wastes and crops. The consultation closes on 27 January 2025 and a summary of responses will be published alongside a statutory review of the RTFO later in 2025.

9. The North Sea Transition: Balancing energy, jobs, and net zero objectives

The new Labour government has committed to ensuring a "phased and responsible transition" in the North Sea, the stated aim of which is to balance job protection while recognising oil and gas's ongoing role in the UK's energy mix. However, it has yet to conclude the consultation on its manifesto pledge to halt the issuance of new oil and gas licences for exploring new fields. Meanwhile, the North Sea Transition Authority (**NSTA**) has paused issuing invitations to apply for new licences, pending this consultation process, which we expect by spring 2025. In addition, the government initiated a review of Scope 3 emissions from offshore oil and gas projects following the Supreme Court's landmark Finch ruling in June 2024. This ruling confirmed that developers of fossil fuel projects must disclose potential Scope 3 emissions as part of a complete environmental impact assessment.

With the Energy Profits Levy (**EPL**) scheduled to conclude on 31 March 2030, we expect the government will launch a consultation early this year to explore how oil and gas taxation should respond to future price volatility. Acknowledging the industry's need for long-term fiscal certainty, the government has signalled its intention to provide a stable framework. Offshore Energies UK (**OEUK**), which has previously criticised the EPL for undermining the sector's ability to support economic growth, has welcomed the upcoming consultation.

In 2025, the North Sea sector is likely to advance its adoption of technological innovations to meet ambitious emissions reductions targets in line with the UK's net zero commitment by 2050. Solutions enhancing energy efficiency, reducing flaring and venting, and optimising fuel usage are expected to remain at the forefront of industry efforts.

Finally, we highlight the significant opportunities for the integrated energy sector in the North Sea, particularly in offshore wind, carbon capture, and hydrogen. The government endorsed the Energy Skills Passport in October 2024, a joint initiative by OEUK and Renewables UK. This tool aims to facilitate workforce mobility between oil and gas and renewables, fostering cross-sector recognition of skills and training.

10. Carbon Markets: Momentum builds towards integrity and expansion

2024 ended on an optimistic note for carbon markets, with COP29 delivering long-awaited breakthroughs in negotiations to operationalise Article 6 of the Paris Agreement. Negotiators reached consensus on the core elements needed to operationalise: (i) Article 6.2 (which sets out the framework for country-to-country trading), including how countries will authorise the trade of carbon credits and how registries will track trades; and (ii) Article 6.4 (which sets out the framework for a centralised carbon market administered by the UN), including the standards for the creation of such carbon credits and a mechanism to update such standards. As a result, we anticipate an increase in Article 6.2 deals during 2025, alongside publication of the first methodologies under Article 6.4 as early as mid-2025. This could pave the way for the first registrations of Article 6.4 projects before the year's end.

From a UK perspective, another significant milestone was the publication of the government's 'Principles for voluntary carbon and nature market integrity' in November 2024 (**Principles**). Coupled with the success of COP29, and the growing number of methodology approvals by the Integrity Council for the Voluntary Carbon Market (**ICVCM**), this represents a significant step forward for voluntary carbon markets (**VCMs**), particularly in addressing enduring concerns around greenwashing and market integrity. Market participants hope these developments will play pivotal roles in restoring confidence in VCMs. We expect further guidance and consultations on VCMs during 2025, including on implementing the Principles and updated Science Based Targets initiative guidelines on integrating carbon credits into corporate net zero targets.

Meanwhile, the UK government continues its efforts to expand the scope of the UK Emissions Trading Scheme (**UK ETS**) to additional sectors—such as the maritime sector and the non-pipeline transport of carbon dioxide—and to integrate GGRs into the UK ETS. We anticipate further changes to free allocation rules, aimed at ensuring that participants ceasing operations do not receive excess allocations in their final year. However, exemptions are planned for operators

discontinuing activity as part of decarbonisation efforts, aligning with the UK ETS objective of incentivising decarbonisation. The UK government will also finalise its approach to implementing the Carbon Offsetting and Reduction Scheme for International Aviation (**CORSIA**), and its interaction with the UK ETS later in 2025.

Finally, the UK Carbon Border Adjustment Mechanism (**UK CBAM**) made significant strides in 2024. The government clarified key aspects of the UK CBAM during 2024, including its sectoral scope (covering aluminium, steel, cement, fertilisers, hydrogen, iron, and steel) and excluding glass and ceramics from its initial phase. Scheduled to launch on 1 January 2027, the UK CBAM aims to address carbon leakage by imposing an equivalent carbon price on imports based on their embedded emissions.

11. Transport Infrastructure: Changes driven by decarbonisation and renationalisation

Highlighting that rail is central to its "plans for rebuilding Britain and growing our economy", the government has pledged to strengthen national and regional rail connections, and support capital rail projects such as the Transpennine Route Upgrade and East West Rail. With the passage in November 2024 of the Passenger Railway Services (Public Ownership) Act 2024, it now has the necessary legislative framework to bring privately operated passenger rail services into public ownership as current contracts expire. These services will be consolidated under the public entity to be known as Great British Railways (**GBR**), which will also absorb the functions of Network Rail to manage British rail infrastructure. In May 2025, South Western Railway will become the first franchise to be nationalised under this process, followed by C2C and Greater Anglia. Whilst it is intended that the new public ownership model will bring efficiencies and long-term stability, GBR is not expected to become operational until 2026. In the interim, with such a significant sectoral shift, industry stakeholders will be hoping to see more detailed plans regarding investment and major projects by the summer. To help attract private investment into the sector, the Rail Industry Association, has said that "it is vital the government sets out a positive stall for the next 12 months".

In the electric vehicle (**EV**) sector, the Department for Transport is consulting on how best to restore the 2030 phase-out date for sales of new petrol and diesel cars (extended to 2035 by the previous Conservative government). The consultation also includes proposals to update the Zero Emission Vehicle mandate to allow carmakers additional flexibilities in meeting annual EV sales targets to 2030 – for example, by allowing them to sell fewer electric cars than mandated if they find other ways to counteract combustion vehicle emissions.

Decarbonisation of the aviation and maritime sectors also remains a key priority for the government. We discuss sustainable aviation fuels in the alternative fuels section (above). In relation to maritime fuels the government is proposing to develop green shipping corridors between the UK and the EU. In addition, it has launched a £30m Clean Maritime Demonstration Competition for low-carbon technologies such as electric, hydrogen, ammonia, methanol and wind power. However, the sector will be hoping that 2025 could finally deliver the long-awaited update to the Clean Maritime Plan, which failed to materialise before the general election and is now six years old. Industry stakeholders have said a clear emission reduction roadmap and indicative targets are an essential prerequisite for long-term investment decisions.

Ports have a clear role to play in servicing the offshore wind industry, facilitating the trade in sustainable fuels, and supporting hydrogen production and carbon transport and storage. Over the next 12 months and beyond, we are likely to see continuing investment and development opportunities as operators and owners look to adapt existing infrastructure and build new capacity.

Finally, after a flurry of UK airport transactions in 2024 (including the completion of GIP's sale of a majority stake in Edinburgh Airport to VINCI for a reported £1.27bn), further deals may arise as air passenger numbers return to pre-Covid levels and infrastructure funds and other strategic investors review their positions.

12. Digital Infrastructure: Building the framework for a secure and sustainable future

The UK's digital infrastructure sector enters 2025 against the backdrop of a rapidly-evolving market and regulatory environment. With increasing recognition of the sector as a cornerstone of economic growth, national security, and global competitiveness, policymakers are seeking to position the UK as a global technology leader, principally by safeguarding infrastructure and promoting long-term investment and innovation. Meanwhile, the exponential expansion of digital infrastructure assets (such as data centres), coupled with rising resource demands, may further reshape the legal landscape for market players.

More specifically, following a lengthy consultation

period, the UK government designated data centres as "Critical National Infrastructure" (**CNI**) in late 2024. This elevated the strategic significance of those assets, aligning their status and protections with other vital infrastructure (such as energy assets and healthcare systems). The government intends that this designation will increase the security and resilience of data centres, thereby derisking these assets and, in turn, encouraging investment.

Similarly, this year's introduction of a Cyber Security and Resilience Bill is likely to expand the scope of covered entities under the UK cybersecurity framework to protect a wider range of digital services and supply chains, enhance incident reporting requirements for those entities, in addition to empowering regulators with additional resources and investigative powers.

Alongside this, existing regimes—such as the Telecommunications (Security) Act 2021—will continue to evolve and reshape network operators' obligations to identify and mitigate security risks. We expect that Ofcom may issue further compliance guidance and intensify enforcement under this regime, including on supply chain security, network resilience, and cyber threat protection. Separately, on the theme of spectrum liberalisation, we also expect Ofcom to hold spectrum allocation auctions and consult on expanding spectrum access for satellite gateways, both of which could significantly improve direct-to-device connectivity and access to broadband in rural areas.

Elsewhere in the sector, the Data (Use and Access) Bill—which we anticipate may receive Royal Assent by mid-2025—promises to recalibrate the UK's data governance framework. The Bill introduces smart data schemes that enable secure and consumer-controlled data sharing across sectors such as energy, telecommunications, and transport, with the aim of fostering a more efficient and interconnected data ecosystem. Furthermore, the Bill introduces targeted requirements for the digital infrastructure sector, including mandatory participation in the National Underground Asset Register, emerging interoperability standards aimed at supporting seamless data sharing, as well as new digital identity verification standards.

Furthermore, as the digital infrastructure sector faces increasing scrutiny over its increasing resource consumption (including energy and water), sustainability considerations are likely to accelerate innovation in asset design and drive continued partnerships between market players and sustainable technology providers. As part of the UK's AI Opportunities Action Plan, the government will invest in AI infrastructure through initiatives like AI Growth Zones (see Section 3 above), which will require robust digital infrastructure to support innovation while addressing energy demands and sustainability challenges.

Collectively, these conjoined, yet evolving, factors may define the UK digital infrastructure sector's next chapter of secure and sustainable innovation. For additional information, please refer to our separate 'Digital Infrastructure: Looking Back, Looking Ahead' publication (available here).

13. Water: A deluge of developments for the sector

Amidst intense scrutiny of its financial stability, 2025 is shaping up to be transformative for the UK water sector as it navigates both a rapidly evolving regulatory landscape and the need for "unprecedented levels of investment".

Water companies will be looking to launch long-awaited infrastructure projects and upgrades now that Ofwat has delivered its final Price Review 2024 (**PR24**) determinations, providing the sector with a £104bn funding package for the five years to 2030. However, this is 7% less than operators had requested. Companies wishing to challenge their PR24 determinations must do so by 18 February and can expect the appeal process to take approximately 12 months (see our update here).

Accountability for environmental and financial performance is expected to remain a key concern in 2025, reflected in developing legislation and case law, updates to compensation rules, and the likely hardening of Ofwat and Environment Agency approaches to enforcement and penalties for infringements. The impact of recent court decisions may be tested, for example in relation to private nuisance claims and the application of the "polluter pays" principle (see Manchester Ship Canal Company v United Utilities Water [2024] UKSC 22). Stakeholders will also be monitoring the progress of the Water (Special Measures) Bill, which amends the special administration regime for water companies and introduces new governance and remuneration measures. These include bans on bonuses for water executives linked to pollution incidents, and new powers to prosecute responsible executives and directors. Royal Assent is anticipated in the first half of 2025 with further detailed consultations likely to follow.

More profound fundamental sector reforms are possible once the Independent Water Commission has completed its review of how the industry is regulated

and made its recommendations to government, expected in Q2 2025. Tasked with seeking solutions to "inherited systemic failures" that will also attract investment and strengthen the financial resilience of water companies, this landmark review is potentially the most significant since privatisation in 1989, although the government has ruled out nationalisation of water companies as too slow and costly. Describing it as a "root and branch review," the Secretary of State for Environment Steve Reed has noted that "it will be for the Commission to look at how we get to an effective and appropriate model of regulation, including the roles of regulators." Some commentators have suggested this could include replacing or restructuring Ofwat.

With a delicate balance to be struck between regulatory rigour and ensuring the water industry remains attractive to private capital, it remains to be seen whether the PR24 settlement and broader efforts to "reset" the sector will reassure investors and provide operators with the necessary clarity to embark on infrastructure projects.

With thanks to Charlie Smith, Holly Sleep and Kieran Selby for their contributions.

CONTACTS

Hywel Davies
PARTNER
T : 0207 090 3102
E : hywel.davies@slaughterandmay.com

Michael Corbett
PARTNER
T : 0207 090 3431
E : michael.corbett@slaughterandmay.com

Azadeh Nassiri
PARTNER
T : 0207 090 5294
E : azadeh.nassiri@slaughterandmay.com

Oly Moir
PARTNER
T : 0207 090 3307
E : oliver.moir@slaughterandmay.com

Samay Shah
PARTNER
T: 0207 090 5104
E: samay.shah@slaughterandmay.com

Susan Hughes
PARTNER
T: 0207 090 5155
E: susan.hughes@slaughterandmay.com

Simon Hall
PARTNER
T : 0207 090 3147
E : simon.hall@slaughterandmay.com

Alex Dustan
PARTNER
T : 0207 090 3573
E : alexander.dustan@slaughterandmay.com

James Cook
PARTNER
T : 0207 090 4216
E : james.cook@slaughterandmay.com

Isabel Taylor
PARTNER
T : 0207 090 4316
E : isabel.taylor@slaughterandmay.com

Philippa Howell
ASSOCIATE
T: 0207 090 3921
E: philippa.howell@slaughterandmay.com

Ivo Trice
ASSOCIATE
T: 0207 090 3808
E: ivo.trice@slaughterandmay.com

Sophia Tarsounas
ASSOCIATE
T: 0207 090 4199
E: sophia.tarsounas@slaughterandmay.com

Edward Rochford
ASSOCIATE
T: 0207 090 5062
E: edward.rochford@slaughterandmay.com

Zhen Lim
ASSOCIATE
T: 0207 090 3960
E: zhen.lim@slaughterandmay.com

Aaron Wu
SENIOR PSL
T: 0207 090 3328
E: aaron.wu@slaughterandmay.com

Kathryn Emmett
PSL COUNSEL & HEAD OF IEN KNOWLEDGE
T: 0207 090 4640
E: kathryn.emmett@slaughterandmay.com

Lisa Sabbage
KNOWLEDGE & INFORMATION OFFICER
T: 0207 090 4259
E: lisa.sabbage@slaughterandmay.com