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UK ENERGY AND INFRASTRUCTURE MARKET: REVIEWING 2022 AND WHAT'S TO COME IN 2023

Rarely in recent history have the competing priorities of the "Energy Trilemma"- energy security, affordability, and decarbonisation - converged as dramatically as they have over the course of 2022. The war in Ukraine sent shockwaves around a world still recovering from a global pandemic. 2022 served as a stark reminder that energy remains the backbone of society, crucial to international relations and the economy. It precipitated soaring inflation, rising interest rates, declining asset prices, and heightened market volatility, culminating in a global cost-of-living crisis.

These events prompted extraordinary interventions in the UK and EU energy and infrastructure markets. In this article, we consider the impact of some of the year's key market developments and what could lie in store for these sectors in 2023, with a focus on the UK market.

1. Energy Crisis

The global energy crisis resulted in significant increases in gas prices and led to unprecedented interventions in energy markets globally in 2022. The further development of such measures is expected in 2023.

In the UK, on the supply-side, the British Energy Security Strategy (BESS), published in April 2022, included plans for investment to secure the UK's energy independence in sectors such as nuclear power, renewables, low carbon hydrogen and new North Sea oil and gas (please see our article here and a comparison with the EU's REPowerEU plan here). Measures were also introduced by the Energy (Oil & Gas) Profits Levy and the Electricity Generator Levy to recoup the significant profits made by some market players (see our blog posts in July, November and December for details). As the impact of these measures begins to bite in 2023, we may see some companies re-evaluate their UK investment plans, although this could be offset by the weaker pound.

In parallel, the need to protect consumers from rising energy bills culminated in the introduction of the Energy Price Guarantee (EPG) and Energy Bill Relief Scheme (EBRS) on 1 October, with contractual arrangements agreed with suppliers formalised by the Energy Prices Act later that month (see our briefing here for details). The financial support under the EBRS will now end on 31 March having been described by the Chancellor as "unsustainably expensive". Instead, businesses will be supported until March 2024 under the less generous Energy Bills Discount Scheme, although enhanced support will be available to energy intensive industries. 2023 will also see the conclusion of consultations on changes to the Default Tariff Cap and on strengthening financial resilience of the retail energy market. Information may also begin to emerge on demand-side measures to reduce UK energy consumption by 15% by 2030 once the Energy Efficiency Taskforce, announced in the 2022 Autumn Statement, begins its work (although no date has been set yet).

The energy crisis unfolding in the UK is of course inexorably linked to developments in the wider, international energy markets. In addition to the imposition of sanctions against Russia, the end of 2022 saw the introduction by the G7, EU and Australia of a price cap of $60 per barrel on Russian oil exports, and EU agreement to cap gas prices to come into effect from 15 February 2023 for one year. These measures, aimed at restricting Russian international trade of oil and gas revenues from funding its war in Ukraine, would have been unthinkable at the beginning of 2022 and demonstrate the extent to which energy markets have changed during just one year.

2. Electricity Market and Networks

The energy crisis highlighted the imperative to reduce the UK's reliance on fossil fuels. In this context, the Government launched its Review of Electricity Market Arrangements (REMA) in July 2022, with the aim of ensuring the electricity market in Great Britain is fit for purpose to achieve its goal of full decarbonisation of the sector by 2035. This started a multi-year process of review and potential reforms which could impact almost every electricity market segment (see our briefing here for details). A consultation response is anticipated this winter and is likely to narrow down options, ahead of further stakeholder engagement during 2023.

The anticipated rise in electricity demand and forecast system costs of integrating variable generation has also driven work to improve coordination of investment in power grids. 2022 saw the publication of the first Holistic Network Design plan and an updated Networks Options Assessment, proposing an integrated plan to accommodate the UK's offshore wind ambitions to 2030 (see further below). In 2023, we expect further efforts to deliver offshore network development plans and engagement on the requisite regulatory changes such as deployment planning for future offshore wind leasing rounds. The Government and Ofgem have confirmed that coordinated planning will evolve over 2023 and 2024 into a Centralised Strategic Network Planning initiative, targeting greater coordination in all grid development required to deliver the BESS. Together with the work to establish an independent Future System Operator, proposals to align the Capacity Market in Great Britain with net zero and the design of a support scheme for large, long-duration electricity storage, we anticipate an acceleration of the reforms required to deliver a clean, flexible power network in 2023.

3. Renewables

The BESS amplified the Government's ambitions for offshore wind, with the aim now to produce 50 GW by 2030, including 5 GW of floating offshore wind. This will largely be delivered by annual Contract for Difference (CfD) auctions. The fourth auction round concluded in July 2022 with record low prices of £37.35/MWh (in 2012 prices) awarded for fixed-bottom offshore wind. The Government's support for this technology was also demonstrated at COP27, where the UK signed up to the Global Offshore Wind Alliance. Following publication of draft documents in December 2022, the fifth CfD allocation round is expected to open in March 2023. Fixed-bottom offshore wind projects will now participate in the Pot 1 auction for established technologies alongside onshore wind and solar (amongst others). The Government is also considering the future of the CfD scheme as part of a consultation which closes in February (see here) and we expect a clearer picture to emerge in 2023 of how the CfD scheme will integrate with emerging proposals under the REMA initiative (see above).

Despite the growth in offshore wind projects, the status of onshore wind remains less certain in England. The issue split the Conservative party in 2022, with some MPs tabling amendments to the Levelling Up and Regeneration Bill to relax restrictive planning rules for new onshore wind projects. Dissent amongst MPs led to the postponement of the parliamentary vote on the Bill, originally scheduled for November 2022. A consultation is now open and expected to conclude by the end of April. This may afford the Prime Minister breathing space to land on a politically acceptable solution for onshore wind.

4. Hydrogen and Carbon Capture, Usage and Storage (CCUS)

Work to develop the regulatory framework and business models for CCUS and low carbon hydrogen production projects in the UK intensified in 2022 (for relevant publications, see our dedicated webpage here). Amidst the political turmoil this summer, the Energy Bill, which makes provision for the regulatory framework underpinning the UK's ambitions for CCUS and hydrogen, was introduced to Parliament, paused, and then revived following an announcement in late November by the new Business and Energy Secretary, Grant Shapps, and is now expected to complete its passage through Parliament in the first half of 2023.

The Department for Business, Energy and Industrial Strategy (BEIS) engaged extensively with industry on draft contract terms for carbon capture enabled power plants and for industrial carbon capture projects, as well as on the heads of terms for support for hydrogen production projects and on a draft Carbon Capture and Storage (CCS) network code. In parallel, allocation of first contracts began in earnest: CCS network user projects were shortlisted (see here) and the allocation round for electrolytic hydrogen production projects was opened.

The focus in 2023 will be on finalising the regulatory framework and business model contract terms with a view to awarding contracts in the second half of 2023. We also expect the publication of government responses to important consultations on support for hydrogen storage and pipeline networks, as well as on developing the support frameworks for Bioenergy with Carbon Capture and Storage (BECCS) and engineered Greenhouse Gas Removal (GGR) technologies.

5. North Sea Transition

With its renewed emphasis on enhancing short-term energy security, the UK Government launched its 33rd round of licensing for oil and gas exploration in October 2022—its first since 2020. Following the application deadline on 12 January, we expect the North Sea Transition Authority (NSTA) to begin issuing licences in the second quarter of 2023.

Improving the efficiency and effectiveness of decommissioning can also significantly strengthen the UK's energy security, affordability, and decarbonisation efforts. With a view to reinforcing the UK's status as a global leader in decommissioning oil and gas infrastructure, the NSTA also introduced a new sector-wide cost efficiency target in November. Under this target, oil and gas companies will endeavour to reduce overall costs by a further 10%—from £37bn to £33.3bn—between 2023 and 2028. Furthermore, the target will also apply to the actual cost of completed projects. The

NSTA intends to continue its analysis and benchmarking work to encourage companies to adopt early planning, innovative commercial models, repurpose infrastructure, and utilise new technologies to achieve this new target.

To help achieve these sector-wide decarbonisation objectives, Crown Estate Scotland unveiled an Innovation and Targeted Oil & Gas (INTOG) leasing round in August 2022. The INTOG allows developers to apply for seabed rights to build offshore wind projects of less than 100MW that provide electricity directly to oil and gas infrastructure. We expect an announcement of outcomes in April 2023. To accelerate decarbonisation of the sector through offshore renewable energy development, parties to the North Seas Energy Cooperation signed a Memorandum of Understanding with the UK, paving the way for joint planning, technical and expert dialogue, information exchange, and sharing best practices in the region.

6. Nuclear

The past 12 months have witnessed renewed interest in the nuclear sector as the energy crisis deepened and governments across the world announced plans to restart, extend the lives of, or build new nuclear reactors. The BESS's centrepiece is the UK Government's commitment to expanding nuclear power (see our article here). It launched ambitious plans to reach 24 GW of installed nuclear power capacity by 2050. This target will represent up to 25% of projected UK electricity demand, and involve building eight new conventional reactors, as well as 16 small modular reactors. The UK Government is also offering investment incentives to commercialise advanced modular and fusion reactor technologies and strengthen the UK's nuclear fuel production capabilities.

Aligned with its objective to take one project to a final investment decision during this Parliament, the UK Government approved the Sizewell C nuclear plant in Suffolk, and in November it committed £700m in funding for the project. It also announced plans to establish a new flagship body—Great British Nuclear—to support the industry. To facilitate private financing for new nuclear projects, the UK Government proposed a new revenue support mechanism for the nuclear regulated asset base (RAB) model, based on the CfD model currently applied to renewables projects. Following a consultation which closed in August (see our article here), it published further guidance on methodologies to calculate development costs under the nuclear RAB model.

7. Natural Resources

The natural resources sector demonstrated strong growth in 2022, buoyed by increased demand for renewable energy and battery storage assets. Some commodities—such as coal, nickel, iron ore, and steel—witnessed price rises of over 30% during the year. Critical minerals—including rare earth metals—continue to attract investor interest, and it has been suggested that the supply of these minerals—crucial for energy transition technologies—will struggle to meet medium to long-term demand. To help relieve these supply-demand pressures, and to secure critical mineral resources, the UK Government published a Critical Minerals Strategy in July. The Strategy intends to accelerate the UK's domestic capabilities to mine, refine, manufacture, and recycle critical minerals. By working with its international partners and lowering trade barriers—including as part of its Free Trade Agreements—the UK Government hopes to diversify and improve the resilience of the UK's critical mineral supply chains.

8. Reaching Net Zero

The "net zero" concept is expanding in prominence with growing numbers of investors, countries, cities, and corporations adopting net zero targets, including more than one-third of the world's largest publicly listed companies. Until recently, however, net zero remained ill-defined, with different organisations using multiple and often-conflicting standards to make net zero claims, impeding efforts to achieve and assess such claims.

In a bid to harmonise net zero definitions, the International Standards Organization published Net Zero Guidelines in November 2022. This reflects a broader trend toward common climate-related regulations. Standardisation may help produce more accurate and comparable data, which is crucial for corporate and governmental decision-making. Existing political and economic turbulence intensifies its importance. Indeed, noting these factors, the UK Government commenced a review of its Net Zero Strategy in September 2022, merely a year after its initial publication. The review seeks to identify "pro-business, pro-growth and economically efficient" means for delivering climate targets, following energy price and inflationary pressures. We expect publication of the Net Zero Review Report in early 2023.

The Intergovernmental Panel on Climate Change (IPCC)—which popularised the net zero concept as early as 2013—published two ground-breaking Sixth Assessment Reports in 2022. Amongst their insights was the fundamental role of sustainable infrastructure in adapting and building resilience to climate change impacts. Furthermore, the IPCC placed significant emphasis on how societies might reduce emissions from energy production and consumption, and, crucially, it underscored that cooperation through international law and institutions could achieve these objectives in a just and equitable manner.

While we observed some such progress by government negotiators during COP27 this year—especially on the creation of a new Loss and Damage Fund for Vulnerable

Countries—noteworthy initiatives, led by independent bodies and industry organisations, raised cause for further optimism. For example, the High Level Expert Group on Net Zero Commitments by Businesses, Financial Institutions, Cities and Regions, published recommendations designed to raise the quality and integrity of organisations' net zero pledges.

Outside of the UNFCCC negotiations, the 53 signatory parties to the Energy Charter Treaty reached an agreement to amend and modernise the Treaty. Long criticised for failing to align with sustainability principles, the revised Treaty aims to limit the scope of investment protections for emissions-intensive activities whilst ensuring legal protections for foreign investment in green technologies. However, the agreed changes have not escaped critique, and in November, the European Parliament recommended that EU Member States not ratify the amendments and withdraw from the Treaty entirely, arguing that the text remains unaligned with EU commitments under the Paris Agreement. We await to see whether the UK Government may follow this approach, although the UK has itself never faced an investor-state dispute that has progressed to arbitration.

9. Carbon Markets

As companies pursue offsetting strategies to achieve their decarbonisation targets, many analysts identify voluntary carbon markets (VCM) as a rapidly expanding asset class. While these markets are still small—worth around $2bn in 2021—some analysts expect VCM values to reach over US$17bn by 2028, driven by stronger demand and higher prices as more businesses look to use carbon crediting to meet their net zero targets.

During the year, we also witnessed initiatives spearheaded by independent bodies—such as the Integrity Council for the Voluntary Carbon Market (ICVCM), the Voluntary Carbon Markets Initiative (VCMI), and Science-Based Targets initiative (SBTi)—aimed at improving market integrity and transparency. These bodies will publish further guidance and standards in 2023. Progress on VCM initiatives launched at COP27—such as the Africa Carbon Markets Initiative and US Energy Transition Accelerator—may bolster private investment for climate mitigation. The UK Climate Change Committee endorsed the work of these independent bodies in a recent report on the opportunities and risks of VCMs. 2023 will also likely see further regulatory developments aimed at integrating GGRs—and particularly BECCS—with international carbon markets, VCMs, and domestic compliance market mechanisms.

With regard to compliance markets, the UK and EU advanced proposals to reform their respective emissions trading schemes (ETS), expanding covered sectors, reviewing the free allocation of allowances, and aligning scheme caps with net zero targets. The UK Government continues to develop its proposals, including plans to incorporate greenhouse gas removals into the UK ETS. Meanwhile, the European Parliament and Council provisionally agreed measures in December 2022 to tighten the EU-wide cap, in addition to expanding ETS coverage to the shipping, buildings, and road transport sectors.

In parallel, from October 2023, the EU will introduce equivalent carbon pricing measures, through a carbon border adjustment mechanism (CBAM), to imports of certain emissions-intensive products deemed at risk of carbon leakage (the risk that business might transfer production to countries with lower emissions constraints). On the other hand, the UK Government has not yet committed to any similar unilateral measures. However, it intends to consult this year on domestic options to limit carbon leakage, including a UK CBAM. While such domestic border measures, combined with recent geopolitical events, may suggest increasing tensions between climate change and trade measures, we expect to see further progress on rules for international carbon markets at COP28 later this year.

10. Subsidies for UK Projects

The Subsidy Control Act received Royal Assent in April, extending the definition of what constitutes a "subsidy" under the UK regime and introducing a new role for the CMA to review and give a non-binding opinion on certain types of subsidies. The regime, which came into force on the 4 January 2023, includes subsidy control principles specific to energy and environment which reflect various obligations of the UK under the EU-UK Trade and Cooperation Agreement. It remains to be seen whether the new procedural requirements for larger subsidies and subsidies in sensitive sectors will impact on the provision of public financial support for UK energy and infrastructure. Please see our briefing here for further information.

11. Rail

2022 was a stop-start year for the UK rail sector, grappling with strike action and no fewer than three Transport Secretaries. The autumn saw the shelving of the much-anticipated Transport Bill, containing proposals for a new body, Great British Railways, to manage Britain's rail infrastructure, absorbing Network Rail. Legislation looks increasingly unlikely before the next General Election, and current Transport Secretary Mark Harper has indicated that he now wants to "take some time" to consider "alternative views", adding to uncertainty for the sector.

Despite fears that fiscal pressures would prompt the scaling back of several key rail projects, in the Autumn Statement, the Chancellor reiterated the Government's commitment to "transformative growth plans for our railways including High Speed 2 to Manchester, the Northern Powerhouse Rail core network and East West Rail". Whilst reassuring in tone, the industry will be expecting specific details over the next 12 months, not least clear timelines and formal confirmation of exactly what "core network" means in relation to Northern Powerhouse Rail.

12. Aviation and Aerospace

Decarbonisation and new technologies remain key drivers in this fast-evolving sector. The UK Government's Jet Zero Strategy—published in July—challenged domestic airport operators to eliminate net carbon emissions from UK flights by 2040. In it, the Government highlighted the role of cleaner fuel alternatives, such as low carbon hydrogen and Sustainable Aviation Fuel (SAF). However, some airport operators and fuel producers have questioned the Government's pledge to begin constructing at least five SAF plants by 2025. They argue that the Government's plans are insufficient to meet its own target of 10% SAF in the aviation fuel mix by 2030. As calls grow for price support mechanisms that will drive investment in UK production, the Government might consider applying a CfD-type model in 2023. This would provide certainty to investors and developers by agreeing a set price for SAF.

Having expressed its desire for the UK to lead Europe's market for commercial small satellite launches by enabling the development of spaceports across Britain, the Government has been criticised for delays in granting the UK's first spaceport licence to Cornwall Airport Newquay (finally issued in November). An independent review of the Civil Aviation Authority (CAA) is currently considering, amongst other things, the body's capacity to take on "newer or expanded functions/responsibilities such as spaceflight and net zero aviation emissions".

The next 12 months could also be crucial for electric vertical take-off and landing (eVTOL) aircraft, as investors and regulators expand their sector focus to include infrastructure. Having witnessed the US Federal Aviation Authority issue its first design and construction guidelines for "vertiport" (landing and take-off sites) in September, it would not be unreasonable to expect similar guidance from the CAA in 2023, especially given that the two regulators have previously collaborated on developing consistent approaches to eVTOL operations.

13. Water

In an industry grappling with ageing infrastructure and facing calls for nationalisation from some quarters, the Government and regulators are seeking to encourage water companies to boost investment in the sector. In addition to its Storm Overflows Discharge Reduction Plan reportedly requiring operators to spend £56bn on improving the sewerage and wastewater system over the next 25 years, the Government is also proposing a "1000-fold" increase to the maximum civil penalty for polluting companies from £250,000 to £250m, and to enable the Environment Agency to hand out higher fines via Variable Money Penalties, avoiding costly criminal court proceedings. A tougher regulatory stance is also evident in proposals put forward in July by Ofwat for consultation to strengthen the ring-fencing provisions in water company licences and to hold companies to a higher standard with respect to their dividend policies, requiring them to take account of investment needs, service delivery for customers, and the environment. Whilst we await further details over the coming months, both proposals are a signal that the Government and regulators may take a firmer line in 2023.

14. Digital and Telecoms Infrastructure

A key part of the Government's levelling up and growth agenda depends on an effective and comprehensive digital infrastructure. To achieve this, 2022 saw the enactment of the Product Security and Telecommunications Infrastructure Act in December, enabling the nationwide roll-out of 5G networks and gigabit-capable broadband. Despite opposition to the changes from landowners, the new law amends the Electronic Communications Code to make it easier for full fibre broadband and mobile operators to upgrade, share and deploy new infrastructure. However, the operative provisions of the Act still require the Secretary of State to make regulations bringing them into force.

15. What's to come in 2023

Driven by post-Covid demand and dramatic geopolitical shifts, energy, and infrastructure assets generally outperformed expectations in 2022. However, these same factors also put pressure on the global free trade model, with nations and blocs pursuing increasingly protectionist policies to safeguard critical supply chains and ensure resource security and affordability. In 2023, recovery, resilience and energy independence will continue to be key themes.

Although in the UK, dependence on fossil fuels may have increased in the short-term, impetus remains strong to achieve long-term energy transition and decarbonisation goals. In 2023, the UK is expected to focus on low carbon hydrogen, carbon capture and storage, nuclear and renewable energy to boost growth for the country. Crucially, it must also ensure the associated infrastructure is fit for purpose.

2022 saw the Government torn between interventionist and free-market principles. The challenge in 2023 will be navigating international tensions whilst, on the domestic front, maintaining the pace of regulatory change required to deliver its ambitions. In implementing reforms and market interventions, it will need to be sensitive to investor confidence, particularly in light of growing global competition for capital.

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