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New Year: New Energy

Driving a step change in the UK's decarbonisation efforts

Despite the COVID crisis, 2020 saw the UK government set out its ambitions and proposals for meeting the decarbonisation challenge. The UK faces an uphill struggle in order to meet the 2050 net zero target that is now confirmed in law. A step change is required through the 2020s if the UK is to fulfil its ambitions to become a clean energy superpower and set an example as it hosts the COP26 climate conference. FTI Consulting looks at how the government is driving this, taking stock of recent policy developments and charting the evolution of the UK's decarbonisation efforts over the last year as we move into the coming decade.

The advent of a new year brings time for reflection, as well as the setting of new goals, plans and resolutions. Whilst December typically involves overindulgence, January is about reconnection and refocussing on long-term priorities. Nowhere has this been more evident than in energy and climate policy. December saw the energy world gifted several Christmas presents in the form of a glut of important policy publications, designed to build out and add detail to the government's vision for the UK's energy and climate policy landscape. As 2021 begins, the sector will digest these policy and proposal-rich resolutions, which will shape the government's decarbonisation efforts for the rest of the decade and beyond.

Understanding the scale of the challenge

The COVID-19 crisis dominated political attention throughout 2020. Nevertheless, despite the disruption, the debate around decarbonisation – and how the UK's energy policy adapts to the climate challenge – continued. The UK political system has reached a welcome (and remarkable) political consensus on the urgency of tackling climate change. The influence of greater scientific understanding, high-profile impacts in the form of intense flooding, fires and extreme weather events, alongside an increasingly vocal activist community, has forged a wide consensus on the need for urgent, comprehensive action to address the climate emergency.

The UK's Committee on Climate Change (CCC) performs an informative role setting out the scale of the challenge. The CCC's June 2020 annual progress report to Parliament stated that the UK reduced its emissions faster than any other G20 country from 2008 to 2018, achieving a 28% reduction. However, its headline conclusion stated that a notable 'policy deficit' exists between recent, continuing and proposed short-term actions and the long-term steps required to ensure the UK meets its targets. It also warned that economic shocks that result in lower than projected emissions, such as the pandemic and the financial crisis in the previous decade, mask the failure of certain government policies. As the UK strives to achieve more ambitious reductions, these will become starker without government intervention.

The CCC's December offering came in the form of advice around the UK's sixth climate budget which sets out that, in order to meet the 2050 net zero target, the UK needs to achieve a 78% reduction in territorial emissions from 1990 levels by 2035. This is a substantial challenge considering the UK is not currently on track to meet its less ambitious fourth and fifth budgets. The CCC advise that this will require a major nationwide investment programme, led by the government but funded and delivered largely by private companies and individuals.

The UK's energy system, encompassing the power, heat and transport sectors, is at the forefront of these efforts. Not only are these areas responsible for the significant proportion of emissions, they also hold the key to decarbonising the wider economy and society. The UK is a world leader in decarbonising power however little progress has been made in tackling harder to address heat and transport. This appeared to sink in a few years ago, however only now is the government starting to lay the policy, regulatory and financial foundations to begin the meaningful decarbonisation of these sectors.

Setting the Ambition

Despite the preoccupation with COVID across 2020, the UK government still managed to set out its high-level climate and energy ambitions. The enduring call to tackle climate change continued to be heard throughout the crisis, through calls to forge a 'green recovery'.

Building on the world leading commitment to net zero by 2050, Prime Minister Boris Johnson used the occasion of his October 2020 speech to the (virtual) Conservative Party Conference to set out his vision for a 'green industrial revolution'. This which was supplemented in November by the publication of the Prime Minister's 'Ten Point Plan', which set out the government's decarbonisation ambitions across a range of sectors and technologies.

The Ten Point Plan outlined ambitions for the UK to become the 'Saudi Arabia of offshore wind', with a target for it to power every home by 2030, as well as targets around innovative 'floating' offshore wind technology. Transport decarbonisation ambitions were increased, with an earlier date of 2030 to phase out the sale of new internal combustion engine vehicles, as well as further steps to support associated charging and refuelling infrastructure. There is a commitment to publish an Aviation Decarbonisation Strategy and consultation on a sustainable aviation fuels mandate. The Clean Maritime Demonstration programme will seek to develop green ships. Further ambitions were set out around decarbonising public transport, securing a future for nuclear power, as well as commitments on green buildings, protecting the natural environment and facilitating green finance and innovation. The plan also sought to facilitate new, emerging forms of technology, including hydrogen and carbon capture, usage and storage (CCUS).

"The Covid crisis is a catalyst for change…there is one area where we are progressing with gale force speed; and that is the green economy, the green industrial revolution that in the next ten years will create hundreds of thousands if not millions of jobs."

Prime Minister Boris Johnson, Conservative Party Conference Speech, October 2020

As part of the plan the Prime Minister, announcing a 'taskforce net zero', declared "now is the time to plan for a green recovery", pledging £12bn of government investment (albeit not all new money), which is expected to be matched three times over by the private sector, creating and supporting 250,000 green jobs.

Political Benefits and Challenges

The rush to support decarbonisation projects is politically convenient for the Prime Minister. The green economy is a key future growth area. The deployment of offshore wind projects has helped to rejuvenate coastal towns in the east of the UK, many of which are areas that fall under the government's 'levelling-up' agenda and include constituencies that were gained by the Conservatives at the last election. This is also the case for prospective electric vehicle manufacturing facilities and the rollout of new hydrogen and CCUS infrastructure in industrial heartlands.

Nevertheless, it is clear that the governing Conservative Party has found a new enthusiasm for the decarbonisation challenge, particularly with regards to supporting new innovation and technological solutions. However, the challenge is set to get harder before it gets easier. It remains to be seen whether the party can stomach the tough conversations with the general public around individual lifestyle choices – something the CCC has been at pains to stress will be necessary – if net zero is to be met. Early experiences around the introduction of 'low-traffic neighbourhoods' in urban areas during 2020 have already tested the political will of a number of local authorities.

Similarly, the government faces a challenge to ensure the green transition delivers the jobs, investment and opportunities they have promised. This is at present the most politically contentious area of the decarbonisation debate, with the opposition Labour Party making much of its 'Green New Deal' and urging the UK to develop its own domestic supply chain capabilities. The government is seeking cooperation with the power sector to ensure

ambitious targets around local content and supply chain facilitation are met.

Adding the Detail

Whilst the government's ambitions are compelling, the energy sector had been frustrated by a drought of hard policy proposals and prescriptions to meet this challenge. 2020, however, saw the start of work to set out this detail.

The Energy White Paper

In November 2018 then BEIS Secretary Greg Clark hailed the end of the traditional 'energy trilemma' – the trade-offs required between security of energy supply, decarbonisation and cost. He went on to set out a vision for the future of energy as green, cheap and technologically exciting, promising an Energy White Paper to encapsulate this vision. Two years, two Prime Ministers, three Business Secretaries, two Energy Ministers, one net zero commitment and one general election later, the Energy White Paper finally emerged in December 2020.

The wide-ranging 'Powering our Net Zero Future' paper, covering proposals around markets and consumers, the power sector, the wider energy system, buildings, industrial energy and the oil and gas sector, aims to transform the energy system and 'build back greener', whilst ensuring a 'fair deal' for consumers.

The document included a large number of eye-catching policy proposals, including the delivery of four low-carbon industrial clusters by 2030; the acceleration of domestic electric heat pump installations to 600,000 a year by 2030; the development of the UK's first Energy Data and Digitalisation Strategy; commitments to a new UK Emissions Trading System and the aim to bring at least one large-scale nuclear project to the point of Final Investment Decision by 2024.

Renewables

Ahead of the COVID lockdown, the government consulted on proposed changes to the Contracts for Difference regime – the system used to support the development of renewable energy technology. As well as reinforcing and confirming further support for 'fixed' and 'floating' offshore wind, the government proposed the resumption of support for onshore wind and solar – technologies previously deemed politically problematic for the Conservative Party. This perhaps best demonstrates the altered priorities of the Conservative Party in recognising the need to facilitate all forms of renewable energy, if it is to meet its ambitious targets.

Nuclear

The White Paper confirmed a commitment to the future of nuclear power in the UK through government support for (some) large-scale developments as well as the next generation of small and advanced modular reactors. This moves to end some of the uncertainty over the long-term future of the UK's nuclear sector, which had been in doubt for some time, not helped by growing political concerns around Chinese involvement in the financing and development of these critical projects.

National Infrastructure Strategy

Another important publication was the government's long-awaited National Infrastructure Strategy, which sets out plans to deliver an "infrastructure revolution", making communities greener and the country a world leader in new technologies. Decarbonising the economy and adapting to climate change form a key plank of the strategy, which was promised following criticism from the National Infrastructure Commission in 2018 that that the UK has too much of a 'stop-start' culture regarding public investment, is slow in the adoption of new technology and often sluggish with delivery.

HMT Net Zero Review

The final publication of the year was HM Treasury's Net Zero Review Interim Report, designed to support the government's work developing a formal 'Net Zero Strategy' in 2021. HM Treasury's acknowledgement that "reaching net zero is essential for long term prosperity" and of the wider need for the economy to undergo structural change is symbolic of the shift in mindset from its traditional role as a brake on such issues. As recently as June 2019 then Chancellor Philip Hammond was issuing warnings around the costs involved of meeting net zero.

2021 and Beyond - New Energy Frontiers

2021 promises to deliver many more policy heavy publications which aim to take forward the UK's decarbonising efforts in a range of sectors.

Industry, Heat and Transport

The government's Heat and Buildings Strategy will set out how it plans to deliver its £9.2 billion commitment to reduce energy usage and move towards low carbon heat. The Transport Decarbonisation Plan will set out the next steps around how to create a net zero transport system,

with the sector currently responsible for around a third of total UK emissions.

The Industrial Decarbonisation Strategy will set out how the government will meet its vision for a prosperous, low-carbon UK industrial sector, as well as through further support for the UK's industrial cluster 'SuperPlaces' and strategic industries such as steel.

Hydrogen

2020 saw a flurry of enthusiasm around hydrogen technology, with a number of countries publishing hydrogen strategies backed up with significant funding commitments. Hydrogen has a wide range of potential applications – spanning industrial sectors, power, heating and transport, earning it the nickname the 'Heineken' energy source – reaching parts of the energy system that other sources cannot reach. The UK government, in order to meet its target of a 'hydrogen town' by 2030, plans to publish its own strategy in 2021. It has already established a 'Hydrogen Advisory Council' and a range of industry and expert working groups to develop frameworks to support its rollout. Scaling up the production of low and zero carbon 'blue' and 'green' hydrogen is a key objective. With potential for hydrogen blending into the gas grid, a consultation on 'hydrogen-ready' appliances in homes and applications such as fuel cell vehicles, the facilitation of the hydrogen economy is set to be an important new frontier for the energy sector across the 2020s.

Carbon Capture, Usage and Storage

After a number of false-starts through the 2010s, the government is finally undertaking the hard yards to develop a policy support framework for the facilitation of CCUS technology. This represents an important part of the decarbonisation puzzle, particularly in relation to hard-to-decarbonise industrial processes. A consultation on CCUS business support models is due in 2021.

Offshore Activities

The government continues to consider the potential for wider marine technologies, such as wave and tidal power. However, these technologies have yet to achieve the equivalent level of commercialisation as offshore wind and only received one brief reference within the Energy White Paper.

The UK's oil and gas exploration and exploitation activities in the North Sea are not immune from the pressures of change. The government has announced it will agree a "transformational North Sea Transition Deal" as part of proposals to transform the UK Continental Shelf into a 'net zero basin'. Efforts will focus on providing opportunities for companies to adapt their operations away from unabated fossil fuels towards abatement technologies such as CCUS, hydrogen and renewables.

COP26

Finally, the government's commitment to publish a comprehensive 'Net Zero Strategy' in the lead up to the COP26 conference looks set to provide a further layer of detail to its long-term plans. The hosting of the conference is a significant opportunity for the UK to burnish its climate credentials on the global stage. After the false-start in 2020, with the conference suspended due to the pandemic, the government has moved onto the front foot, engaging other countries on their respective commitments and publishing an ambitious 'Nationally Determined Contribution' (NDC) targeting a reduction in emissions of at least 68% by 2030.

Charting the course to 2050 - An Energy Policy for the 2020s

The UK's NDC target, alongside the CCC's 6th carbon budget advice, leaves little time for the government to prepare the policy groundwork before significant emissions reductions need to kick in. Whilst the recent flurry of publications is welcome, government now has to follow-up this activity with an urgent and relentless focus on progress and delivery.

By the end of the 2020's the UK is projected to see an energy system transformed, with significantly increased renewables generation, a decarbonised electricity system, a reformed energy market and an energy grid reinforced to deliver geographically disparate and technologically diverse power sources, as well as increased demand through the electrification of heating and transport options. The UK's hydrogen town will have demonstrated the feasibility of hydrogen applications across power, heating and transport. CCUS will have demonstrated its role in decarbonising industrial processes. There will be signifficant investment to decarbonise homes and buildings, whilst we will be looking forward to the prospects of zero emission international travel and air and maritime transportation. The power of the financial system will be mobilised towards the decarbonisation

effort, with the UK continuing to lead the way internationally in setting the pace.

To many this vision may sound like a pipedream. However all of the above now represents firm government policy. Whilst technical and engineering challenges remain, the lynchpin to success remains political appetite and will. The UK government and politicians of all parties have found the consensus upon which bold ambitions have been set, the challenge now is for bold action and delivery.

DAVID HICKLING
Director, Public Affairs
david.hickling@fticonsulting.com