

UK

Building back greener and better

The energy sector will have a crucial role to play in rebuilding the UK's economy while underpinning its move to a low carbon future, write PwC's Janine Freeman, Steve Jennings and Adrian Del Maestro.*

The COVID-19 pandemic is having a huge impact on UK society. From personal wellbeing to the health of the economy, the ramifications of this pandemic are varied, deep and painful. However, as the country emerges from the crisis, there is an opportunity to harness the energy sector's crucial role in underpinning the transition to a cleaner, net zero economy, and use it as a cornerstone to 'build back better'.

The UK government has a central role in orchestrating and stimulating an economic recovery. However, any stimulus from the government needs to harness the strengths of the private sector, especially across the constituent parts of the energy industry – power utilities and oil and gas companies – which will have a critical and enabling role to play.

The impact of the lockdown and its after-effects across the energy value chain is well documented. The global oil and gas sector has seen significant demand destruction with oil prices plummeting before recovering slightly. In response, oil companies have reduced capital expenditure, cut headcount and in some cases scaled back dividends.

At the same time, several oil majors are taking this opportunity to reinforce their shift towards low carbon sources of energy. 'New energy' merger and acquisition (M&A) activity by oil and gas players is continuing at pace – as illustrated by BP making its first notable move into the US offshore wind market through a \$1.1bn partnership with Equinor in a deal that includes a 50% stake in the Empire Wind project off New York; Aker Solutions merging with Kvaerner to develop low carbon capabilities; and Shell in Australia acquiring the carbon farming business Select Carbon, to name a few examples.

As for power and gas utilities, electricity demand in the UK declined over the lockdown period with commercial and

industrial businesses scaling back activities. This much lower level of electricity demand combined with high levels of renewable power generation output created negative prices on wholesale power markets. As a result, fossil fuel powered generators had to stop running and National Grid, the UK electricity system operator, needed to take expensive, short-term balancing actions to turn off renewable output as well. Through this experience, we have had a window into the future of a power system with a much higher proportion of renewables while simultaneously being reminded of the importance of flexible power solutions on the system to make sure the UK maximises the output from renewables.

Key themes

Aside from the industry impact, there are some emerging societal themes in a post COVID-19 world that will likely shape the energy sector going forward. PwC has identified* a number of these themes:

Increasing levels of home working – The coronavirus pandemic has led to more people working from home. Digital technology has made adapting to this change relatively easy and many businesses are looking to shift towards a blended model more permanently.

Improving air quality and reducing noise pollution – Throughout the lockdown, air quality significantly improved and noise pollution reduced, largely through a reduction in transport use. This has not gone unnoticed by the public and momentum is building that could sustain the benefits felt in lockdown. For example, whereas sales of petrol and diesel cars are in decline, the growth of electric vehicle (EV) sales is continuing to rise. According to data from the Society of Motor Manufacturers and Traders (SMMT), car registrations in August 2020 year-to-date

witnessed falls in diesel and petrol (60% and 45% respectively) while battery electric vehicles (BEVs) and plug in hybrid electric vehicles (PHEVs) saw registrations increase (157% and 68% respectively).

Maintaining reliable and affordable energy supplies

– The challenges of efficiently managing a system with a high proportion of renewable power have been highlighted during lockdown. To continue as a leader of the global energy transition, the UK must double down on its efforts to drive private investment into a range of new energy technologies. This will ensure the continued development of a more resilient, cleaner and affordable energy system to underpin environmentally sustainable economic growth. The recent announcement by UK Prime Minister Boris Johnson to accelerate the contribution of wind power illustrates our evolving energy systems.

Fostering resilience through more local supply chains – The pandemic highlighted the fragility of global supply chains. Public opinion on the benefits of globalisation is changing. Vibrant new global trade arrangements are vital for the UK post-Brexit, but they must factor in climate change and sustainability considerations as well as supply chain resilience.

Increased desire to improve social equity – Many workers have been furloughed or made redundant because of social distancing and the economic downturn. This has



disproportionately affected those already disadvantaged in society. Policy must aim to ensure that no one is left behind.

Testing times

Against this backdrop, the UK government will need to consider a number of stimulus policy options to drive an economic recovery. In making these choices, it will be important to consider other societal needs as well as job creation. PwC research has identified four 'tests' through which government can consider the effectiveness of different interventions in delivering against wider societal requirements:

Jobs – The scale, geographic coverage and breadth of the energy industry makes it an excellent platform for job creation. There is a huge opportunity to create mass employment across the entire country. In particular, domestic, labour intensive activities can provide work for thousands and the development of other low carbon infrastructure and services can create long-term employment in high growth sectors.

Net zero – The costs of a global natural disaster have been laid bare through the COVID-19 pandemic. It is imperative that we use this crisis to avoid another one – the climate crisis. If this opportunity is used now to create jobs in the development of infrastructure to protect the climate and natural resources, then we can avoid the need to incur the virtually incalculable costs of dealing with a climate disaster at a later date.

Innovation and leadership – The UK already has a leadership position on energy. The policy-led development of a low carbon energy system has put it ahead of most countries. An environment has been created for emerging technologies and businesses to succeed. We must build on this as we come out of the COVID-19 crisis and ensure that greater investment is driven in areas where the UK can be world leading – to build exports and growth.

Fairness – Even ahead of the current pandemic crisis, social inequity and a feeling in many communities of being left behind has become an ever more visible challenge for governments across the world. The UK must take this opportunity to 'level up' its economy by developing progressive policies that enhance fairness and protect the most vulnerable in society.

Energy policy recommendations

Based on these observations, there are five key energy policy recommendations the UK government should consider when addressing an economic recovery plan:

Launch a national housing infrastructure upgrade programme – A centrally funded, long-term national energy efficiency, low carbon and smart building retrofit programme is needed. Indeed, the UK government announced in July 2020, a £3bn package of grants to improve the energy efficiency of homes and public sector buildings. In addition, scaled roll-outs or pathfinder projects need to be initiated across key low carbon heat technologies for homes and business, including heat pumps, hybrid heat systems, district heat networks, hydrogen boilers and solar thermal. Government and industry should also work on a new approach to support greater take-up of smart meters to bring forward the work for installers and enable a smarter system. The energy industry should work with consumers to ensure the default option becomes having a smart meter installed. Moreover, the installation of smart meters in non-domestic premises and newbuild homes should be mandated.

Further accelerate the transition to low carbon transportation – The EV market needs to be incentivised by increasing grants and supporting broader investment in charging infrastructure. Incentives are also needed to attract the EV industry and supply chain to locate manufacturing and other jobs in the UK. Meanwhile, Clean Air Zones should be rolled out and there should be expanded funding for low carbon public and active transport infrastructure – improving air quality and reducing noise pollution.

Unlock more private investment in a digital, flexible and affordable, low carbon energy system – The government should accelerate the development of UK markets,

incentives and network charging to speed up investment in flexible power solutions, alongside funding mechanisms to speed up efficient investment in more low carbon power generation. Networks also need to be incentivised to prioritise investment in digitalisation and enable efficient anticipatory investment.

Accelerate the development of regional low carbon industrial clusters and local supply chains – The development of carbon capture, use and storage (CCUS) and low carbon hydrogen solutions needs to be accelerated and long-term planning launched for the decarbonisation of industry through regional industrial clusters. Greater supply chain resilience needs to be fostered and imported carbon emissions reduced by incentivising on-shoring of selected supply chain manufacturing and production.

Support workers, businesses and local authorities with their recovery from the crisis – The UK government must work with industry to launch a training programme to support unemployed workers into permanent employment. It needs to provide funding support for small and medium sized businesses to transition their operations to net zero, and develop a mechanism to make it easier for local authorities to benefit from funding of decentralised energy projects.

Key building block

Energy will be a key building block in the UK's economic recovery and a critical element in 'build back better'.

The government clearly has a role in stimulating a green economic recovery as illustrated by the launch of the energy efficiency grants package. And the private sector, in partnership with government, will continue to make a valuable contribution. ●

*This article is based on a report written by PwC in collaboration with Energy UK – *Rebuilding the UK economy: fairer, cleaner, more resilient*, published in June 2020.