



## Climate

Policy, Automation, Climate and Ethics (PACE) are at the heart of significant global changes that in turn affect corporate behaviours and governance.

**Joined by The Rt. Hon. Kwasi Kwarteng, Richard Gwilliam at Drax, Helen Boyle at Cadent Gas, Victoria Merton at Peel Group and Steve Cox at Electricity North West, our panel explored the future of green energy and the challenges faced by the industry, as well as highlighted the significance of the “green industrial revolution” in fuelling economic recovery.**

### Ministerial Overview

On Wednesday 18 November, Prime Minister Boris Johnson announced his ten point plan for a green industrial revolution. The plan intends to provide a direction for future legislation on the road to net-zero carbon by 2050, and green energy has an important role to play in reaching this goal.

For The Rt. Hon. Kwasi Kwarteng, Minister of State at The Department of Business, Energy and Industrial Strategy, the most significant parts of this plan are the electric vehicle ambitions, and the strategies to increase the use of both carbon capture usage and storage (CCUS), and hydrogen capacity by 2030. Why? First, these renewable sources have the potential to fuel economic recovery, by attracting investment and creating “green-collar” jobs. Secondly, the increased use of electric vehicles on the road engages the public, an important stakeholder, in the race to net-zero by 2050.

### The Future of Green Energy

Business leaders in the energy sector are in agreement that the future of green energy consists of a diverse mix of energy sources. The initial stages of the transition will see the baseload of energy provided by gas, wind and nuclear as we make the transition to an efficient mix of energy sources that can provide renewable energy at scale.

Currently, there are a number of renewable energy projects taking place across the regions with the potential to contribute to the future of green energy. Notably, the Wave Master Project (funded by Bibby and Peel) sees the maritime industry investigating suitable alternative energy sources, such as ammonia. Acorn in Scotland is undertaking a large-scale CCUS and hydrogen project, and Drax is experimenting with CCUS and biomass.

In addition to these natural resources, there are green-tech opportunities within the wider circular economy, such as technology with the ability to convert plastic to hydrogen. Thus, industry experts are likely to construct many innovative solutions to decarbonisation.

A one-size-fits-all approach will not be appropriate for the future of green energy. Primarily, inconsistencies in UK weather prevent solar or wind from reliably sustaining the national grid. While we have greater control over the volume of green hydrogen produced, such operations are expensive, so, for example, powering the UK on hydrogen, or any other renewable source alone, would not be an economically viable solution. Nevertheless, a whole systems approach to planning is recommended by industry experts, in order to find the most efficient blend of energy resources.

### The Energy White Paper

In addition to the ten point plan, industry is eagerly awaiting the Energy White Paper, a document that is expected to provide further detail on the route to net-zero carbon.

Our industry panellists agree that it is important for the document to provide a clear direction of travel and consistent policies in order for businesses to secure funding and successfully progress with decarbonisation strategies.

In addition, there is a hope that the paper will establish ambitious goals for renewable energy in order to showcase the UK as a front-runner in the race to carbon neutrality and promote our green energy capabilities to the world, for the benefits this would bring to the wider economy.



## The Role of Green Energy in Economic Recovery

It is clear that the government has devised the ten point plan to contribute to economic recovery. The allocation of National Investment Bank funds and sovereign green bonds demonstrate the government's intention to support a green revolution, create jobs and make decarbonisation a success.

### COP 26

Along the way, the UK will host COP 26, due to take place in November 2021, which provides the optimum platform to showcase the UK's green energy capabilities to the world. This can lead to the attraction of new business and investment into the UK market, further job creation and sector growth. In addition, this private investment will fuel the global race to net-zero carbon, a race that is heating up, with the addition of China, Japan and India in the last 18 months and the prospect of USE coming back to the table in the near future.

### 2050

A number of critics argue that the deadline of 2050 for carbon neutrality is not fast enough. If we are able to make a change now, then we should, and some regions, even individual businesses, have set themselves more imminent targets. Similarly, some regions will need to reach carbon neutrality at a much earlier date in order for the UK as a whole to achieve carbon neutrality by 2050.

However, the UK faces a number of challenges that will take time to overcome. Namely, the affordability of green energy and consumer behavioural change. Thus, as the Rt. Hon. Kwasi Kwarteng explains, the current timeline is a suitable balance of ambitious versus plausibility.

## The Challenges

### Funding

Funding is required to a) facilitate new project developments, and b) make renewable sources an economically viable option both to businesses and the consumer. The government has already committed funds, and further funding will potentially become available through the Hydrogen Strategy, due March 2021. However, in publishing the ten point plan, and in due course, the Energy White Paper, the government has created an all-important framework for private sector investment, in addition to the provision of public funding.

For some time, the sector has been in a paradoxical position where businesses know that they, and the wider economy, are required to decarbonise, but may have lacked confidence in what the future of decarbonisation looks like. Thus, there has been a reluctance to plan and invest in energy and infrastructure projects, due to concern for stranded assets in the future. Government plans enable businesses to commit to, and invest in, decarbonisation with greater confidence, and this fuels sector growth.

To demonstrate, the offshore wind industry received £94 billion in private sector investment as a result of the government's investment framework, which massively accelerated growth in this part of the sector. Today, the UK is a world leader in offshore wind energy, providing 35% of the global capacity. Thus, the energy sector is likely to receive greater and longer-lasting financial support through private equity than government support.

### The Consumer

While consumers seem to be increasingly engaged with climate change issues, they remain largely uneducated on the complexities required to achieve carbon neutrality. Hence, a coordinated response from both government and industry is needed to educate and explain these changes to consumers, as well as any associated costs.

Consumer behaviour can take a long time to adapt due to the embedding of social norms. The consumer may be expected to purchase new technologies of which they have little experience, which can often be expensive and lack sufficient infrastructure in the early stages. On the other hand, there can often be substantial cost savings in the longer term as a result of investment in energy efficiency. To promote the adoption of new technologies and behaviour change, the consumer needs to understand the reasons for the change, the benefits of the change, and see the change become commonplace. Therefore, the more consumer engagement in driving decarbonisation, the easier it will be to embrace the change across the economy. The rollout of electric vehicles in the UK is a great example of this.

## Conclusion

The future of green energy will not be a one-size-fits-all in terms of technologies that lead the way. Instead, a diverse mix of renewable resources and green-tech will be required to meet our zero-carbon goals. The current hurdles to achieving this are consumer behaviour and cost. However, these can be addressed over time with a coordinated consumer education, an investment framework and consistent government policy.

Government publications, including the Energy White Paper and the ten point plan, have "fired the starting gun" in the race to carbon neutrality, providing a clear direction, an inclusive and diverse mix of energy sources, incentives and a realistic timeline to get decarbonisation right. The current plan, if successful, has the capability to restore economic activity, showcase the UK industry's capabilities and establish the UK as a global superpower.

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