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## Carbon landscape: a pre-COP21 perspective

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### Introduction

Businesses operating in the UK are increasingly required to comply with a raft of environmental regulation and legislation relating to their carbon emissions as well as their broader energy efficiency. In addition, companies must consider the changing cultural backdrop which is leaning towards green investment and polluter divestment. In this report we consider the impact that current and future regulatory developments are likely to have on UK businesses and the environment in which they operate. We also consider the extent to which the UK is on track to meet its carbon reduction targets and any factors that may influence its progress.

### Current UK / EU regulation for businesses

Current emissions regulation in the UK is largely characterised by the country's commitments to EU legislation, which in turn is based on commitments to global accords such as the Kyoto Protocol and Copenhagen Accord. These agreements work towards the

worldwide target for limiting average global temperature rise to 2° C above pre-industrial levels, which is agreed by the UN to be the limit of acceptable climate change within preventable means (United Nations n.d.). The UK has responded by committing into law an 80% reduction in the country's Greenhouse Gas ("GHG") emissions from 1990 levels by the year 2050. The Government has set legally binding 'carbon budgets', which are effectively caps on the GHGs emitted in the UK over set five-year periods. These act as stepping stones towards the 2050 goal, noting that steady progress is equated with cost-effectiveness: rushed measures are likely to be expensive. The UK is currently in its second carbon budget phase covering 2013-17, which will require a 29% reduction (equal to 2,782 MtCO<sub>2</sub>e) from base levels (Committee on Climate Change, 2015).

Clearly a large actor on the country's ability to meet its targets is the activity of the business sector and its influence is acknowledged through targeted policies. At the time of writing, businesses are specifically affected by

key emissions schemes and regulations including examples such as the CRC Energy Efficiency Scheme (“CRC”) for commercial buildings, the Renewable Heat Incentive and the Energy Savings Opportunity Scheme (“ESOS”) for large companies. In addition, an update to the Companies Act 2006 hoped to propel climate impact into the boardroom by requiring all quoted companies to measure and report their GHG emissions in their annual directors’ reports. Companies with traded emissions must also consider the wider ‘carbon market’ including through their involvement with the European Union Emissions Trading System (“EU ETS”).

### Obstacles and opportunities

Emissions regulation has led to both obstacles and opportunities for businesses. The imperative to measure and report carbon has led to the increased profile of the sustainability agenda by decision makers and has had the secondary effect of enhancing the quality of emissions data available (Committee on Climate Change, 2015). In addition, there are cost and efficiency savings associated with carbon reporting. The ESOS scheme for example requires companies to document their emissions and identify a number of carbon saving opportunities across both the short or long term and to calculate the financial benefits that would result. The effectiveness of the scheme relies on these cost savings to be inspiration enough to cause a proportion of firms to follow up on the opportunities identified (GOV.UK, 2014).

Aside from direct financial gains, there are also benefits to be had in terms of brand

reputation and consumer engagement. For example, consumers are increasingly considering the environmental and social impacts of their providers before engaging with them. Staff engagement, including the attraction and retention of top performing staff, has also been linked to the perception of employers’ corporate social responsibility agendas (PwC, 2014). Firms showing increased levels of environmental engagement, whether due to regulatory commitments or otherwise, may therefore observe a competitive advantage.

While government policy has been instrumental in achieving UK targets, regulation can be complex and inconsistent in places. Firms have had to deal with investing in the expertise to navigate its complexities and to deliver the measurement and reporting of results. Not to mention potentially costly fees for any external assurance work they may wish to undertake before sending information into the scrutinising public realm. Further, the independent Committee on Climate Change (“CCC”) (2015) concluded in its last report to Parliament that existing policies are at risk of failing to deliver due to their design, delivery and underfunding. Other critiques of UK policy have led calls to move towards a more streamlined approach such as principles-led framework approach proposed by the Institute for Mechanical Engineers (2009), which it argues would be clearer for businesses to follow.

## Meeting UK targets

The Department of Energy and Climate Change's ("DECC") 'Carbon Plan' sets out the roadmap, including policies and proposals, for meeting the first four carbon budgets - bringing us up to 2027. In terms of being on track to meet the targets, the latest plan shows that the UK is on trajectory to meet the figures set for the first three periods; planning for the fourth budget is still underway. In addition, the CCC undertakes an independent annual assessment of the UK's carbon budget progress which is reported to parliament (GOV.UK, 2013).

While the CCC (2015) assesses us to be on track for budget two, there is uncertainty regarding the sustainability of the trend: the committee cautions that the recently observed reductions may be a result of singular one-off factors rather than as part of an ongoing trajectory. For example, the impact of the recent recession is linked to a reduction in demand for energy by both businesses and consumers which may have led to a dip in emissions. There have also been higher than average winter temperatures in recent years, affecting domestic greenhouse gas emissions. To be on track in times of greater economic circumstances, the CCC (2015) has identified that further actions will need to be taken to reach targets. It is also acknowledged that the government will need to develop plans to make up for the shortfall between current projected emissions and the fourth carbon budget.

## Forecast / scenario analysis

Looking to the future, many of the policies for emissions reductions are due to expire during the current parliament and current funding streams are not certain beyond the next few years. To ensure progress continues, new policies will almost certainly have to be implemented and new funding streams approved (Committee on Climate Change, 2015). The significance of these will be influenced by factors such as political will, the state of the economy and potentially unforeseen events and interactions on a local and global scale.

## Policy

The CCC (2015) states that 'significant action' is required during this parliament to ensure that the fourth carbon budget is met and to stay on track to the 2050 goal. Future planning is required to maintain the existing momentum as well as to create space for innovative policy solutions in the coming years. Uncertainty regarding the future policy landscape has the potential to impact on investor confidence in low carbon solutions, some of which require government investment to ensure their economic viability. This is identified as the key risk to future progress by the CCC. It is documented that the government response does not necessarily follow experts' recommendations, in particular where recommendations are inconsistent with public, and therefore voter, perception. In this way, we therefore have the added complication of political will being driven by the interaction between politics and the public's beliefs (Millner and Ollivier, 2015). Climate change has a particularly complex set

of causal links with effects that are diffuse and cumulative and it is argued that, whilst it does not mean that policy decisions will be based on misguided beliefs, it is inherently complex for both public and policy makers to understand. This exposes a vulnerability to deliberate attempts to steer policy making from vested interests such as corporate lobbying. Nevertheless the government will need to follow the CCC's recommendations or else face breaching the Climate Change Act, though funding and delivery of these actions remains challenging (Business Green, 2015).

## COP 21

In November and December of this year, the representatives of over 190 countries will get together for the 21<sup>st</sup> United Nations Climate Change Conference ("COP 21") (Climate Action, 2015). Its aim is to get firm commitments from countries, in particular from the biggest polluters, to allow us to leave the current emissions pathway which is headed towards 4 degrees warming (Romm, 2015). Certain stakeholders would like to see the parties agree to a more binding arrangement in the manner of the Kyoto agreement. The lack of ability to firm up an agreement in more recent years has been a source of disappointment for many in the green movement. Commentators state that the first draft of the Paris agreement is thought to show wide areas of disagreement in the main areas of discussion including the legally binding nature of the arrangement. The adoption of a protocol, however, may still be viable and it is hopeful that negotiations have started well ahead of the conference, thus allowing time for disagreements to be aired and settled in

time to reach an agreement (Climate Change Capital, 2015).

On the other hand, it is noteworthy that none of the countries that failed to meet their Kyoto targets have in fact been sanctioned thus calling into question the sanctity of any legally binding agreement (The Guardian, 2015). One might conclude that even if a more legally binding agreement is reached, it may not be enough to hold countries to account and prevent excessive planetary warming. Though one would assume it would hold more clout than if there was not a legal compulsion. Perhaps as a symptom of government inaction, activity by non-state actors is on the rise and we may see state-alternatives increasingly rise up to fill any space left by government. The Non-State Actor Zone for Climate Action ("NAZCA"), for example, sees companies, cities, subnational regions and investors also pledging to take action to reduce their emissions ahead of Paris (Climate Action, 2015).

In any case, businesses, particularly those that are energy intensive and span multiple jurisdictions, will watch the outcome of the conference with interest. Regulations and policies that are implemented by the parties as a result of the negotiations will need to be understood and responded to appropriately in each country in which they work (ERM, 2015).

## Low carbon technologies

In 2014, 35% of energy generated in the UK was sourced from renewable or low-carbon means and there are now a million people generating their own clean electricity at home (Green

Alliance Blog, 2015). By 2050, nearly all UK power will need to be provided from such sources to meet targets (Committee on Climate Change, 2015). A much cited factor in helping the UK stay on track to 2050 is the progress being made in solar power technology. Costs of both panel and financing continue to decline and, as a result, solar is predicted to become competitive with retail electricity prices in the near future, otherwise known as 'grid parity' (Deutsche Bank, 2015). This is viewed by some as the tipping point or 'golden goal', however, it is important to take the contextual environment into account. At present, the economics of UK solar are largely connected to the government's feed-in tariff ("FiT") policy which pays generators per kWh of electricity produced (The Green Age, 2012). As we are currently seeing sharp cuts made to FiT, to become truly competitive the supply may need to become independent or desensitised to subsidy. Government complicity would also be required in terms of the necessary infrastructure such as investment in a functioning grid for decentralised generation and energy storage to mitigate the somewhat unreliable UK sunshine.

That being the case, renewables such as onshore wind and solar, with all good intent, cannot decarbonise the UK on their own, in the near future at least. There is an immediate need to reduce the demand on power stations and, as we cannot rely on personal and corporate behaviour to change at a sufficient pace, demand side technology is an important component for bridging this gap. Successes have been seen, for example, with regard to efficiency measure for boilers and vehicles,

and smart meters and other regulating software continue to play an important part. Improvements have generally been supported so far through UK and EU regulation as well as public subsidy, which will need to continue to ensure that the environment for the innovation and dissemination of renewable technologies remains fertile. Success in demonstrating steady progress in alternative technologies is likely to affect policy decisions in other areas and may reduce the impact of future policy planning on businesses (Committee on Climate Change, 2015).

### Global megatrends

In a rapidly changing global environment, carbon emissions and regulation are overall a difficult landscape to foresee, in particular due to those influences beyond UK borders. Whilst so much appears to hang on the decisions of our leaders in the UK in determining what options are currently viable and will be viable to explore in the future, global megatrends can and will have an impact as well as the potential to rock the boat entirely. Complex interplays between advances in technology, market fluctuations and global political manoeuvring mean that the landscape can change rapidly in unpredictable directions. We see this happening for example with the tentative balance of power between OPEC and the US fracking industry, a shift in which could rapidly switch us back to a high oil price regime. With no longer sustained low oil prices, fracking in the US may once again become profitable, thereby causing the highly polluting industry to become widespread (The Guardian, 2015).

## Conclusion

As we near the COP 21 conference, the UK carbon landscape appears to be on track to meet its near legislated targets but it is clear that undelayed political action is required to maintain progress beyond this point. What these policy decisions will look like will be dependent on CCC recommendations but also on voter considerations. For now the implementation of resilient and sustainable practices appears key for businesses to adapt to the future carbon landscape, including innovating where possible towards low carbon options ahead of time. Where possible it makes sense to support renewable technology sectors to ensure that the government does not focus its policy decisions primarily on businesses to achieve its targets. It will be

important for businesses and consumers to follow the outcomes of the Paris conference including the actions pledged by the UK to understand the impact of future policy legislation. Maybe we will see global actors come together to marry financial and political challenges with climate considerations, otherwise we may see cities and non-state actors stepping in to pick up the reins and look for more innovative solutions.

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## References

- Business Green. 2015. *The Climate Change Committee's warning lights must be heeded*. [Online]. [Accessed 10 October 2015]. Available from: <http://www.businessgreen.com/bg/james-blog/2415433/the-climate-change-committees-warning-lights-must-be-heeded>
- Climate Action. 2015. *About NAZCA*. [Online]. [Accessed 10 October 2015]. Available from: <http://climateaction.unfccc.int/about.aspx>
- Climate Action. 2015. *Find out more about COP21*. [Online]. [Accessed 11 October 2015]. Available from: <http://www.cop21paris.org/about/cop21>
- Climate Change Capital. 2015. *What the Paris agreement might look like*. [Online]. [Accessed 10 October 2015]. Available from: <http://www.climatechangecapital.com/thinktank/opinion/what-the-paris-agreement-might-look-like>
- Committee on Climate Change. 2015. *Meeting Carbon Budgets - Progress in reducing the UK's emissions*. [Online]. [Accessed 10 October 2015]. Available from: [https://www.theccc.org.uk/wp-content/uploads/2015/06/6.737\\_CCC-BOOK\\_WEB\\_030715\\_RFS.pdf](https://www.theccc.org.uk/wp-content/uploads/2015/06/6.737_CCC-BOOK_WEB_030715_RFS.pdf)
- Committee on Climate Change. 2015. *Reducing emissions and preparing for climate change: 2015 Progress Report to Parliament* [Online]. [Accessed 10 October 2015]. Available from: [https://www.theccc.org.uk/wp-content/uploads/2015/06/6.738\\_CCC\\_ExecSummary\\_2015\\_FINAL\\_WEB\\_250615.pdf](https://www.theccc.org.uk/wp-content/uploads/2015/06/6.738_CCC_ExecSummary_2015_FINAL_WEB_250615.pdf)
- Deutsche Bank. 2015. *Deutsche Bank report: Solar grid parity in a low oil price era*. [Online]. [Accessed 10 October 2015]. Available from: <https://www.db.com/cr/en/concrete-deutsche-bank-report-solar-grid-parity-in-a-low-oil-price-era.htm>
- ERM. 2015. *COP21*. [Online]. [Accessed 10 October 2015]. Available from: <http://www.erm.com/en/news-events/events/cop21/>

- GOV.UK. 2013. The Carbon Plan - reducing greenhouse gas emissions. [Online]. [Accessed 10 October 2015]. Available from: <https://www.gov.uk/government/publications/the-carbon-plan-reducing-greenhouse-gas-emissions--2>
- GOV.UK. 2014. *Consultation outcome: Energy Savings Opportunity Scheme*. [Online]. [Accessed 10 October 2015]. Available from: <https://www.gov.uk/government/consultations/energy-savings-opportunity-scheme>
- Green Alliance Blog. 2015. *How to get UK energy and climate policy back on track*. [Online]. [Accessed 10 October 2015]. Available from: <http://greenallianceblog.org.uk/2015/09/24/how-to-get-uk-energy-and-climate-policy-back-on-track/>
- Institution of Mechanical Engineers. 2009. The Energy Hierarchy. [Online]. [Accessed 10 October 2015]. Available from: <http://www.imeche.org/docs/default-source/position-statements-energy/EnergyHierarchyIMechEPolicy.pdf?sfvrsn=0>
- Millner, A. and Ollivier, H. 2015. *Beliefs, politics, and environmental policy*. [Online]. Grantham Research Institute on Climate Change and the Environment. [Accessed 10 October 2015]. Available from: <http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2015/08/Working-Paper-203-Millner-and-Ollivier.pdf>
- PwC. 2014. The keys to corporate responsibility employee engagement. [Online]. [Accessed 10 October 2015]. Available from: [http://www.pwc.com/en\\_US/us/about-us/corporate-responsibility/assets/pwc-employee-engagement.pdf](http://www.pwc.com/en_US/us/about-us/corporate-responsibility/assets/pwc-employee-engagement.pdf)
- Romm, J. 2015. *The Media Is Still Confused About Whether The Paris Climate Deal Will Limit Warming To 2 Degrees*. [Online]. [Accessed 10 October 2015]. Available from: <http://thinkprogress.org/climate/2015/07/07/3677040/paris-climate-deal-2c-limit/>
- The Green Age. 2012. *When Will We Reach The Solar Tipping Point?* [Online]. [Accessed 10 October 2015]. Available from: <http://www.thegreenage.co.uk/solar-power-tipping-point/>
- The Guardian. 2015. *Everything you need to know about the Paris climate summit and UN talks*. [Online]. [Accessed 10 October 2015]. Available from: <http://www.theguardian.com/environment/2015/jun/02/everything-you-need-to-know-about-the-paris-climate-summit-and-un-talks>
- The Guardian. 2015. *How plunging oil prices have created a volatile new force in the global economy* [Online]. [Accessed 10 October 2015]. Available from: <http://www.theguardian.com/business/2015/jul/21/falling-oil-prices-fracking-us-iran-saudi-arabia-opec>
- United Nations (n.d.). *Global Issues: Climate Change*. [Online]. [Accessed 10 October 2015]. Available from: <http://www.un.org/en/globalissues/climatechange/>