

# Business, Government and Policy-making Capacity: UK Energy and Net Zero Transitions

CAROLINE KUZEMKO

## Abstract

The UK government is responsible for meeting legally binding decarbonisation objectives, but it is not on track to meet its next Climate Change Act targets or the goal of Net Zero by 2050. The IPCC's Sixth Assessment Report is a stark reminder of the importance of all countries, particularly those historically responsible for greenhouse gas emissions, devising and implementing the innovative and just policy solutions required to lower emissions. Within this context, this article explores the UK's sustainable energy policy making, and why it is not on course to meet targets, through the lens of government-business relations. It analyses government policy capacity, incumbent energy company influence, and how complex relations and dependencies have affected sustainable policy (non-)decisions and outcomes. It reveals that an over-reliance on incumbent energy companies in UK energy politics, although understandable given the need to provide affordable and secure energy, has contributed towards insufficient space for cheaper and more just clean energy solutions.

**Keywords:** climate change, sustainable energy transitions, policy capacity, energy policy, net zero, political economy

## Introduction

THE LATEST Intergovernmental Panel on Climate Change (IPCC) assessment report makes the scale of the climate mitigation task abundantly clear.<sup>1</sup> It observes that over 40 per cent of the world's population are 'highly vulnerable' to climate change and that there is only a very brief window of opportunity left for policy action. Their advice is that global greenhouse gas emissions should be reduced by 7.6 per cent *per annum* between now and 2030. This level of emissions reduction presents policy makers with a Herculean task on multiple levels, particularly given that global emissions only fell 6.4 per cent in 2020, despite the daily disruptions of lockdowns and other Covid-19 measures.<sup>2</sup> Importantly, almost any pathway to a future where warming is limited to 1.5°C

above pre-industrial levels assumes new, sustainable policy on a massive and sustained scale.

The UK's contribution to emissions reduction is encapsulated in its legally binding targets: the Climate Change Act (CCA) emissions budgets and the Net Zero Emissions 2050 commitment. These targets are ambitious, but they also place specific responsibilities on UK government actors for meeting them. Having met its previous and current CCA emissions budget targets, however, the UK is not on track to meet any of its next targets, including the fourth budget that starts in 2023, or Net Zero 2050.<sup>3</sup> The task facing UK sustainable policy makers is, at the very least, daunting and brought into yet greater relief by the current gas and oil crises.

Fully decarbonising economies involves phasing out fossil fuels across all sectors and bringing in affordable and accessible clean

<sup>1</sup>Intergovernmental Panel on Climate Change (IPCC), *Sixth Assessment Report*, 2021/2022; <https://www.ipcc.ch/assessment-report/ar6/> (accessed 19 April 2022).

<sup>2</sup>J. Tollefson, 'Covid curbed carbon emissions in 2020—but not by much', *Nature News*, 15 January 2021.

<sup>3</sup>Climate Change Committee, 'Advice on reducing the UK'S emissions, n.d.; <https://www.theccc.org.uk/about/our-expertise/advice-on-reducing-the-uks-emissions/> (accessed 13 April 2022).

alternatives. These are deeply political processes. If we take the example of sustainable energy transitions, the timing of phase-outs needs to coincide with the creation of markets for alternatives, which infers significant coordination. At the same time, although all societies benefit in the end from avoiding further, severe climate change, mitigation policies will also result in new economic ‘winners’ and ‘losers’. Incumbent oil and gas companies, and countries reliant on fossil fuel revenues, stand to lose substantially, not least given widespread claims that high percentages of fossil fuel reserves must stay in the ground to meet the UN Paris 1.5°C limit. There are risks of widespread job losses in fossil fuel and related industries, raising key questions about *just* energy transitions—questions that the EU seeks to address with its new Just Transitions Fund and Social Climate Fund.

Sustainable transitions require the involvement of all societal groups, including businesses. ‘Business’, as a category of actor in relation to climate change is incredibly varied—in terms of levels of emissions, commitment to sustainable change and solutions offered. Some incumbent energy companies have stood firmly in the way of sustainable change. Memos from oil and gas corporations, such as Exxon Mobil, now reveal the extent to which research about the environmental implications of burning fossil fuels was kept secret, as well as decades-long corporate strategies to obfuscate public and political debates about climate change.<sup>4</sup> Incumbent energy companies have also influenced and shaped UK climate mitigation public policy to suit their private interests.<sup>5</sup> These business actors have certain characteristics that have allowed

them to be politically influential over time. Many have considerable financial power, but they are also, just as importantly, the providers of essential services upon which UK society depends. Specifically, as technologies increasingly shape our existence, we have become more dependent upon energy for food, warmth, light, health, mobility, communications and defence and the UK government is reliant on incumbent energy corporations to provide the core public policy objective of energy security. Indeed, the framing of energy as a security issue is prominent again today, as the UK, USA and EU seek to wean themselves off Russian oil and gas.

Within this extremely complex policy-making context, this article explores the respective roles of, and relationships between, government and business. The government’s expectation is that incumbent actors will continue to provide reliable and affordable access to energy for UK citizens, whilst also decarbonising their businesses and innovating clean alternatives—no mean feat. The article points towards a high degree of enmeshment between UK government and private actors in meeting public policy objectives, and reveals some ways in which this relationship has proven problematic, with an emphasis on government capacity.<sup>6</sup> Capacity is defined broadly here as the ability to set and, more importantly, for the current phase of climate change mitigation, to *achieve* political objectives.<sup>7</sup> The ability to meet objectives is in part shaped by relationships with business, as well as by government access to personnel, financial and knowledge resources.<sup>8</sup> The politics of meeting binding decarbonisation targets whilst maintaining energy affordability and security is extremely difficult, but the politics of not doing so is likely to be disastrous.

<sup>4</sup>B. Franta, ‘Weaponizing economics: big oil, economic consultants, and climate policy delay’, *Environmental Politics*, 2021; DOI: [10.1080/09644016.2021.1947636](https://doi.org/10.1080/09644016.2021.1947636) (accessed 13 April 2022).

<sup>5</sup>On incumbent energy company influence over UK policy, see N. Jenkins, ‘Combined heat and power—the debate warms up’, *Energy Policy*, June 1980, pp. 169–173; F. Geels, ‘Regime resistance against low-carbon transitions’, *Theory, Culture & Society*, vol. 31, no. 5, 2014, pp. 21–40; C. Kuzemko, et al., ‘Governing for sustainable energy transitions’, *Energy Research & Social Science*, vol. 12, 2016, pp. 96–105; M. Lockwood, et al., ‘Unpacking “regime resistance” in low-carbon transitions’, *Energy Research & Social Science*, vol. 58, 2019.

<sup>6</sup>For an interesting exploration of similar types of government-business ‘enmeshment’ in UK finance, see B. Braun, ‘Central banking and the infrastructural power of finance’, *Policy & Society*, vol. 18, no. 2, 2020, pp. 395–418.

<sup>7</sup>See Wyn Grant’s introduction to this special issue, and A. Gamble, *The Free Economy and the Strong State: the Politics of Thatcherism*, Basingstoke, Palgrave, 1988.

<sup>8</sup>C. Kuzemko and J. Britton, ‘Policy, politics and materiality across scales’, *Energy Research & Social Science*, vol. 62, 2020.

## Background: UK sustainable energy policy and politics

All countries need to act urgently in sustainable policy innovation, but especially those—like the UK—with considerable historic responsibilities for global emissions. However, the UK does have a good track record of emissions reduction. This was achieved mainly, though not entirely, through energy efficiency and switching from coal—which has very high emissions—to gas in the 1980s and 1990s, and to renewables in the 2000 and 2010s. Today, the UK has an array of policies in place to enable, incentivise and otherwise encourage sustainable change: it has a coal phase-out policy, targets and subsidies for offshore wind, a nuclear strategy, a 2030 ban on the sale of internal combustion engine (ICE) cars, and R&D programmes in carbon capture and storage (CCS) and hydrogen.

Unfortunately, however, the relatively ‘easy’ decarbonisation phase has passed. The UK’s annual energy consumption is still 76.5 per cent fossil fuel based.<sup>9</sup> Gas is now deeply embedded within its energy system: 36 per cent of the UK’s electricity is generated by gas and 85 per cent of homes have gas-fired central heating. Gas is cleaner than coal, but is not net zero emissions compatible. At the time of writing in March 2022, another energy crisis is unfolding. Spikes in global gas prices, exacerbated by Russia’s invasion of the Ukraine, have contributed towards rapidly escalating household costs. At the same time, crucial energy efficiency policy has stalled, significant grid, regulatory and market changes are needed to better integrate renewables, whilst new licences are still being granted for oil and gas drilling in the North Sea. Indeed, subsidies for fossil fuels still significantly outweigh those for renewables, whilst government spending on climate change is estimated to rise to a paltry £7.7 billion, or 0.4 per cent of GDP, in 2021/22, versus £44.6 billion on defence.<sup>10</sup> Much of energy policy, then, still favours incumbent energy interests.

<sup>9</sup>Department for Business Energy and Industrial Strategy, *UK Energy in Brief 2021*; [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1032260/UK\\_Energy\\_in\\_Brief\\_2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1032260/UK_Energy_in_Brief_2021.pdf) (accessed 13 April 2022).

This reminds us that making energy sustainable is far from straightforward and requires much policy learning to take place. No one yet knows how to decarbonise economies reliant on fossil fuels whilst maintaining affordable access to essential energy services and managing for negative socioeconomic outcomes. Indeed, a wide range of political choices needs to be made, and these choices matter. They will influence whose interests are served, which technologies will be funded, whether the cost of transition will be as low as possible for households, and whether oil and gas will continue to be subsidised. If the burden of sustainable transformation is perceived as lying disproportionately with households, whilst energy companies make large profits, it risks losing extremely hard-earned public support for sustainable energy policies.

This fine balance is one reason why many scholars of sustainable energy system change—from a range of academic disciplines—emphasise the role of government policy in engineering and driving change. This is partly because new, ‘clean’ energy markets, like that for demand-side response, still need to be created.<sup>11</sup> New, sustainable technologies and businesses often start off very small, as ‘niches’, and need support initially to compete within embedded energy markets. Public financing is key, both in terms of R&D spend in early-stage clean innovations, and of being able to bring down the cost of clean technologies and business models, via dissemination. Furthermore, government policies have historically been central in ensuring that socio-technical innovations, like electricity, benefit society at large and are not just at the service of those wealthy enough to afford them. Governments also increasingly need to act as arbiter of interests

<sup>10</sup>Office for Budget Responsibility, ‘Climate-related measures in the Budget and Spending Review’, October 2021; <https://obr.uk/box/climate-related-measures-in-the-budget-and-spending-review/>; and ‘Government spending on defense in the UK 1996–2021’, *Statista*, January 2022; <https://www.statista.com/statistics/298490/defense-spending-united-kingdom-uk/> (both accessed 14 April 2022).

<sup>11</sup>C. Perez, *Technological Revolutions and Financial Capital: the Dynamics of Bubbles and Golden Ages*, Cheltenham, Edward Elgar, 2002; M. Mazzucato, *The Entrepreneurial State*, London, Anthem Press, 2013; F. W. Geels, ‘Technological transitions as evolutionary reconfiguration processes’, *Research Policy*, vol. 31, nos. 8/9, 2002, pp. 1257–1274.

between incumbent energy companies and those that are emerging to offer low, or preferably zero, carbon alternatives.

## Government, business and capacity for sustainable change

This section explores in more detail government capacities to make and deliver upon just and sustainable energy policy, and the role of business within those policy-making processes. It argues that the UK is ill-equipped to deal with the urgency and scale of this task and that government access to knowledge, analytical and financial resources is often dependent on industry.<sup>12</sup>

The UK's gas and electricity markets were privatised and liberalised over the course of the late 1980s and early 1990s, thus passing responsibility for energy provision to the private sector. This ultimately resulted in a centralised energy oligopoly, dominated by six companies—historically referred to as the 'Big 6'. This all made sense within the context of energy having been re-imagined as a commodity, rather than a public good, and of the notion that freely-trading competitive markets would reduce prices and protect energy consumers from exposure to high living costs. Energy market reform also, importantly, involved the dissolution of the government's main source of expertise on energy, the Department of Energy, in 1992. Responsibility for energy was passed first onto the Department of Trade and Industry, and then onto the Department for Business, Enterprise and Regulatory Reform.<sup>13</sup>

<sup>12</sup>See also F. Matthews, 'The capacity to co-ordinate—Whitehall, governance and the challenge of climate change', *Public Policy & Administration*, vol. 27, no. 2, 2012, pp. 169–189; C. Kuzemko, 'Energy depoliticisation in the UK: destroying political capacity', *British Journal of Politics and International Relations*, vol. 18, no. 1, 2016, pp. 107–124; T. Sasse, et al., 'Net zero: how government can meet its climate change target', Institute for Government, 7 September 2020; <https://www.instituteforgovernment.org.uk/publications/net-zero> (accessed 14 April 2022).

<sup>13</sup>For a more in-depth exploration of civil service energy capacities over this time period, see C. Kuzemko, *The Energy Security-Climate Nexus*, London, Palgrave Macmillan, 2013.

Between 2008 and 2016 there was a temporary reversal in energy civil service fortunes. The 2008 Climate Change Act (CCA) created a dedicated new department: the Department for Energy and Climate Change. It was disbanded in 2016 and sustainable energy became a departmental sub-responsibility once more, this time of the Department for Business Energy and Industrial Strategy (BEIS). Numerous changes in government responsibility for, and civil service numbers committed to energy policy, combined with high staff turnover have limited civil service energy policy knowledge, analytical capacity and institutional memory. These changes will have inevitably affected the ability of the civil service to deal with the relatively complex task at hand and urgency of the situation.

There are, of course other institutions of energy expertise within government—not least, the independent Committee on Climate Change (CCC), also established by the CCA in 2008, whose job is to hold the government to account in terms of meeting its climate targets. The CCC is arguably the most consistent source of climate change policy capacity in the UK. It is not responsible for making or implementing policy, but it has, over time, increased the amount of policy advice it gives and can be seen as a key centre for expertise on decarbonisation, if not on related social policy, within government.

Much of the capacity for understanding how increasingly technical energy markets and systems work throughout this period of change for energy policy making became concentrated in the Office for Gas and Electricity Regulation (Ofgem), which was set up in 2000. Ofgem has market, statistical, modelling and regulatory expertise and knowledge, but it is also explicitly not a policy-making body. Ofgem's initial duty was to ensure consumer interests, perceived as affordable prices for gas and electricity, through competitive markets. More recently, the interpretation of consumer interests was widened to include the decarbonisation of energy. Ofgem's status, in line with generally positive attitudes towards de-politicisation, is independent of government. It is, however, paid for by the gas and electricity companies that it regulates. These companies have maintained quite a direct influence over regulatory change through majority representation on the Ofgem review



boards responsible for agreeing, or otherwise, regulatory change.

There are other forms of UK government reliance on business. Whilst sustainable energy policy making was moved back and forth between different (sub-)departments of government, large energy companies have maintained policy research and analysis, as well as market research teams. In a policy-making system where decision making is guided by principles of 'least economic cost', information about technologies, costs, infrastructures, trading and prices are vital to decision making. Indeed, civil servants responsible for energy policy making were/are sent to energy companies to 'learn' how markets work as part of the 'revolving door' relationship. Although utilities are required via licence conditions to share certain information with Ofgem, government has also created funds in the past to pay energy companies for the data they require to make policy—a classic asymmetry of information problem.

In terms of policy implementation, the UK has a system of 'supplier obligation' in place which holds gas and electricity supplier companies responsible for implementing energy efficiency, a key policy in terms of meeting both energy decarbonisation and affordability objectives. That is, private corporations became responsible for implementing policy that would erode demand for their product. Most suppliers have seen energy efficiency as an obligation, outsourcing it to others, although E.ON was an exception and took on some of this efficiency work.

It is unsurprising, then, that policy makers have established such close relational ties with incumbent firms, especially given how technical and vital energy markets are, and that government departments are under-resourced and lacking in institutional memory. UK policy makers responsible for the urgent, but unprecedented, task of sustainable transitions have been reliant upon energy companies to rule on regulatory change, supply them with market knowledge and data, implement efficiency policy, as well as to maintain reliable and affordable energy services.

Brexit and Covid-19 have exacerbated the UK's energy policy-making capacity issues, partly because there have been opportunity costs of focussing so much civil service personnel resource on Brexit. In 2016, when the UK

voted to leave the EU, the UK civil service was still in austerity mode, at its lowest level in personnel terms since 1939. When it became clear that Brexit, and then Covid-19, required extra capacity, new staff were added, but the overall size of the civil service remained well below 2009 levels. In September 2020, there were 430,000 employees, reversing just under half the cuts since 2010, whilst the civil service now also needed to address both Brexit and pandemic demands on government.<sup>14</sup>

In terms of energy, a good deal of Brexit civil service work was required, including: negotiating the energy and climate sections of the Withdrawal Agreement and the Trade and Cooperation Agreement (TCA); designing the new UK Emissions Trading Scheme (ETS) and other replacement regimes and institutions; and undertaking day-to-day Brexit administrative work. In total, 532 BEIS civil servants were seconded to work on Brexit and for them the job became 'doing Brexit' so, as a complex and ongoing political project, Brexit has absorbed considerable amounts of time and energy at this vital time in the development of UK emissions reduction policy.

There are, indeed, examples of delayed and 'disappointing' UK sustainable energy policies during this time period, further exacerbated by Covid-19.<sup>15</sup> The Clean Growth Strategy was delayed by the Brexit referendum and 2017 general election, and the Net Zero Strategy, that should have accompanied the 2019 target announcement, was delayed

<sup>14</sup>For detailed analyses of civil service numbers, and the impact of Brexit on the UK civil service see M. Thimont Jack, et al., 'The civil service after Brexit: lessons from the Article 50 period', Institute for Government, 2020; <https://www.instituteforgovernment.org.uk/publications/civil-service-after-brexit-article-50>; J. Rutter, 'The civil service and Brexit', *The UK in a Changing Europe*, 20 February 2021; <https://ukandeu.ac.uk/long-read/the-civil-service-and-brexit/> (both accessed 14 April 2022).

<sup>15</sup>On delayed and insufficient sustainable energy policy, see Sasse, et al., *Net Zero*; J. Rosenow and S. Thomas, 'Net zero is nowhere in sight for UK clean heat policy', *Inside Track*, 13 May 2020; T. Sasse and R. Hodgkin, 'Building a green recovery', Institute for Government, 6 July 2021; <https://www.instituteforgovernment.org.uk/publications/building-green-recovery> (accessed 14 April 2022).

until late 2021. Some new sustainable energy policies, including in vital areas such as energy efficiency and heating, appeared rushed and insufficient to meet objectives. One specific example is the short-lived Green Homes energy efficiency scheme, announced in 2020 but already being wound down by March 2021. To make matters more complicated, some UK-EU energy negotiations requiring continued civil service capacity—on gas and electricity trading and interconnection between the UK and EU—are still ongoing and do not appear close to resolution.<sup>16</sup>

## Government-business policy relations and sustainable energy transitions

The relationship between actors responsible for meeting legally binding targets and those whose economic interests are negatively affected by sustainable transformation is always going to be delicately politically poised and needs careful consideration at each stage of the process of change. This last section provides a series of empirical examples of how the balance of policy-making capacity between government and incumbent business, discussed above, effects policy decisions and outcomes. It argues that although the tendency to work with incumbent energy business interests may be unsurprising given ideological preferences to prioritise market actors, it has some clear implications for the pace and nature of sustainable energy transitions. It makes the transition less rapid, affordable and just—thereby placing the UK's capacity to deliver on energy security and legally binding decarbonisation objectives at risk.

Thus far, policy has supported incumbents over smaller-scale actors through policies designed to develop new, sustainable energy technologies to the stage that they are able to compete. The Contracts for Difference (CfD) auction process, which began in 2014, has supported huge growth in offshore wind, whilst

much of the investment has come from large corporations. This is partly because auctions, as a policy method for developing renewables, and the larger scale of offshore wind, both suit incumbent businesses far more than smaller-scale actors. It is positive that the UK has created renewable markets that incumbents can invest in, but the concentration on the CfD as a renewable policy instrument has been at the cost of cheaper forms of renewable electricity generation. For example, CfD and local planning rules were changed in 2015, under the coalition government, to keep cheaper onshore wind and solar out of the market.<sup>17</sup> This has negatively affected prospects for small-scale renewable companies and cooperatives, but the decision can also be criticised on cost grounds, especially as lower cost onshore renewables are essential in lowering electricity generation costs.

Embedded regulations and regulatory relationships also constrain sustainable market reform. A recent report, co-written by the former Director of the UK's decarbonisation strategy, claims that markets are still designed around fossil fuels and that they 'cannot deliver a decarbonised energy system'.<sup>18</sup> The report also critiques the UK's regulatory fixation with using competition and consumer switching strategies as the solution to affordability issues. Neither approach comes close to the kind of regulatory innovation that could result in an opening up of markets to sustainable energy innovations, like the all-important demand-side response. Ofgem's switching strategy did result in new market entrants but, with the rare exception of companies like Octopus, they were not innovative in terms of sustainability. Indeed, the strategy resulted in a 'race to the bottom on price', whilst many new market entrants have since gone out of business because they were not resilient

<sup>16</sup>M. Blondeel, et al., 'Brexit and decarbonisation one year on', UK Energy Research Centre, briefing paper, January 2022; <https://ukerc.ac.uk/publications/brexit-decarbonisation-1-year-on/> (accessed 14 April 2022).

<sup>17</sup>In 2021 there was a small change of heart by government and in December that year, of the £285 million CfD pot, £10 million was made available to onshore solar and wind.

<sup>18</sup>T. Lord and P. McNally, 'Powering ahead: the need to reform UK energy markets', Tony Blair Institute for Global Change, 1 December 2021; <https://institute.global/policy/powering-ahead-need-reform-uk-energy-markets> (accessed 14 April 2022).

enough to withstand recent spikes in the cost of gas.

We can further interrogate the policy relationship by considering some implications of relying on gas and electricity suppliers to implement energy efficiency policy. In one sense, as long as suppliers perform their policy function well, and high-quality home insulation proceeds at the required pace, then government could still be seen as having capacity to meet decarbonisation and affordability objectives. However, the UK's, relatively old housing stock remains amongst the worst for insulation in Europe. With much of the easy—that is, low cost—insulation work having already been carried out, 28 million UK homes still need to be retrofitted to net zero standards between now and 2050. This infers a very high level of, often difficult, annual retrofits at a time when installation rates are low.

UK energy efficiency policy has been further undermined by the decision taken by the coalition government in 2013 to reduce the amount of money allocated to spending on insulating homes, reducing obligations on suppliers and scrapping the zero carbon *new* homes standards. This decision was partly taken in response to rising energy bills and pressure from energy companies. But it was also based on the influence of another set of incumbent business interests, namely the large building corporations that dominate the UK market and upon whom government is dependent in addressing the housing crisis. Recent analysis estimates that cutting these policies has since added £2.5 billion to UK energy bills, thereby leaving UK citizens more exposed than necessary to the current cost of living crisis.<sup>19</sup> The UK government's reliance on energy businesses has constrained their ability to meet decarbonisation goals, whilst further exposing UK households to volatile fossil fuel prices. This approach contrasts strongly with countries such as Germany where very low-cost public loans and grants have been made available for home retrofits. This policy has resulted in lower household energy bills, as well as

reduced costs of retrofits, and has established energy efficiency markets and jobs.

Moving on to consider prospects for gas phase-out, we can see that gas companies have maintained considerable abilities to influence policy.<sup>20</sup> Gas incumbency influence over policy is achieved through a range of methods: direct lobbying; consultation responses; public statements; commissioned modelling; and through informal senior level meetings with ministers and civil servants. Indeed, gas incumbents successfully lobbied government to create the Capacity Market, another auction process that pays energy companies for being available to generate electricity when the grid most needs it. This is one approach to ensuring reliable access to electricity in increasingly renewable-based markets. There are, however, various critiques of the UK Capacity Market, not least that the Capacity Market privileges gas generation over demand-side response, which would be a sustainable, innovative and cheaper alternative.<sup>21</sup>

Gas incumbents have also long shaped political debates about how to decarbonise heat, a sector where the UK is lagging in decarbonisation. Although there have been strong arguments for an electrification of heat, gas incumbents have argued that existing gas grids should be converted to hydrogen.<sup>22</sup> The UK government has recently announced that it is going to invest in hydrogen research and development. However, hydrogen is controversial as it is a less efficient option and implies higher household running costs than electrification. At the same time, the least cost approach to reducing heat emissions is to

<sup>19</sup>S. Evans, 'Cutting the "green crap" has added £2.5bn to UK energy bills', *Carbon Brief*, 20 January 2022; <https://www.carbonbrief.org/analysis-cutting-the-green-crap-has-added-2-5bn-to-uk-energy-bills> (accessed 14 April 2022).

<sup>20</sup>For in-depth explorations of business influence and UK gas incumbency, see Lockwood, et al., 'Unpacking "regime resistance"'; R. Lowes, B. Woodman and J. Spiers, 'Heating in Great Britain: an incumbent discourse coalition resists an electrifying future', *Environmental Innovation and Societal Transitions*, no. 37, 2020, pp. 1–17.

<sup>21</sup>A demand-side response company, Tempus, took the UK government to the EU court over the issue; <https://www.nortonrosefulbright.com/en-gb/knowledge/publications/a450d7a2/tempus-energy-and-the-capacity-market-in-the-uk> (accessed 14 April 2022).

<sup>22</sup>A short technical point: 'blue' hydrogen can be created from gas, which the gas industry favours, but 'green' hydrogen cannot.

improve household energy efficiency and demand flexibility.

The UK's net zero strategy for North Sea oil and gas, the North Sea Transition Deal, involves the government paying further subsidies to extend oil and gas production. This is on the proviso that oil and gas companies invest in hydrogen, CCS, another expensive technology that prolongs gas use, and commit to reduce emissions from extraction and supply processes by 50 per cent by 2030.<sup>23</sup> It is worth noting that UK subsidies for fossil fuels already outweigh those for renewable energy and that the current government has just approved new North Sea drilling licences. This is a far cry from a strategy of leaving fossil fuels in the ground and transitioning away from dependence on them.

Another, increasingly important, method that incumbent actors can use to shape sustainable energy policy making is to create visions of low carbon energy futures. Given the complexity of energy systems and lack of longer-term visibility, policy makers feel the need to envision what systems capable of meeting 1.5°C look like in order to make decisions today. This is often done through integrated assessment models (IAMs).<sup>24</sup> Those with dedicated personnel and modelling resources can narrate the 1.5°C, or 'net zero', future including, importantly, which energy technologies will be part of it. Anyone seeking to develop an IAM also needs access to energy market data, much of which remains in the hands of large industry actors. This aspect of government-business relations is again one of dependency, but this time in relation to access to the resources required to create 'credible' visions of the future and to shape what is understood to be possible. Indeed, most IAMs include controversial energy technologies

such as CCS, that imply continued demand for fossil fuels, whilst not giving much space to technologies that reduce demand for fossil fuels and lower the cost of energy systems.<sup>25</sup>

Lastly, there is a growing recognition that a just transition, where the economic costs and benefits of sustainable transitions are more fairly distributed across society, is increasingly politically important.<sup>26</sup> Just transitions are preferable in equity, health and fairness terms, but are also key to maintaining hard-won support for climate change mitigation policies. Clearly, reliance on incumbent actors to inform policy is fine if their actions produce clean alternatives that are affordable and accessible across society, but since this is not the case currently, governments can choose to step in to ensure fairer distributions of the costs and benefits of sustainable energy system change. This would be similar to the approach adopted towards electricity dissemination in a wide range of countries, from the UK to Brazil, where government policies were central to making sure that electricity is accessible to as many as possible within society.

## Conclusions

This article has not sought to pitch a simple idea about states *vs* markets; indeed action by both actor groups is vital to sustainable and just transitions. Would the UK meet *all* its policy objectives if government actors had more capacity, or incumbent business actors less influence? Arguably not, given that we are all at the start of this complex and unprecedented process of change and so much is not yet known.

There is, however, some increase in government debate now—as there was within the policy debates that led to the CCA—about the need to build greater (quasi-)government capacity to deliver the UK's complex, interrelated energy policy objectives. See, for

<sup>23</sup>See, 'The North Sea Transition Deal—a closer look', *Herbert Smith Freehills*, 30 March 2021; <https://hsfnotes.com/energy/2021/03/30/uk-north-sea-transition-deal-a-closer-look/> (accessed 14 April 2022).

<sup>24</sup>For insights into the relationship between IAMs and policy making, see S. Pye, et al., 'Modelling net-zero emissions energy systems requires a change in approach', *Climate Policy*, vol. 21, no. 2; 2020, pp. 222–231; L. van Beek, et al., 'Anticipating futures through models', *Global Environmental Change*, vol. 65, 2020.

<sup>25</sup>Pye, et al., 'Modelling net-zero emissions energy systems'.

<sup>26</sup>See the Climate Change Committee's latest assessment report, *UK Climate Change Risk Assessment 2022*, 17 January 2022; [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1047003/climate-change-risk-assessment-2022.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1047003/climate-change-risk-assessment-2022.pdf) (accessed 14 April 2022).



example, the recent BEIS/Ofgem consultation that recommends that the UK should establish an independent ‘future systems operator’, separating that function out of the privately owned National Grid company. One of the ideas behind this proposal is that the future systems operator could take on additional responsibilities, including more direct, longer-term planning of the energy system.<sup>27</sup> Greater government capacity, however, would not on its own solve other climate governance issues, such as the lack of integrated strategic government planning on climate change and of climate policy integration across government departments. It also does not necessarily lead to improved abilities to recognise negative socioeconomic outcomes of sustainable change, or to design climate policies that have positive feedback effects and alleviate the effects of those negative outcomes.

What this article has done, however, is to raise questions about how different balances of policy-making capacity between government and incumbent energy actors in the UK have shaped the ongoing sustainable energy transition. Reliance on incumbent energy businesses has skewed the transition in various ways: it has slowed it down, placed emphasis on private actors to enact policies that are not in their interests and rewarded large-scale, incumbent actors over more innovative small and medium-sized enterprises that can offer alternative, often cheaper, sustainable solutions. It has also de-emphasised the more politically tricky aspects of sustainable change, such as how to phase out North Sea oil and gas production and reduce dependence on gas. If Net Zero 2050 is to become a reality, these thorny decisions must be faced sooner rather than later. This would include making political decisions about how to manage the process of fossil fuel phase-out such that

households are not left exposed to high energy costs, that reliable new jobs are created, and that employees from oil and gas industries can be reskilled and re-employed.

Kicking the can down the road on difficult policy choices is extremely harmful in domestic and international political terms. The UK has loudly proclaimed leadership in global climate policy, not least as host of COP26, but if a relatively wealthy global climate ‘leader’, and historic emitter, cannot withdraw from domestically embedded fossil fuel interests, what kind of message does that send to those countries that the UK has been trying to convince to do the same thing? And in a time of rising inflation and cost of living crisis, estimates are that previous cuts to energy efficiency policy, decisions to exclude onshore wind from UK support mechanisms, and scrapping the zero-carbon homes standard have together added £830 to the average UK energy bill between 2015 and 2022.<sup>28</sup>

This is not just about missing crucial, legally binding UK, and potentially also global, climate targets, but about learning to do so in a manner that better balances business and social interests. For this, government would need to adopt a different approach, with greater commitment to managing these complex processes, a more considered approach to its reliance on private interests to deliver public policy objectives, and far greater nationwide learning and deliberation about climate change, the range of options available to address it and what these mean for us all.

*Caroline Kuzemko* is an Associate Professor in International Political Economy at the University of Warwick, and the author of *The Energy Security-Climate Nexus: Institutional Change in the UK and Beyond*, 2013.

<sup>27</sup>Ofgem, ‘Consultation on proposals for a future system operator role’, 21 July 2021, closed 6 April 2022; <https://www.ofgem.gov.uk/publications/consultation-proposals-future-system-operator-role> (accessed 14 April 2022).

<sup>28</sup>Evans, ‘Cutting the “green crap”’.