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The impact of strategic climate legislation: evidence from expert interviews on the UK Climate Change Act

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ABSTRACT

This paper assesses the importance of a strategic legal framework for action against climate change, using the UK Climate Change Act as an example. Passed in 2008, the Climate Change Act is one of the earliest and most prominent examples of framework legislation on climate change. It contains several innovative features that have since been replicated in other framework laws. We use stakeholder interviews to assess the strengths of the Act and whether it has succeeded in creating an integrated, informed and forward-looking policy process. Respondents felt that the Act had established a firm long-term framework with a clear direction of travel. However, they differed on whether the Act provided sufficient policy certainty and protection against political backsliding. Most respondents felt that the Act had changed the institutional context and the processes through which climate change is addressed. As a result, interviewees believe that the Act has helped UK climate policy to become better informed, more forward looking and better guided by statutory routines.

Key policy insights

- A strong legal framework with statutory targets, processes and institutions can be an important tool for effective climate change governance.
- A broad-based framework law can make action on climate change more predictable, more structured and more evidence-based.
- The UK Climate Change Act is a model for such framework legislation, with important institutional features that have already been emulated in other framework laws.
- The main such features are statutory short-term and long-term emissions targets, a new independent advisory body (the Committee on Climate Change), clear accountability and an iterative approach to adaptation planning.

ARTICLE HISTORY

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Climate change policy; framework legislation; climate change governance; UK climate policy

1. Introduction

Lawmakers around the world are reviewing their approach to climate change. They recognize that the objectives of the Paris Agreement necessitate new, stronger and more comprehensive approaches to climate governance (Bodansky, 2016; Falkner, 2016a). Increasingly, countries are adopting overarching framework laws, which define an agreed national long-term objective and establish the processes and institutions needed to meet it (Averchenkova, 2019; Averchenkova et al., 2017; Dubash et al., 2013; Iacobuta et al., 2018; Scotford & Minas, 2019; Torney, 2017, 2019).

One of the earliest examples of strategic framework legislation is the UK *Climate Change Act* (CCA), passed on 28 October 2008 and receiving Royal Assent on 26 November 2008 (the *Climate Change Act*, 2008, c27.). The Act

contains a number of institutional features. It (i) sets a legally binding long-term mitigation goal (since strength-ened to net-zero emissions by 2050), (ii) legislates intermediary short-term targets (or carbon budgets), (iii) creates an independent advisory body (the Committee on Climate Change – CCC), (iv) establishes a continual process of adaptation planning, and (v) mandates regular government reporting on progress (Benson & Lorenzoni, 2014; Muinzer, 2018).

Many of these features have since been emulated in other climate change frameworks, including those of Finland (Climate Change Act 2015), France (Energy and Climate Law 2019), Germany (Climate Protection Law 2019), Ireland (Climate Action and Low Carbon Development Act 2015), Mexico (General Law on Climate Change 2012), New Zealand (Climate Change Response (Zero Carbon) Amendment Bill 2019), and Sweden (Climate Act 2017) (Averchenkova & Guzman Luna, 2018; Nash & Steurer, 2019; Torney, 2017, 2019).

Because of its influential role and the fact that it has been in operation for over a decade, the CCA is a particularly useful law to study. This paper assesses the impact of the CCA on UK climate change policy and politics over the first 10 years of its existence (2008–2017). The assessment is from the point of view of policy practitioners from government, industry and civil society, elicited through a focus group and 33 semi-structured interviews.

There is a large literature regarding national climate change governance (e.g. Jordan et al., 2018; Ostrom, 2010; Roelfsema et al., 2018), including on how framework legislation is expected to shape political process (e.g. Benson & Lorenzoni, 2014; Fisher, 2017; Fisher et al., 2009; Hulme, 2009; Nash & Steurer, 2019; Scotford & Minas, 2019). Indeed, much of this latter work is inspired by the CCA itself. Yet little empirical analysis exists on how framework legislation, once implemented, affects domestic climate politics and policy outcomes.

Using the CCA as a case, we undertake the first multi-year assessment of the impacts of a climate change framework law to date. We are interested in particular in two broad categories of outcomes. The first is policy certainty, a key ingredient to effective climate governance according to, among others, Helm et al. (2003) and Nemet et al. (2017). We are curious whether the Act has enhanced the long-term predictability of the government's 'direction of travel' on climate policy. The second outcome of interest is the CCA's impact on political debates surrounding climate change. Specifically, we are interested in whether the Act has influenced the level of cross-party political consensus, the framing of policy debates and policy integration across government. These outcomes have been noted as important to climate governance by for example Carter (2014), Gillard (2016) and Nash and Steurer (2019).

The structure of the paper is as follows. Section 2 provides the analytical context and introduces our empirical approach. The subsequent sections discuss the strengths of the Act with respect to the two main outcomes of interest: the long-term consistency of policy making (section 3) and the quality of the climate debate in the UK (section 4). Section 5 concludes with lessons for climate governance.

2. Context

2.1. Related literature

This paper is part of the large literature on climate change governance, which examines the international, national and sub-national politics of climate policy adoption (e.g. Dubash et al., 2013; Falkner, 2016a, 2016b; Finnegan 2019; Harrison & Sundstrom, 2010; Jordan et al., 2018). There is also a sizeable literature on climate change policy, which prescribes normatively the types of policies and measures countries should adopt and how specific policy instruments should be designed (see Averchenkova et al., 2017 for a summary).

Within this broad research agenda, our paper is related most closely to two strands of literature. The first is a normative literature, which makes the case for climate change framework laws such as the CCA. Countries take different approaches to govern action against climate change: Some put their climate objectives and governance structures in law, while others use existing powers or act through decisions by the executive branch of government. The normative case for a legislative framework rests on the assertion that action against climate change needs a strong legal and democratic basis (Averchenkova et al., 2017; Nash & Steurer, 2019). Scholars are looking for a stable, long-term and integrated approach to climate governance, rooted in law, with

parliament as the natural place to address any socio-political conflicts (Fisher, 2017; Fisher et al., 2009; Hulme, 2009; Scotford & Minas, 2019).

As one of the earliest examples of climate change framework legislation, the CCA has been of interest to this literature. Legal scholars have debated the content of the Act in terms of its structure, the role it assigns to subnational actors and the adequacy of its provisions for the challenge at hand (McMaster, 2008; Muinzer, 2016; Stallworthy, 2009; Townsend, 2009). Benson and Lorenzoni (2014) distilled the main components of the Act from a political science perspective. However, a full legal analysis of the Act and its content was not carried out until 2018 (Muinzer, 2018).

The second strand of literature to which this paper relates is the analysis of UK environmental politics. Political science studies of the CCA have mostly focused on the social and political dynamics that led to its adoption (Carter, 2014; Carter & Jacobs, 2014; Lorenzoni & Benson, 2014; Rutter et al., 2012). They highlight the increased salience of climate change amongst the public and media beginning in 2006, and the entrepreneurial role played by NGOs in pushing the issue up the agenda (Carter & Childs, 2018).

Politics scholars have also looked at the party-political dynamics surrounding the Act. They were interested not least in the strong cross-party consensus underpinning the Act, which stands in stark contrast to the deep partisanship in other Anglo-Saxon democracies that share similar political institutions (e.g. McCright & Dunlap, 2011). Several studies have tracked the strength of this consensus over time, trying to identify political feedback effects that might ensure its durability, but mostly finding growing partisanship and more vocal opposition (Carter & Clements, 2015; Gillard, 2016; Lockwood, 2013). These studies have done much to analyse different components of the Act and uncover the politics surrounding its adoption. However, we know less about the practical impact of the Act and how it has shaped the behaviour of political and economic actors over the longer term.

2.2. Method

While our research questions are shaped by the governance literature, the empirical method is inductive. We are interested in the 'insider' perceptions of policy experts who experienced the Act first-hand. The goal is to assess how the impact of the Act, and the policy framework it created, was understood and experienced by the policy elites who shaped action against climate change during the first decade of the Act's implementation.

To help frame the analysis, we ran a focus group with independent climate change experts, who were asked to identify the main strengths of the Act. The focus group identified three key outcomes related to (i) environmental impacts (emission reductions and increased adaptation); (ii) strengthened long-term policy predictability and continuity; and (iii) improvements in the quality of the political debate and in decision making.

The last two of these were pursued further and informed the format of a subsequent round of semi-structured interviews. Assessing the first (environmental outcomes) would require a different, more quantitative analytical approach. While UK emissions have fallen since the Act was adopted (CCC, 2020), ascertaining the relative contribution of specific interventions like the Act is not possible within our methodological framework (as e.g. in Eskander & Fankhauser, 2020).

The interviews started with open questions about what the respondents consider as the key strengths and weaknesses of the Act. This was followed by a discussion of the two outcomes of interest (long-term policy certainty and the quality of the debate), but respondents were also free to quide the conversation toward the topics they saw as most important. Towards the end of the interview respondents were asked to assess and rate qualitatively the impact of the Act on a few specific, pre-selected policy debates.

The interview transcripts were then anonymised, analysed and synthesized into a set of insider perceptions using the qualitative data analysis package NVivo. We identified a series of response patterns that spoke to the questions of interest. We measured the level of agreement with those lines of argument quantitatively by counting the number of respondents that aligned themselves with a particular point of view.

In reporting our results (sections 3 and 4), we summarize the main response patterns we identified, report the level of agreement with that point of view and relate it to the wider literature. We provide selected quotations from respondents to exemplify those views, add nuance and (where it exists) report disagreement.

2.3. Interview respondents

At the core of our analysis is a series of 33 semi-structured interviews with parliamentarians, government advisers, senior officials, experts and stakeholders who were actively engaged in the UK climate debate between 2008 and 2018. Respondents were interviewed in person or, in some cases, by telephone between September 2017 and January 2018, allowing respondents to reflect on the review period in its entirety.

Respondents were purposively selected to represent relevant perspectives in a balanced manner based on their current and past professional positions (Table 1). Some respondents were engaged with the Act in more than one capacity, adding additional perspectives (beyond those in Table 1) on which their reflections drew. We interviewed approximately equal numbers of politicians, government officials, private sector representatives and civil society stakeholders. We also made sure the entire 10-year period was covered evenly.

Within each of these categories we ensured a representative balance between different political parties and economic sectors. We also sought to include people who had expressed different views on climate change in the past. For example, we interviewed industry representatives from both high-carbon and low-carbon sectors and politicians who had both supported and opposed strong climate action. Consistent with the focus of the Act, the emphasis was on national policy experts, although some of them commented on climate action in Northern Ireland, Scotland and Wales.

3. Policy certainty

3.1. Expected outcomes

Climate change requires constant and consistent policy intervention over decades. Policy makers, however, are often motivated by short-run political considerations and may renege on previous long-term commitments, diminishing the ability of the state to manage long-term actions to address climate change (Blackburn & Christensen, 1989; Helm et al., 2003; Nemet et al., 2017).

Policy certainty can be enhanced through several channels. First, putting policy into law, with due parliamentary oversight, is expected to reduce the scope for backsliding from earlier commitments and to ensure continuity in climate change objectives, targets and policies (Egebo & Englander, 1992; Nemet et al., 2017). Second,

Table 1. Perspectives represented by the 33 respondents.

Perspective (using respondents' most important role only)	No of respondents	Sample
Politicians	8	Respondents 6, 12,13, 14, 23, 24, 29 and 33
by party:		,
Conservatives	3	
Labour	3	
Liberal Democrats	2	
by function:		
Parliamentarians / Government Ministers	4	
Special advisers to ministers	4	
Government officials	7	Respondents 3, 4, 11, 20, 21, 25 and 26
Department for Environment, Food and Rural Affairs	3	·
Department of Energy and Climate Change / (later,	3	
Business, Energy and Industrial Strategy)		
Other Departments	1	
Committee on Climate Change	5	Respondents 7, 8, 9,10 28
Members	3	·
Secretariat	2	
Private sector	8	Respondents 1, 2, 17, 18, 19, 22, 31 and 32
High-carbon/energy-intensive	3	,
Low-carbon (e.g. renewables)	2	
Other (e.g. services, agriculture)	3	
Other stakeholders	5	Respondents 5, 15, 16, 27 and 30
NGOs/think tanks	2	·
Academics	2	
Journalists	1	

long-term predictability can be strengthened by delegating responsibilities for climate policy away from politicians to independent bodies tasked with policy assessment and/or implementation (Grosjean et al., 2016; Helm et al., 2003; Kydland & Prescott, 1977). Third, it is more difficult to ignore, weaken or abolish a parliamentary act than government strategies or white papers, as it requires active legislative processes to amend or remove them (lacobuta et al., 2018).

Given that the CCA includes all of these features, we are interested whether the CCA has enhanced policy certainty and introduced clarity over the long-term direction of policy.

3.2. Long-term predictability

The Act seeks to enhance long-term predictability through a combination of long-term targets (the 2050 objectives) and medium-term carbon budgets that are set 12 years ahead of time. According to the respondents, this has provided policy certainty only in part. Most respondents appreciated the long-term signal sent by the Act, but not everybody felt it has provided sufficient clarity for investment decisions to be made (Table 2).

Respondent 15, an academic, emphasizes that the 'combination of long-term trajectory and shorter-term steps along the way' gives a 'sense of direction not only in the rather long future, but in the near term'. Other respondents point to the 2050 target as an important signal of intent, which removes potential ambiguities as to the long-term direction of travel. For Respondent 16, the 2050 target has forced 'people [to] look at the long-term impact of short-term decisions'. It has ensured time consistency much more than 'the internal government machinery that existed beforehand', including the aspirational targets contained in earlier government documents.

Respondent 28 pointed to offshore wind and the automotive sector as areas where the Act 'has been hugely influential in making the UK a place [in which] people feel they are confident to invest in green projects'. Respondent 21, who has worked both in the government and the private sector, felt that the Act 'helped to make a lot of the upfront, big capital investments'. Respondent 1 from the renewables industry agreed: 'From the perspective of the company I represent, the UK was seen as very investible as a result of the Act'.

However, many respondents made a distinction between certainty about carbon targets, which the Act provides, and certainty about specific climate policies, on which the Act is silent. Respondent 3, a former government official now in the private sector, explained: 'Our commercial decisions are more shaped by actual government action than a very long-term legal framework'. Respondents from industry commented on the level of policy reversals over the past decade, for example on solar subsidies and carbon capture and storage.

Yet, when pressed, only few respondents thought that the Act should be more policy prescriptive, for example by incorporating clearer sector targets. Decarbonization is a dynamic process that involves discovery and learning. For Respondent 8 from the CCC, the flexibility of the Act to respond to trends (e.g. cheaper than expected renewables), but also to accommodate different political philosophies (e.g. attitudes to nuclear energy), is an important strength. Other respondents agreed that in a democracy newly elected governments should have the mandate to change policies as they see fit; that this comes at the cost of less predictability is a price worth paying. However, other interviewees called for rules that are 'predictably flexible' (Respondent 15), that is, for upfront clarification of the rules through which climate policies might be revised.

Table 2 The Act's impact on long-term predictability

Table 2. The Act's impact on long term predictability.				
Argument	Respondents alluding to the argument			
The Act provides a strong and helpful signal about the long-term direction	1; 2; 3; 6; 7; 8; 9; 14; 15; 16; 17; 21; 22; 23; 24; 25; 28; 30; 31, 32; 33			
However, on its own the Act provides insufficient clarity for investors (the Act is <i>not investable</i> on its own)	1; 3; 4; 5; 6; 7; 8; 10; 16; 17; 18; 19; 20; 22; 24			
Counter view: The Act provides sufficiently strong guidance to investors	2; 25; 28; 30; 33			
The Act should not be more policy prescriptive, even if that were to provide more policy certainty	1; 2; 5; 6; 8; 9; 10; 14; 15; 18; 22; 25; 31, 32; 33			



3.3. Protection against backsliding

The Act contains deliberate institutional guardrails, especially around the carbon budgets and the CCC, that are intended to prevent major deviations from the long-term path. The philosophy is similar to that which guides monetary policy (Barro & Gordon, 1983). As in the case of inflation targets, an independent institution, led by technical experts, may be better equipped to take a long-term view than politicians (for a comparison between monetary and climate policy institutions, see McGregor et al., 2012).

According to our respondents, these guardrails have broadly been effective (Table 3). Perhaps the most telling observation was by Respondent 29, a politician who would have liked less climate action. His efforts stalled because the Act created 'an infrastructure that very deliberately made it very difficult to correct the path that we are on'. For other respondents that was exactly the point. The Act has to create safeguards against 'the weakness of politicians' (Respondent 15).

Those safeguards have been tested. Several respondents highlighted the adoption of the 4th carbon budget in 2011 as an important political test of the Act. The budget proposed by the CCC was heavily contested within government and adopted only subject to a later review. That review took place in 2013/14, when the 4th carbon budget (covering the period 2023–27) was passed as recommended. Government officials recalled how the Act strengthened their hand in these situations. Reluctant ministers could be reminded that 'it's the law in the country' to meet the carbon targets (Respondent 4).

Another potential crisis point identified by respondents was the appointment in 2012 of a sceptical Secretary of State for the Environment, Owen Paterson, in charge of adaptation policy. His tenure, though short-lived, coincided with the production of the first statutory National Adaptation Plan. His recalcitrance created 'a lot more work' for the civil service, but because adaptation planning was a statutory requirement, resources had to be allocated and the plan was produced as the Act envisaged (Respondent 21).

While the safeguards introduced in the Act have held in the past, there is a sense that the toughest tests are yet to come. Several respondents were unsure whether the Act offers sufficient protection to force through the emission cuts of the future. Over the past years, the gap has widened between the emissions targets legislated under the Act and the policies put in place to deliver them. The CCC has repeatedly warned that the UK is not on track to meet its statutory obligations (e.g. CCC, 2020). As Respondent 8 observed, 'It's been recognised ... year after year without the gap actually being filled'.

The Act does not formally impose any sanctions should the government fail to deliver. Instead, it relies on the potential political embarrassment that this would cause and on the threat of a judicial review (Lockwood, 2013; McGregor et al., 2012). NGOs are quite willing to play this card. A former NGO representative who is now in the private sector, remembered: 'We used to threaten to judicial-review them the whole time and that really alarmed civil servants' (Respondent 2). However, legal experts warn that enforcing legislation through the courts would be very difficult (Hill, 2009).

3.4. Summary assessment

The expectations of the Act in terms of policy certainty have been met to some degree. When asked to identify the main achievements of the Act in an open-ended question, a strong majority of respondents highlighted the establishment of a long-term framework as the key strength of the Act, and the long-term signalling effect on the direction of travel it provides as the key achievement. However, probed specifically on whether the Act provides sufficient policy certainty and protection against backsliding, respondents differed as to whether this has

Table 3. Institutional guardrails against backsliding.

Argument	Respondents alluding to the argument
The architecture of the Act guards effectively against major policy deviations	1; 5; 6; 8; 9; 15; 16; 17; 21; 22; 23; 25; 29; 30; 31; 33
The Act helps civil servants to push climate policy and climate objectives through	2; 4; 14; 17; 20; 21; 23; 24; 25; 28; 30; 33
The toughest tests of the Act are yet to come	1; 2; 10; 11; 14; 18; 30; 33

been consistently achieved. The limited enforcement mechanisms of the Act were its most-often cited weakness.

4. Impact on the political debate

4.1. Expected outcomes

A key purpose of strategic framework laws is to define the institutional parameters within which the climate debate takes place. Action against climate change requires deep and disruptive structural change, which engenders fundamental political debates about the nature of the challenge, policy options to address it and their distributional impacts on households and businesses. A framework law may help to structure and address potential socio-political conflict and generate a constructive policymaking process (Fisher, 2017; Fisher et al., 2009; Hulme, 2009; Voss et al., 2009).

Framework legislation can assist the quality of the political debate in several ways. Deliberating and passing a climate law can create support for and commitment to the overall climate objective, locking in political consensus through feedback effects (Lockwood, 2013). Once the framework is in place, it can also lock in institutional structures and political routines through which the debate is conducted, defining a process of governing and laying out a roadmap for policy action. Furthermore, setting up independent advisory bodies can help to frame political debates, legitimise policy choices and facilitate access to independent information (Bulmer, 1983).

We investigate whether the CCA has strengthened the UK's climate change strategy and performance by bolstering the institutionalization of, and political commitment towards, action on climate change.

4.2. Political consensus

The ten-year period that followed the adoption of the Act saw considerable political turmoil (e.g. financial crisis, austerity, Brexit referendum) and four different governments, ranging from the centre-left (Labour, until 2010), to the centre (the Conservative – Liberal Democrat Coalition, 2010–15) and centre-right (two Conservative governments after 2015). Throughout this tumultuous period, the Act faced no serious attempts to repeal it. Procedurally, climate policy was implemented in the way the Act prescribed, if sometimes with delays, including the passage of additional carbon budgets in 2011 and 2016. However, substantively, policy delivery started to lag behind, and policy reversals became more frequent (CCC 2020). This caused some observers to wonder whether the political consensus on climate change was sufficiently locked in (Carter, 2014; Gillard, 2016; Lockwood, 2013).

Our respondents were more sanguine about the level of cross-party political consensus, although they agreed that the consensus has somewhat eroded over time (Table 4). Particularly in later years they observed an intensification in the partisanship of the political debate as individual policies became contested. However, respondents were firm that there is no majority either in Parliament or in the main political parties to rescind the Act. When it was passed, only three members of Parliament defied the party whip to vote against it. Even those interviewees more critical towards the Act thought that there were no more than perhaps 25 MPs ('probably more, but still a minority', Respondent 13, a politician) who would have voted against the Act at the time of the interviews. Indeed, the amendment to the Act to increase the long-term target to 'net zero' by 2050 was adopted unanimously by MPs in the House of Commons in June 2019 (18 months after our interviews).

Table 4. The Act's impact on the political consensus.

Argument	Respondents alluding to the argument
The Act was the product of political consensus at the time	1; 2; 4; 5; 6; 8; 10; 11; 15; 19; 20; 21; 22; 23; 24; 25; 27; 28, 29; 30; 31, 32; 33
The Act has cemented the consensus	1; 4; 5; 6; 7; 8; 11; 14; 15; 17; 19; 21; 22; 23; 24; 25; 28; 29; 30; 33
The Act is a symbol of consensus /concern about climate change	6; 16; 18; 21; 22; 23; 24; 25; 29; 30; 33
The climate change consensus has eroded over time	12; 14; 17; 22; 24; 27
There is no political majority or desire to rescind the Act	1; 2; 4; 5; 6; 8; 10; 11; 13; 16; 18; 22; 23; 24; 25; 27; 29; 30; 33

The Act is seen by many respondents as an outward symbol of the broad consensus around climate change that exists in the UK, and which enabled adoption of the Act (Carter & Jacobs, 2014; Clayton et al., 2006). For Respondent 32, one of the architects of the Act, it is 'a kind of lodestar of a signal that there's cross-party support for [climate] action in the UK'. While reflecting the pre-existing broad consensus on tackling climate change, the Act is seen as having become a means for maintaining that consensus. For respondent 4, a former government official, the law has 'helped to bind the consensus together'. Respondent 5, a journalist, explained further: 'Every party and every MP had to say, 'do you agree with this or do you not.' That is very difficult to go back upon'.

The Act also enjoys buy-in from the interviewed industry respondents despite some concern among energyintensive industries. In the words of one of their representatives: 'the problems that have been perceived by industrial energy users are more about short-term measures than the Act itself' (Respondent 18).

4.3. The framing of climate policy

Asked about its impact on the political debate, most respondents felt that the Act has fundamentally changed the framing of climate policy in the UK. Specifically, they thought that the Act had facilitated a more predictable and fact-based debate (Table 5) and identified several reasons for this.

First, the Act introduced a detailed monitoring and reporting process, which means the climate change debate is no longer ad hoc. It has a structure and a routine: 'the Act has got dates, people have to deliver' (Respondent 10, a CCC insider). The statutory timelines demand a slot on the agendas of ministers, government officials and select committees, thus ensuring that the debate 'keeps being had and that we keep moving forward' (Respondent 33, a politician). Respondents from business and civil society reported that they have started timing and tailoring their interventions to the process prescribed in the Act.

The clarity of the reporting requirements means they are taken seriously, ensuring 'transparency and accountability' (Respondent 24, a politician). Former officials recalled how the carbon budget debate would 'galvanise activities' (Respondent 3) and how the adaptation provisions helped officials to 'think more systematically and holistically and longer term' (Respondent 21).

Second, most respondents argued that, thanks to the statutory interventions by the CCC, the UK debate has become more evidence-based. The crucial role of the CCC, particularly in defining the ambition of climate action in the UK, was highlighted by practically all respondents. Respondents describe the CCC as 'an incredibly powerful voice' (Respondent 19, a business representative) with an internal culture of 'absolutely ruthless interrogation' (Respondent 28, a CCC insider). This, according to respondents, has introduced into the debate a new degree of analytical honesty and rigour. Only the representatives from the agricultural sector questioned the technical expertise of the CCC in their area (Respondents 31, 32).

While not all of its calls may have been correct in hindsight (a point made by Respondent 33), the analysis of the CCC is widely trusted in a way that government information or NGO studies could not be (Respondent 16, from a think tank). Its reports are used on all sides of the debate. Experts in government treat the CCC 'with enormous amounts of respect' (Respondent 14, a former civil servant). For opposition politicians like Respondent 12, the CCC has 'provided information to MPs to actually have an intelligent debate'. Business stakeholders like Respondents 18 and 22 say they use CCC analysis both in their interactions with policy makers and in internal discussions with their senior management. These views are corroborated by a recent study of

Table 5. The Act's impact on the framing of climate policy.

Argument	Respondents alluding to the argument
The Act improved quality/impacted the framing of the political debate	1; 2; 3; 4; 5; 6; 7; 8; 9; 10; 11; 12; 14; 16; 18; 19; 20; 21; 22; 25; 27; 33
Specifically, the Act has made the debate more structured, predictable Specifically, the Act has made the debate more evidence-based	1; 2; 3; 5; 7; 9; 10; 12; 19; 21; 22; 25; 33 4; 5; 6; 7; 8; 11; 12; 14; 16; 18; 20; 21; 22; 33
The CCC plays a crucial role in defining UK climate ambition	2; 3; 4; 5; 6; 11; 12; 14; 15; 16; 17; 18; 19; 21; 22; 23; 24; 27; 30; 33*
The Act has not had much impact on the public debate on climate change	9; 23; 24; 25; 30

*Excluding CCC members and staff. Source: Authors based on interviews. Hansard, the verbatim record of parliamentary debate, which found that CCC evidence is used abundantly in Parliament (Averchenkova et al., 2018). One of the few critical voices was Respondent 27, an academic, who felt the CCC had not pushed government hard enough and that its pragmatism was 'part of the problem'.

4.4. Policy integration

One of the roles of a framework law is to facilitate policy integration and introduce climate change concerns to other policy areas (Nash & Steurer, 2019). Action on climate change requires interventions on many fronts. Climate policy, as traditionally understood, includes measures that intentionally reduce emissions or enhance climate resilience, either uniquely (e.g. emissions trading systems) or in conjunction with other objectives (e.g. renewable energy, energy efficiency, flood protection). However, climate outcomes are also affected by the decisions taken in related policy areas such as surface transport (e.g. fuel taxation), aviation (e.g. airport expansion), resource extraction (e.g. shale gas) and environmental protection (e.g. forestry policy).

The majority of the respondents felt that the Act had played a significant and positive role in areas that are the traditional remit of climate policy, such as the EU climate targets, renewable energy support, adaptation planning, and to a lesser extent energy efficiency, although there were some dissenting voices on all these areas (Figure 1).

Respondents differed in their assessment of how the Act has influenced wider policy debates, such as those on airport expansion, shale gas, consumer energy bills and industrial strategy. Climate change concerns featured prominently in the parliamentary debates on all these issues, but it is less clear if it was the Act that forced it on the agenda.

Respondents particularly highlighted the impact of the Act on energy policy. Most thought that design of renewable energy support, a core concern of climate policy, and electricity market reform, which has had wider implications on the structure and regulation of the power sector, have been motivated in large part by the Act. Energy sector specialists, such as Respondents 1, 8 and 9, were keen to emphasize the interplay between the Act and the EU renewables target, which they saw as the mutually reinforcing drivers of power sector transformation. Respondents from the political right were more inclined to credit the Act. They saw the EU renewables target as an unnecessarily expensive, command-and-control way of promoting clean

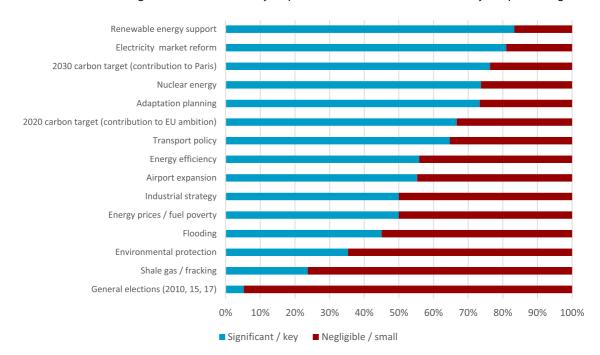


Figure 1. Influence of the Climate Change Act on major policy debates. Source: Authors, based on interviews.

energy. For Respondent 23, a former government advisor, the power sector transformation is '100 per cent' due to the Act and the thinking around it.

Views on the impact of the Act in other areas are more ambiguous. Many respondents highlighted the positive impact of the Act in surface transport. They felt that the debates around electric vehicles and the phase out of the internal combustion engine had been influenced substantively by the Act, although not in isolation. Respondents highlighted the complementary role of EU policies, concern about air quality and the effect of the Volkswagen scandal. In the words of Respondent 3, a government official, 'you would not be having the commitments that we're seeing from government ... in the absence of the Act'. In contrast, several respondents felt that the Department of Transport had been less proactive than other departments, and that this has held back progress in cutting transport emissions.

The institutions created by the Act played a formal role in the debates on airport expansion in London, where the CCC was invited to advise on the compatibility of expansion plans with legislated carbon targets, and shale gas, where the CCC has statutory duties under the Infrastructure Act (CCC, 2009, 2016). However, many respondents felt that the outcome of both debates was also influenced by local issues, such as noise and residential quality of life. For example, climate and local environmental concerns feature equally in the advice to government of the independent Airports Commission (2015).

Respondents also struggled to identify concrete areas of adaptation action that have been driven by the Act. As Respondent 7, a CCC insider, put it, The Act focuses on processes being completed, reports being produced, assessments being published, but there is no requirement in the Act for risks to actually be reduced'. Planning for adaptation, in other words, is not the same as taking adaptation action, and the focus of the Act is on the former.

4.5. Summary assessment

Most respondents acknowledged the impact of the CCA on the quality of the political debate surrounding climate change. They thought the Act had helped to preserve (or slow down a deterioration in) the crossparty political consensus that had led to its creation. They see the strong political consensus around the Act as one of its main features and strengths.

There is wide agreement that the Act has improved the framing of climate policy, making the debate more structured and evidence-based, and that the legislation has produced positive policy feedback effects. However, there is a sense that the impact of the Act on wider policy debates has been uneven. While they feel that the main tests on the Act are yet to come, respondents are confident about its political sustainability.

5. Conclusion

There appears to be a consensus among policy experts that the UK Climate Change Act has broadly lived up to expectations, although with some qualifications. Overall, they felt that the Act has fundamentally changed the institutional context and the processes through which climate change is addressed. Most respondents agree that climate policy is better informed, more predictable and more forward looking as a result. The policy process follows certain routines and statutory requirements, which keep climate change on the political agenda. Although it has wavered at times, the Act has helped to preserve the political consensus around climate change, limiting disagreement to questions of policy implementation, rather than environmental objectives.

As such, our assessment of the CCA is more optimistic than that of earlier studies (Carter & Clements, 2015; Gillard, 2016; Lockwood, 2013), which questioned the political sustainability of the Act. At least over its first decade, our study confirms that the Act has succeeded in maintaining a broad-based political commitment to climate action.

However, it is less clear whether that commitment will lead to effective policy implementation. Many respondents warned that the toughest tests still lie ahead. They observed that the UK is off track to meet its emissions target for the 4th and 5th carbon budgets (2023-2027 and 2028-2032, respectively). They wondered whether the institutional machinery created by the Act will be strong enough to close the gap.

These challenges have since got bigger. In 2019, the UK strengthened its long-term emissions target from an 80 percent cut to net-zero emissions by 2050. The change was essential to bring the CCA in line with the Paris Agreement. However, it further increases the gap between climate ambition and policy delivery.

The socio-political context in which climate policy is delivered has also changed considerably. The decision to leave the European Union means that some central delivery mechanisms, such as membership of the EU Emissions Trading System, will have to be recreated in UK law. At the same time, climate policy will have to be integrated into the post-Covid-19 recovery effort.

Climate laws are affected by context, and have to reflect national legal practice, political culture and the socio-economic dynamics that prevail at the time. Nevertheless, the UK governance model offers some potentially transferable lessons for other jurisdictions.

First, it appears that setting long-term statutory targets and delegating some powers to an independent expert body can be an effective way of increasing the credibility of government action. The UK has a particular tradition of putting policy targets into law and having them monitored by technocratic bodies (Rutter & Knighton, 2012), but the model has not always been successful elsewhere (see Averchenkova & Guzman Luna, 2018 on Mexico's experience). Nevertheless, an independent body with enough stature and clout can be an important commitment device, especially in majoritarian democracies like the UK where two main political parties vie for power and policy can swing dramatically after elections (Finnegan 2019).

A second feature of the Act worth highlighting is the interplay between long-term and short-term targets. The CCA skilfully combines the twin needs for a clear long-term direction of travel and short-term milestones that are meaningful over the planning horizon of decision makers. The fact that carbon budgets are set 12 years ahead of time provides a medium-term bridge between the two sets of targets. Setting targets in advance also makes them easier to approve politically, by parliamentarians concerned about the immediate costs of climate policy to their constituents (Finnegan, 2018; 2019).

A third striking feature of the UK Act is its focus on processes and institutions, rather than tangible policy interventions, such as carbon pricing schemes, which form the core of other climate change frameworks like California's Global Warming Solutions Act (AB32) and France's Energy Transition for Green Growth Act. A practical reason for this is that, by the time the Act was passed in 2008, important carbon policies were already in place, including the EU Emissions Trading System (introduced in 2005) and the Climate Change Levy (introduced in 2001). However, there are also political considerations. The absence of high-profile policies allows successive governments to meet the statutory targets in their own way. On the negative side, it is an important reason why the UK lacks policy continuity and why the Act is not seen as providing sufficient grounds for investment by the business community.

More research is needed on how framework laws on climate change perform in different institutional contexts. There is also room for further assessments of the UK governance model, corroborating and complementing the findings of this study with evidence from different sources (e.g. media coverage and parliamentary records), as well as studying in more depth the impact on emissions.

Nevertheless, our analysis of the UK experience suggests that action against climate change can be materially advanced through a stable long-term framework, rooted in law, which offers clearly articulated targets, responsibilities and decision-making procedures.

Note

1. See Commons Journal 264, No. 148, Section 4, p.645 (https://publications.parliament.uk/pa/cm200708/cmjournal/264/037. htm#148).

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