

The influence of climate change advisory bodies on political debates: Evidence from the UK Committee on Climate Change

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Abstract

Climate change advisory bodies are rapidly proliferating around the world, often with statutory underpinning. While they are argued to be an important component of effective climate governance, few studies have systematically assessed their political influence. Using the UK Committee on Climate Change (CCC) as a case, this paper investigates how such bodies influence political debates on climate change. To do so, we build an original dataset of all CCC mentions in UK Parliamentary proceedings from 2008-2018. We find that CCC analysis is used by all major political parties, that its influence has grown over time and that it has influenced policy debates both within its statutory remit (carbon budgets) and more broadly (energy policy and flood defence spending). Furthermore, most politicians have been supportive of the CCC. They have utilised the information it produces to hold government accountable and to argue for more ambitious policy. We find little evidence that CCC analysis is politicised or that it merely functions as a ‘legitimiser’, providing justification for the government’s pre-decided policy choices. Instead, we find that the CCC functions primarily as a knowledge broker, offering trusted information to policymakers, and at times as a policy entrepreneur. Overall, the CCC experience demonstrates that climate change advisory bodies can play a key role in climate governance.

Key policy insights

- The information and analysis produced by the CCC is widely cited by Parliamentarians across the political spectrum and is often used as the technical basis for political arguments calling for greater ambition.
- CCC evidence has substantial influence in areas that are directly covered by its core statutory mandate, but also wider climate change-related Parliamentary debates, indicating knowledge spillovers.
- The UK experience shows that an expert advisory body can strengthen climate governance by serving as an impartial knowledge broker, contributing to more evidence-based and ambitious policymaking.

Keywords

Climate change advisory bodies, climate change governance, UK climate policy, Committee on Climate Change

1. Introduction

Climate change action needs better governance. The technological, economic and behavioural solutions required to radically reduce greenhouse gas (GHG) emissions are increasingly known. What is missing is the political will and the institutional frameworks that enable the sustained implementation of these solutions (Finnegan 2019). The current body of climate change laws and policies has reduced annual global carbon emissions by less than 15% (Eskander and Fankhauser 2020), much lower than what a emissions path compatible with the Paris Agreement temperature goals requires.

Advisory bodies and committees have emerged as a potential institutional solution to strengthen climate governance and policy credibility. They are expected to bring a longer-term, technocratic and evidence-based perspective to climate policy, which, it is hoped, will make climate policy more informed, more predictable and less prone to political cycles (Brunner et al. 2012; Helm et al. 2003; Hovi et al. 2009; Nemet et al. 2017). The parallel is to monetary policy, where the control of inflation is typically the responsibility of central banks, rather than politicians (Blackburn and Christensen 1989; Egebo and Englander 1992). Although they tend to have fewer powers than central banks, climate change advisory bodies, and the assessments they provide, can similarly enhance governmental accountability for the implementation of climate policy.

An opposing view is that the balance between delegating too much power to unelected technical bodies (which would deprive climate policy of its democratic legitimacy) on the one hand, and not enough (which would deny them the institutional weight to enforce difficult choices) on the other, is difficult to strike (McGregor et al. 2012). Furthermore, new technical bodies add complexity to an intricate institutional landscape, which already features multiple government departments, independent regulators and various executing agencies tasked with the implementation of energy and environmental policy. Lastly, there are concerns about the politicization of expert advice and the potential for advisory bodies to serve as ‘legitimisers’, providing cover for governments to pursue their pre-decided policy choices (e.g. Diamond 2020; Marier 2009).

This ongoing academic debate notwithstanding, more and more governments are setting up advisory bodies to enhance climate change governance (Torney 2019; Weaver et al 2019). They now exist in over 40 countries.¹ Most of them are technical bodies (i.e., comprised of experts rather than politicians or interest groups) with some degree of independence from electoral politics. In Europe, this includes climate advisory bodies in, for example, Denmark, Finland, Ireland, Sweden and the UK. Advisory bodies differ in their key functions and the specificity of their mandates (see Annex 1). Some, like the Finnish Climate Change Panel, have a general mandate to support the government on climate change, though lacking specifics on the type, focus and frequency of support. Others, like the Climate Change Councils in Denmark and Ireland, have a clearly defined role of conducting annual independent assessments of progress. The UK Committee on Climate Change (CCC) stands out with a comprehensive mandate to recommend targets, evaluate progress in both mitigation and adaptation and advise on particular policy choices (such as emissions trading).

¹ See the Climate Change Laws of the World database (<https://climate-laws.org/>). The statistics are based on a subset of countries – the 99 countries covered in Nachmany et al. (2015).

Given the diffusion of advisory bodies, it is becoming possible to empirically assess their influence on climate change policy and politics. This paper contributes to this effort by assessing the influence of the UK CCC on climate policy debates in Parliament over the first decade of its operation (2008 to 2018). To our knowledge, it is the first assessment of any climate advisory body.

The CCC is an ideal setting to examine the political role of climate advisory bodies. It is one of the earliest examples of an independent climate advisory body and has inspired similar bodies elsewhere (Nash and Steurer 2019). It is also widely acknowledged by stakeholders to play a central role in UK climate policy (Averchenkova et al. 2020; Lorenzoni and Benson 2014). Moreover, unlike more recently established bodies, the fact that it has been operational for over a decade makes it feasible to study over the longer term.

We study the influence and functions of the CCC by assessing the ways in which the information it has produced has been used in political debates. First, we assess how and by whom its analysis is used, whether it is trusted and whether it has been politicized. Second, we assess how successful the CCC has been as a statutory advisor on carbon targets. We are interested in the extent to which the CCC's advice, in particular on the five-year statutory carbon budgets, has been followed. Third, we assess the influence of the CCC beyond its core statutory roles. We are interested to know if and how it has influenced broader climate policy-related debates, such as those on energy and flood protection. These three lines of investigation allow us to assess the function(s) the Committee has performed in UK climate politics, whether as a 'legitimiser' (provider of information to justify the pre-decided policy choices of those in power), 'knowledge broker' (impartial provider of technical information to all), and/or 'policy entrepreneur' (provider of new policy options or frames).

To underpin our assessment, we build an original dataset of all CCC mentions in UK Parliamentary proceedings based on Hansard records, the verbatim Parliamentary archive. The detailed data enables a direct assessment of how Parliamentarians in the House of Commons (and for some statistics in the House of Lords) have utilized the information and policy advice produced by the CCC. The focus is therefore narrowly on Parliament, rather than the wider policy debate between government, Parliament and stakeholders in the private and third sectors, to which the CCC also contributes. An account of this wider debate is provided elsewhere in the literature (e.g. Averchenkova et al 2020; Carter 2014; Gillard 2016; Lockwood 2013). We complement these studies by focusing specifically on the role of the CCC as an advisory body and, methodologically, by studying the verbatim record of relevant Parliamentary debates, rather than relying on expert surveys.

The structure of the paper is as follows. Section 2 summarises the statutory role and responsibilities of the CCC, reviews existing literature and introduces our research design. Sections 3 to 5 present our results. Section 3 assesses the use of CCC analysis in Parliament. Section 4 analyses the role of the CCC in debates on carbon targets, where the Committee has an explicit statutory duty to advise Parliament. Section 5 assesses the influence of CCC analysis on wider climate policy-related debates, where the Committee's role is more indirect. We look particularly at two debates, on the 2015-16 Energy Bill and on flood protection. Section 6 concludes.

2. Context

2.1 The UK Committee on Climate Change

The creation of the CCC is viewed by many scholars as one of the most innovative institutional features of the UK Climate Change Act (CCA) (Lockwood 2013; Lorenzoni and Benson 2014; Muinzer 2018). The CCC is an executive Non-Departmental Public Body (NDPB) with a typical annual budget of around £3.5 – 4.0 million in its first 10 years. Its members are chosen for their technical expertise and do not represent particular interest groups or political parties. The Committee is supported by a 30-person secretariat with expertise across relevant climate-related areas. Funding is provided by the UK Government and the devolved administrations of Scotland, Wales and Northern Ireland. Like the CCA itself, the CCC covers both mitigation and adaptation, the latter through a separate Adaptation Committee (previously, the Adaptation Sub-Committee (ASC), which was its name during the period of interest here).

The responsibilities of the CCC are set out in the CCA and include statutory duties to:

- Recommend to Parliament appropriate emissions reduction targets. The CCA stipulates a statutory long-term target for 2050 and a series of five-year carbon budgets, which define the path to 2050. According to the Act, both sets of targets are to be recommended by the CCC and set by Parliament. In 2019, the long-term target was changed to net zero emissions by 2050. The CCC issued its advice for the 6th carbon budget (covering 2033-37) in December 2020.
- Advise the Government on the risks and opportunities from climate change and evaluate its National Adaptation Programme. The CCC's latest report on preparedness for climate change was issued in 2019, with the next report due in 2021.
- Monitor and assess progress on reducing emissions and on climate resilience. The CCC produces an annual progress report to Parliament, to which the Government has a statutory obligation to respond. The CCC's progress reports are statutory documents, presented to Parliament, but the recommendations themselves do not carry any statutory weight. It is the Government's prerogative to set climate policy.
- Provide on-demand advice to the UK Government and the devolved administrations of Northern Ireland, Scotland and Wales on specific questions of climate policy. Under the CCA, the CCC needs to be consulted on any new carbon trading schemes, and under the 2015 Infrastructure Act it has a statutory duty to advise the Government on the carbon implications of the exploitation of UK shale gas and onshore petroleum.

Over the period of interest (2008-18), the CCC has discharged the above responsibilities in a fluid political environment that saw four different governments, the aftermath of the great financial crisis of 2007/2008, and the Brexit referendum of 2016 (see Table 1).

Table 1: Climate change and political milestones 2008-18

| Year | CCC milestones | UK political milestones |
|-------------|---|--|
| 2008 | CCC established, initially in shadow form CCC recommendation of 2050 ambition (80% cut from 1990) Climate Change Act comes into force (November) CCC publishes recommendations on carbon budgets 1–3 (2008–22) | Labour government (PM Gordon Brown) Financial crisis of 2007/08 |
| 2009 | Adaptation Sub-Committee (ASC) of the CCC established Carbon budgets 1–3 enacted by Parliament First CCC progress report (annually thereafter) | |
| 2010 | First ASC Report (annually thereafter, non-statutory) CCC recommendation for carbon budget 4 (2023–27) | General election, Conservative – Liberal Democrat coalition government (PM David Cameron) |
| 2011 | Carbon budget 4 enacted by Parliament (subject to review) | |
| 2012 | First Climate Change Risk Assessment (CCRA1) | |
| 2013 | First National Adaptation Programme (NAP) published CCC advice on carbon budget 4 review | |
| 2014 | Carbon budget 4 confirmed by Parliament | Severe winter floods in the South West of England |
| 2015 | First ASC statutory adaptation assessment (bi-annually thereafter) Infrastructure Act, assigning new responsibilities to the CCC CCC recommendation for carbon budget 5 (2028–32) | General election, Conservative government (PM David Cameron) Severe winter floods in the North of England |
| 2016 | Carbon budget 5 enacted by Parliament | Brexit referendum |
| 2017 | Second Climate Change Risk Assessment | General election, Conservative minority government (PM Theresa May) |
| 2018 | Government invites CCC to advise on a Net Zero emissions target | |

2.2 Climate change advisory bodies

The use of independent advisory and regulatory bodies in public policy has diffused widely since the 1980s as governments have sought new forms of governance (Majone 1997a; Thatcher 2002). Their functions have been conceptualized to vary across a broad spectrum (Owens 2011; Marier 2009; Bulmer 1983). At one end, bodies can act as ‘legitimisers’, enabling governments to pursue pre-decided policy choices under the guise of scientific evidence. Such bodies are often based on partisan motives (e.g. Marier 2009) and can result in politicised advice (e.g. Craft and Howlett 2013).

Bodies can also act as ‘knowledge brokers’, providing information to all relevant actors, and by doing so, clarifying policy alternatives for politicians (Pielke 2007).² Charging a body of dedicated experts with the generation of timely information and policy recommendations is argued to improve the quality and quantity of information available to policymakers (Majone 1997b; McGregor et al. 2012; Thatcher 2002). These bodies can translate scientific knowledge into ‘serviceable truth’ for governments (Jasanoff 1990). And rather than advocating for a particular policy solution, ‘honest’ and neutral knowledge brokers are argued to pave the way for the safe movement of scientific knowledge into the policy process. This can help foster credibility for the body and its staff, legitimacy of the information provided, and trust in its neutrality (Duncan et al. 2020; Gluckman 2014; Pielke 2007).

At the other end of the spectrum, advisory bodies can act as ‘policy entrepreneurs’, using their reputation and resources to provide new framings for policy challenges and expand the menu of policy options through policy innovations (Kingdon 1984; Mintrom 2019). Doing so can influence the policy choices that governments ultimately make (Owens 2011; Owens and Rayner 1999; Litfin 1994).

This paper applies this categorisation to climate change advisory bodies, and in particular the UK CCC. To our knowledge it is the first paper to do so. The climate change literature has had a different focus so far. Instead of studying the legitimising or knowledge broker role of climate committees, it has emphasized the role they can play in increasing the credibility of policy commitments (Brunner et al. 2012; Hovi et al. 2009). Researchers have argued that delegating policy decisions to independent advisory bodies, insulated from electoral politics, can be an effective ‘commitment device’, helping governments to overcome time-inconsistency problems (Grosjean et al. 2016; Helm et al. 2003; Nemet et al. 2017). Yet to our knowledge, no climate bodies have been delegated formal policymaking powers. Instead, governments have primarily tasked them with advisory and monitoring roles.

In the specific case of the UK CCC, the academic debate has focused on its effectiveness. Some have argued that, while well-intentioned, the CCC may have little influence (McGregor et al. 2012). Yet more recently, Averchenkova et al. (2020) find in interviews that many experts believe that information provided by the CCC has introduced analytical honesty and rigour into the UK climate policy debate, making it more evidence-based overall. Furthermore, they find that it is a widely trusted and respected information source used by

² Scholars have alternatively referred to the knowledge broker function as that of the ‘rational analyst’ (Bulmer 1983; Owens 2011).

politicians across political parties, civil servants, and business. Our analysis contributes to this debate by empirically investigating the influence and functions of the Committee.

2.3 Research design and methods

Influence is a multidimensional concept (Owens 2011). On one end are direct and rapid policy actions taken by governments in response to recommendations set out by an expert body. On the other are the diffuse, medium- to long-term effects of these bodies on the general politics of a particular policy area. They include impacts on mental models about the nature of the policy problem and the menu of appropriate policy responses, as well as political discourse, the positions of individual politicians and political parties, and knowledge spillovers from the body's primary issue area to other related policy spheres.

We explore a variety of indicators to assess the CCC's influence along this continuum. First, we analyse the extent to which information produced by the CCC has permeated political debates. We do this by measuring how often CCC-generated knowledge has been used by politicians in Parliament, and if so, by which parties. We use Hansard (UK Parliament 2018) to create a database of Parliamentary mentions of the CCC between 1 December 2008 and 1 May 2018 (see Table 2 for details). Our units of analysis are interventions (e.g., speeches, remarks, questions, and answers to questions) made in Parliament. To serve as a basis of comparison, we also extract interventions which mention the Intergovernmental Panel on Climate Change (IPCC) and 'climate change' generally.

We next investigate the extent to which the CCC has had a direct, short-term influence on government policymaking by examining whether politicians follow its advice when setting carbon budgets. To do so, we undertake content analysis of all Parliamentary carbon budget debates between 2009 and 2018. Specifically, we extract full debate text from Hansard and then hand code it with NVivo software using the coding frames described in Figure 4 below.³ We also study the Parliamentary decisions on carbon budgets using relevant CCC reports. Because the CCC is the government's statutory advisor on such matters, this constitutes a sharp test of whether the body has direct policymaking influence.

Lastly, we return to examining diffuse effects by analysing the extent to which CCC-authored information has spilled over into broader debates relevant to mitigation and adaptation. For this, we look to see whether and how politicians cite CCC evidence when debating policies beyond the Committee's statutory remit. Specifically, we undertake content analysis of the Hansard records for two sets of debates, those related to the Energy Bill of 2015-16 and those related to flooding between 2014 and 2016. (The coding frames are described in Figures 6 and 7 below).

These two policy areas are good cases to study the influence of the CCC on wider debates. The energy sector has been a key focus of UK climate policy. As a consequence, it can be difficult to disentangle climate policy from energy policy. Unlike the 2012-13 Energy Bill, which was driven heavily by climate change concerns, the Energy Bill 2015-16 (now the

³ The initial coding was conducted by two research assistants. Reliability checks were then carried out on a sample of transcripts coded independently by a principal investigator.

Energy Act 2016) considered a wider range of issues beyond climate change. In contrast, the need to prepare for the effects of climate change has generally enjoyed much less political salience. However, the debates around flooding, which combine aspects of disaster risk management and adaptation, are a notable exception.

Table 2: Overview of sources of data and methods of analysis

| Question(s) of interest | Period assessed | Data source | Method of data collection and assessment |
|--|-----------------|--|--|
| Is CCC-generated knowledge being used by politicians? In what policy areas has the knowledge been used by Parliament? | 2008-2018 | Hansard, the verbatim record of UK Parliament | <ul style="list-style-type: none"> Manual extraction of mentions of ‘Committee on Climate Change’, ‘Climate Change Committee’, ‘CCC’, ‘Adaptation Sub-Committee’ and ‘ASC’. For each mention, we record the date, the House (Commons or Lords), the name of the debate or legislation, the speaker, her/his political party, and her/his position in cabinet or shadow cabinet (if applicable). Descriptive statistics compiled for CCC mentions by year, political party, policy area or parliamentary debate. |
| Has the CCC had a direct, influence on climate policy through its advice on carbon budgets? | 2008-2016 | <ul style="list-style-type: none"> CCC reports Hansard | <ul style="list-style-type: none"> Analysis of statutory recommendations in CCC progress reports against the recommendations adopted. Content analysis of parliamentary debates. |
| How has the CCC analysis influenced broader debates relevant to mitigation? | 2015-2016 | <ul style="list-style-type: none"> Hansard | <ul style="list-style-type: none"> Content analysis of parliamentary debates. |
| How has the CCC analysis influenced broader debates relevant to adaptation? | 2014-2016 | <ul style="list-style-type: none"> Hansard | <ul style="list-style-type: none"> Content analysis of parliamentary debates. |

Note: If during a single intervention a politician references the CCC one or more times, this is coded as one mention. To ensure the accuracy and reliability of our data, we re-ran the Hansard search to check whether the results matched our dataset and randomly sampled interventions to check that the CCC was indeed mentioned.

Throughout these analyses, we use the following criteria to assess the governance functions of the CCC. To examine whether the CCC has functioned as a legitimiser, we analyse which politicians use its information. If CCC information is utilized primarily by politicians of the governing party, especially cabinet ministers, we take this as evidence of a legitimiser function (Owens 2011). Evidence of a knowledge broker function includes CCC-generated information being used by all political parties (suggesting little polarisation of scientific evidence and advice) and there being little direct criticism of the Committee (suggesting that the CCC is trusted by politicians (Duncan et al. 2020; Gluckman 2014; Pielke 2007)). Lastly, the CCC’s policy entrepreneur function is associated with Parliamentary interventions that introduce new policy ideas or call for greater policy ambition based on CCC information.

Before proceeding, it is important to clarify that we do not make causal claims about whether or not the CCC as a body has had an effect on climate policy adoption or implementation. Instead, we are interested in how information produced by the Committee has or has not been utilized by politicians in Parliamentary debates surrounding climate policy.

3. The CCC in Parliament: An Overview

This section examines whether and how CCC-generated information is utilized across Parliamentary debates. The statistics provide a big picture, quantitative sense of how relevant CCC analysis is to Parliamentarians. They also identify use patterns in terms of party affiliation, Parliamentary function and rank.

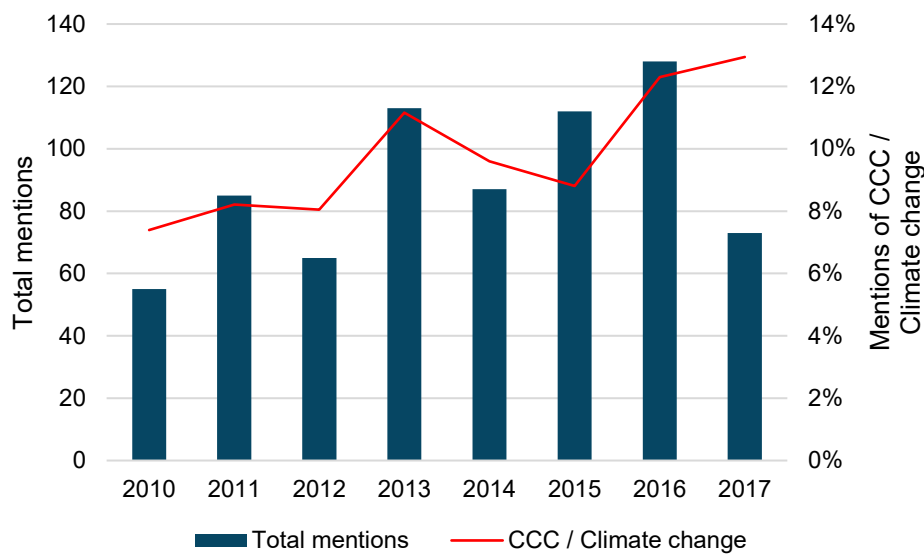
3.1 CCC mentions in Parliamentary debates

The Parliamentary records show that legislators made extensive use of the evidence provided to them by the CCC. Between 1 December 2008 and 1 May 2018, the CCC and ASC were referenced in 856 Parliamentary interventions. These interventions were spread over 379 individual sittings of Parliament and include 484 interventions in the House of Commons (56.5%) and 372 interventions in the House of Lords (43.5%). To put these numbers in context, the CCC was referenced almost five times more often than the IPCC, the most authoritative body on climate change science internationally.⁴ About 40% of all mentions occurred in debates about carbon targets or new Government bills, rather than general parliamentary discussion.

The CCC's influence on Parliamentary debates (in the Commons and Lords) has grown over time (Figure 1). In 2010, about 7% of Parliamentary speeches related to climate change referred to the CCC (the red line). By 2017 this number had almost doubled to 13%. In absolute terms, the total number of Parliamentary mentions grew from around 55 per year in 2010 to over 100 in 2015 and 2016 (the blue bars). The absolute number of CCC mentions fell in 2017, most likely as a result of Parliamentary attention shifting away from climate change after the Brexit Referendum of June 2016. Still, the CCC continued to be mentioned frequently in climate-related debates.

⁴ Data for the period 2010 to 2017. There were 718 references to the CCC during this time and 151 references to the IPCC.

Figure 1. CCC mentions by Parliamentarians



Note: For data availability reasons, the series only runs from March 2010 to the end of 2017. The bars represent the total absolute number of CCC mentions. The red line represents a metric of CCC mentions divided by mentions of 'climate change'. This statistic can be interpreted as measuring the extent to which the CCC is mentioned in Parliamentary debates related to climate change.

Source: Hansard (UK Parliament 2018)

3.2 The use of CCC information by political party

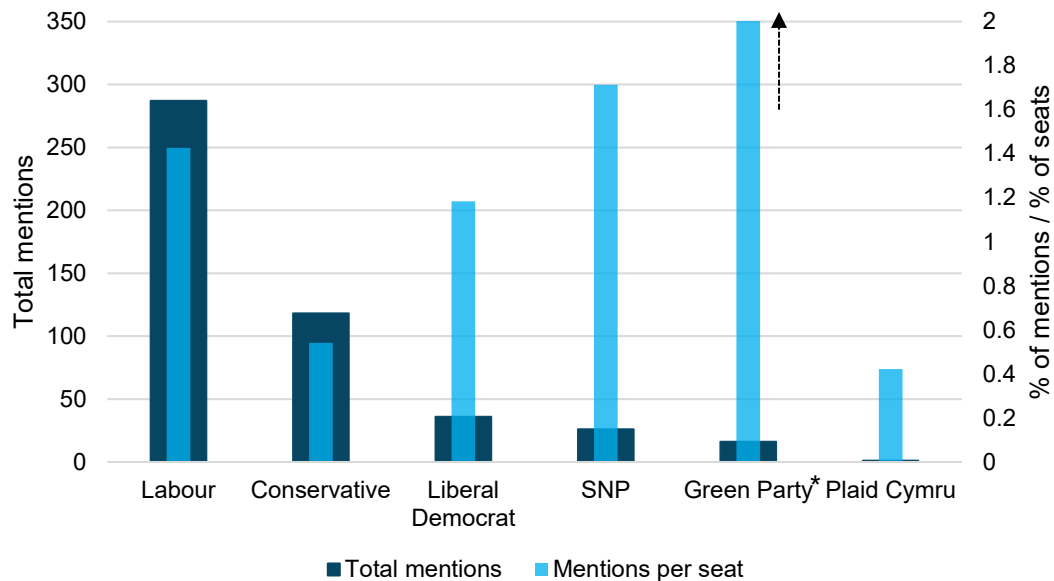
Most political parties in the House of Commons, including all major ones, have mentioned the CCC at least once in their interventions since 2008 (Figure 2). The Labour Party is responsible for about 60% of all mentions (287 out of 484) and the Conservatives for just under 25% (118 out of 484). The Liberal Democrats are responsible for 7.5% of CCC references.

To take into account party size, Figure 2 also shows each party's share of CCC references divided by their share of Parliamentary seats. Parties with a score above 1 refer to the CCC more often than their seat share would suggest, while parties with a score below 1 refer to the CCC less often.

The party with the highest score is the Green Party, whose sole MP has referred to the CCC 16 times since joining Parliament in 2010. The Scottish National Party, Labour and to a lesser extent the Liberal Democrats also refer to the CCC disproportionately often. In contrast, Conservative MPs cite the CCC only about half as much per seat.

Opposition parties have tended to mention the CCC more than government parties. There may be a number of reasons for this. First, parties in government have access to information from the civil service, which they may cite instead of CCC evidence. Second, it may be that CCC analysis is used by the opposition to scrutinise the Government and hold it to account. Lastly, it may be a partisan effect. The Labour Party has both made the most overall CCC mentions and been in opposition for most of the sample period (2010 to 2018). More mentions by the opposition may simply reflect a prioritisation of climate policy by Labour.

Figure 2. CCC mentions by political party in the House of Commons (2008–2018)



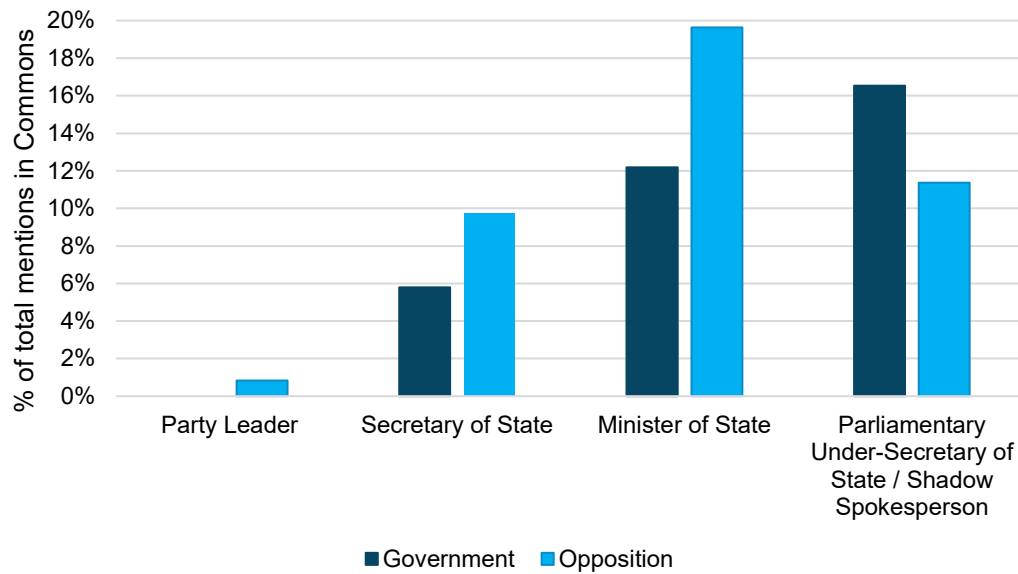
Notes: *The Green Party has a score of 26 (right-hand axis). Labour (left), Conservatives (right) and Liberal Democrats (centre) are the main national parties. The Scottish National Party (SNP) and Plaid Cymru (Party of Wales) are regional parties.

Source: Hansard (UK Parliament 2018)

Frontbenchers, that is members of the Government and shadow ministers from the opposition, are notably more likely than backbenchers (MPs that do not hold government office) to refer to the CCC. In the House of Commons, frontbenchers account for 78% of CCC mentions. Across both houses (Commons and Lords), they were responsible for 47% of mentions. (About 100 members each from the party(ies) of Government (ministers) and the opposition (shadow ministers), out of 650 members of parliament, have frontbench status.)

In the House of Commons, shadow ministers, shadow spokespersons and shadow secretaries of state made the most mentions – evidence again that CCC analysis is used more by the opposition (Figure 3). For the Government, Parliamentary Under-Secretaries made the most mentions in the Commons, perhaps because they are closest to the details of climate policy. To date, no Prime Minister has mentioned the CCC, but leaders of the opposition are responsible for about 1% of mentions in the Commons.

Figure 3. CCC mentions in the House of Commons: Government vs. Opposition (2008–2018)



Note: Secretaries of State and Shadow Secretaries of State are the most senior ministers and members of the (shadow) cabinet. Ministers of state are responsible for particular portfolios (such as climate change), but without cabinet rank. Parliamentary Under-Secretaries of State are the lowest tier of government ministers.

Source: Hansard (UK Parliament 2018)

average)

3.3 Summary

Our analysis of Parliamentary debates over a decade suggests that the CCC has been an effective knowledge broker, providing information that has consistently been referenced by all political actors and is used ahead of other authoritative sources such as the IPCC. We find little evidence that CCC analysis is used by Government officials to legitimate their pre-decided objectives. Indeed, opposition parties tend to mention the CCC more often. While CCC analysis is used to underpin political arguments, there is little evidence that its information is being politicised. Instead, the CCC appears to have been successful in informing the political debate and creating a shared evidence base, which is consistent with findings from Averchenkova et al. (2020).

4. The CCC as a Statutory Advisor

A key statutory responsibility of the CCC is to make recommendations on intermediate carbon targets, known as the five-year carbon budgets. The CCC’s role is to recommend the level of carbon budgets to Government, which, based on that recommendation, puts forward a proposal to Parliament.

Here we study how effective the CCC has been in discharging this core duty and how Parliament has engaged with the Committee’s advice. Over our period of interest, the CCC made recommendations on five carbon budgets covering the period 2008 to 2032. In

response, Parliament has passed three carbon budget orders, in 2009 (the first three carbon budgets), 2011 (fourth carbon budget) and 2016 (fifth carbon budget).

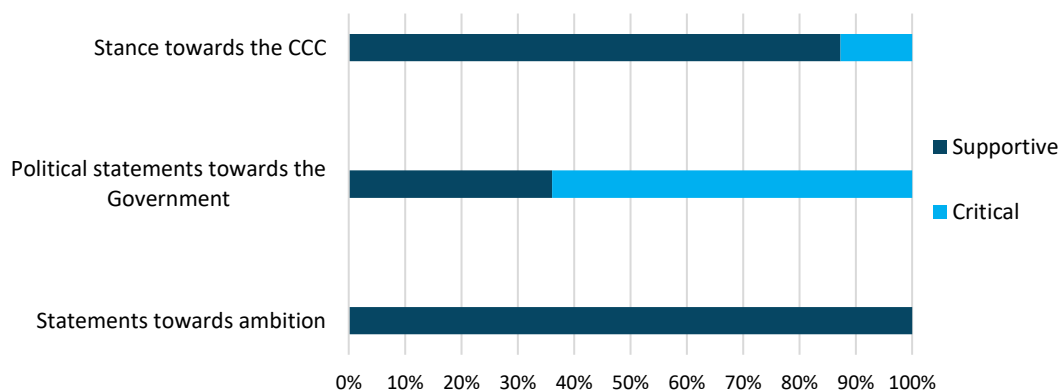
In our analysis, we consider the debate of these three orders in both the House of Lords and the House of Commons (six debates in total). In these debates, Parliament was explicitly deliberating recommendations made by the CCC. They therefore provide a direct indication of Parliament’s attitude towards its statutory advisor.

4.1 Overall attitude towards CCC advice

Parliamentary references to the CCC during the six carbon budget debates were generally positive (Figure 4). Parliamentarians either directly endorsed the CCC’s recommendations or cited them to call for additional action. Of this latter group, all were in the context of calling for greater policy ambition (e.g., to include additional sectors, tighten accounting rules or increase policy stringency). When speakers took a position towards Government policy, about two-thirds were critical of the Government and referenced CCC evidence to support their claims.

In 2009, discussions on the first three carbon budgets revolved around progress made in decarbonising the economy and additional steps needed. During the fourth carbon budget debate in 2011, all speakers referring to the CCC endorsed the Committee’s recommendations and called on the Government to follow its advice. Moreover, some speakers demanded explanation for why certain recommendations were being ignored (e.g. on accounting practices for trading under the EU Emissions Trading System).

Figure 4. Context of CCC references in six carbon budget debates



Note: The chart analyses references to the CCC with respect to three contextual aspects: (i) whether speakers are critical or supportive of the CCC and its analysis (here the supportive category also includes neutral views); (ii) where speakers adopt a stance towards Government policy whether CCC evidence is used to support or criticise Government, and (iii) where speakers call for action whether CCC evidence is used to advocate increased action (labelled ‘supportive’) or reduced action (labelled ‘critical’).

Source: Hansard (UK Parliament 2018)

The same dynamics were at play in the 2016 discussions on the fifth carbon budget. Most Parliamentarians cited CCC recommendations to endorse the level of the proposed budget. However, in many instances evidence from the CCC was also cited to question or criticise the

Government for not acting in line with the Committee’s policy recommendations and for being behind on meeting emission reduction targets.

Criticism of the CCC itself by Parliamentarians was relatively rare, accounting for less than 13% of all references (see Figure 4). Over time, however, the number of critical references has notably decreased from nine in 2009 to three in 2011 to zero in 2016. While a number of factors likely contributed to this decline, it suggests a growing trust in the CCC’s analysis across all major political parties, which is noteworthy given that the cross-party political consensus on climate action has come under increasing pressure over time (Carter 2014; Gillard 2016; Averchenkova et al. 2020).

4.2 Parliament’s adherence to CCC advice

While the evidence indicates that politicians utilise CCC information during carbon budget debates, a closer look at CCC reports shows that the extent to which its recommendations have made it into law is mixed (Table 3). The first set of statutory recommendations – on the 2050 carbon target and the first three carbon budgets, all made in 2008 – were passed under the same political consensus that had led to the near-unanimous adoption of the Climate Change Act (Averchenkova et al 2020).

However, by the time it came to setting the (much more ambitious) fourth carbon budget in 2011, the political climate had changed. There was considerable opposition from parts of Government, including from the Treasury, to CCC recommendations (Carter 2014; Gillard 2016). In the end, Parliament passed the fourth budget as recommended, but insisted on a review a few years later. A crucial further recommendation, to tighten the second and third carbon budgets, was ignored. For the fifth carbon budget, set in 2016 and covering the period 2028–32, Parliament legislated the level recommended by the CCC, but rejected a more technical recommendation to bring emissions from international shipping into the accounting framework.

The CCC has also had difficulty getting its broader advice accepted. The Committee’s annual progress reports to Parliament contain detailed policy recommendations. However, they do not carry any statutory weight and the Government’s response is frequently non-committal (e.g. Her Majesty’s Government 2019a, 2019b). While the CCC’s progress assessments have become increasingly explicit and assertive, they have not significantly altered the Government’s policy positions (e.g. CCC 2019, 2020).

Table 3. Parliamentary responses to the CCC’s main recommendations

| Issue (date) | CCC recommendation | Parliamentary decision | Advice implemented... |
|-------------------------------------|--|--|-----------------------|
| 1st, 2nd, 3rd carbon budgets (2009) | Set <i>interim budgets</i> that result in a 34% cut in emissions by 2020. Replace them with <i>intended budgets</i> equivalent to a 42% cut following a global deal. | Legislated the interim budgets at the recommended level. The expected global deal did not materialise. | Fully |
| 4th carbon budget (2011) | Set a <i>domestic action</i> budget equivalent to a 50% cut by 2025. Change the earlier budgets to the previously recommended <i>intended</i> level. Legislate a tighter <i>global offer</i> budget after a global deal. | Legislated the <i>domestic action budget</i> , subject to a review in the light of evolving circumstances. Earlier budgets were not changed. | Partially |

| | | | |
|---------------------------------|--|---|-----------|
| 4th carbon budget review (2014) | There is no legal or economic basis for a change in the 4th carbon budget | Confirmed the 4th carbon budget as originally set | Fully |
| 5th carbon budget (2016) | Set a budget that is equivalent to a 57% cut in emissions by 2030, including emissions from international shipping | Legislated a budget requiring a 57% cut, but without bringing international shipping into the framework | Partially |

Source: CCC reports.

4.3 Summary

The analysis above provides further evidence that the CCC has been effective in its statutory role as a knowledge broker. Parliamentary records show that its recommendations were widely used by politicians and few were critical of it. Its statutory advice was generally followed, though not always to the letter.

The fact that a larger share of citations were critical towards the Government and called for greater ambition is further evidence against the hypothesis that the Committee is a legitimiser, which simply rubber stamps the Government's policy choices. Instead, it suggests that the CCC has strengthened accountability for the implementation of climate change legislation.

Our document review suggests that the CCC has also acted as policy entrepreneur by proposing changes to the scope of the targets and carbon accounting rules towards a greater level of ambition. However, while it succeeded in putting these policy issues on the political agenda, CCC has been less successful in securing policy change in those areas.

5. The CCC as an Influencer of Wider Debates

The statutory remit of the CCC is climate policy. However, climate outcomes are affected by decisions taken in many policy areas, including energy, transport, housing and agriculture. This section investigates whether CCC analysis has spilled over beyond its statutory duties to contribute to other climate-related Parliamentary debates. After offering an overview of CCC influence, we look in detail at one debate surrounding mitigation and another on adaptation.

5.1 Overall influence

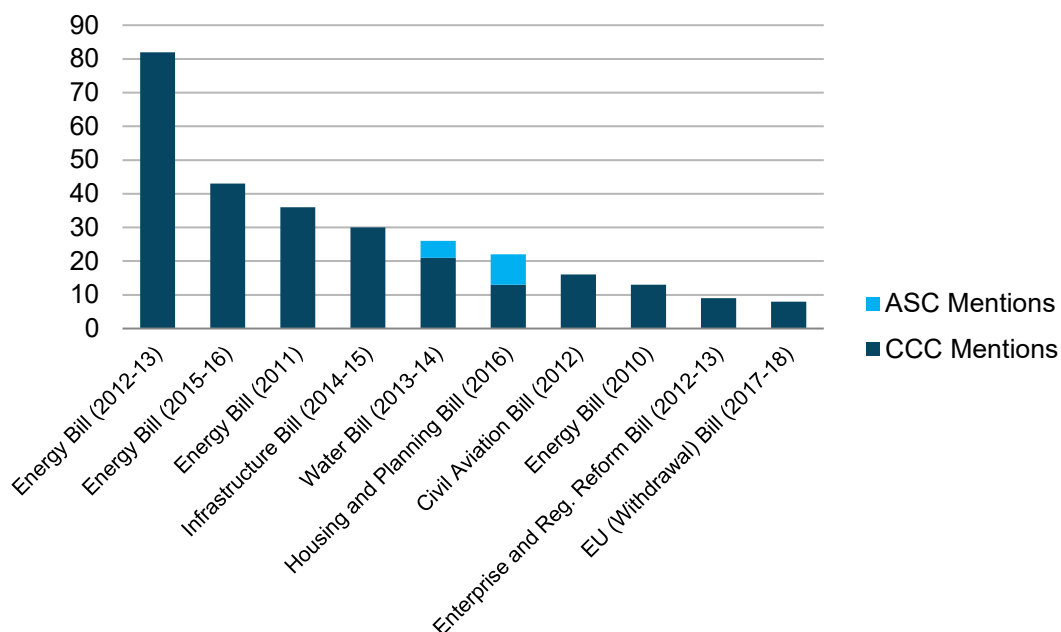
The CCC has been mentioned in debates of 21 Government bills between late 2008 and early 2018. These bills cover a breadth of areas, including infrastructure, water, housing, enterprise reform and withdrawal from the European Union. Figure 5 plots the ten bills where the CCC was mentioned most.

The policy issue to which the CCC has contributed most is energy. This is unsurprising, given that the transformation of the energy sector is at the core of the low-carbon transition. Around 22% of CCC mentions in Parliament occurred during debates on the 2010, 2011,

2013 and 2016 Energy Bills (Figure 5).⁵ On average, the CCC was referred to in every third sitting on the four bills. The CCC was particularly vocal about the 2013 Electricity Market Reforms (part of the 2012-13 Energy Bill), the importance of which the Committee highlighted over many years (e.g., CCC, 2009, 2012).

The CCC also featured in the debates on the Infrastructure Bill (2014–15), which assigned the Committee a new statutory duty to advise Government on the carbon implications of exploiting UK resources of unconventional oil and gas (fracking). Parliamentarians also referred to the CCC and the ASC during debates on the Water Bill (2013–14), which introduced a new flood reinsurance scheme (Flood Re), the Housing and Planning Bill (2016), which inter alia dealt with the energy performance of buildings, and the Civil Aviation Bill (2012), where aviation emissions were a concern.

Figure 5. Mentions of the CCC and ASC in debates on Government bills



Note: The dates refer to the period during which the bills were debated in the two Houses of Parliament.

Source: Hansard (UK Parliament 2018)

5.2 The Energy Bill 2015–16

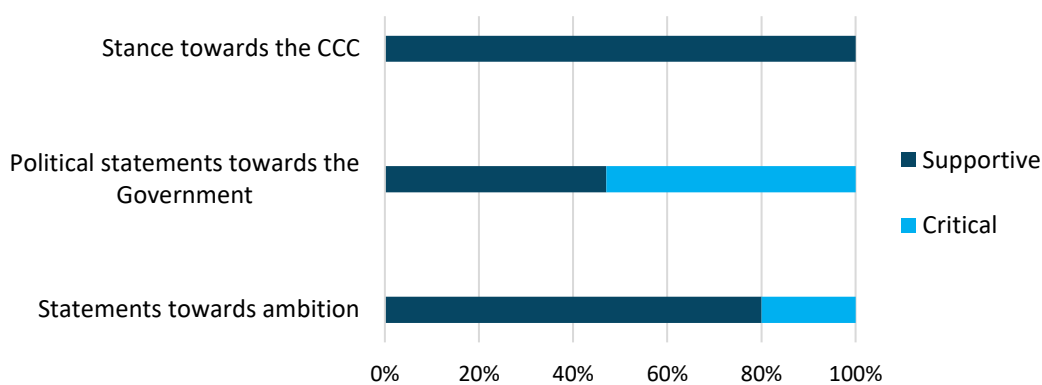
To assess the influence of the CCC on energy policy more broadly, we study the Energy Bill 2015-16 (now the Energy Act 2016), which considered a wider range of energy issues. The bill made provisions for the Oil and Gas Authority and the abandonment of offshore installations and addressed rights to use upstream petroleum infrastructure. It also determined provisions about the disclosure of information for the purposes of international agreements

⁵ We refer to Parliamentary Bills as per the record on their Parliamentary debate in Hansard (UK Parliament 2018). When the Bills receive royal assent, they become Acts. Thus, the ‘Energy Bill 2012-13’ became the Energy Act 2013.

and fees related to oil-, gas-, carbon dioxide- and pipeline-related activities. Finally, it made small technical amendments to the subsidy system and approval process for wind power.

In total, there were 25 debates across both Houses of Parliament. The CCC was mentioned in nine of them. All mentions were supportive of the Committee (Figure 6). CCC analysis and advice provided an evidence base to Parliamentarians from all parties advocating higher ambition. The Committee was cited in politicians’ proposals that the Government seek its advice on energy decarbonisation targets and underlying policy measures for the energy sector (which was ultimately rejected), as well as that the Secretary of State publish an assessment of progress towards the decarbonisation of energy supply.

Figure 6. Context of references to the CCC in the debates on the Energy Bill 2015–2016



Note: The chart analyses references to the CCC with respect to three contextual aspects: (i) whether speakers are critical or supportive of the CCC and its analysis (here the supportive category also includes neutral views); (ii) where speakers adopt a stance towards Government policy whether CCC evidence is used to support or criticise Government, and (iii) where speakers call for action whether CCC evidence is used to advocate increased action (labelled ‘supportive’) or reduced action (labelled ‘critical’).

Source: Hansard (UK Parliament 2018)

The CCC was also referenced in the context of the Government’s support for onshore wind. All of the interventions citing the CCC were critical of the reduction in Government support for renewable energy. The advice and analysis by the CCC were used as the technical justification for their political arguments.

Specific references to the CCC were further made in a range of technical discussions. The CCC was mentioned during the discussion of accounting rules for GHG emissions and the possibility of borrowing emission reductions from future carbon budgets. The CCC’s advice and analysis was cited by those calling for a review of the accounting rules and by those arguing that no borrowing from the future carbon budgets should be allowed.

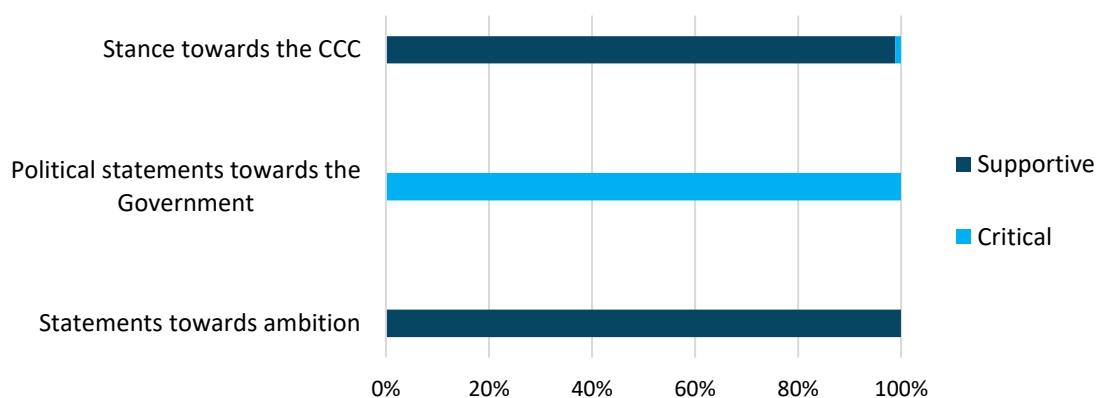
5.3 The debate on flooding 2014–2016

During the winters of 2013/14 and 2015/16, parts of the UK experienced severe flooding. The scale of the impact pushed flood protection up the political agenda, not least since flood defence expenditure had been cut in the years immediately before the floods (ASC 2014).

Parliament debated flooding on a number of occasions. The CCC contributed to this debate through information and analysis provided by the ASC. The debates evolved around the adequacy of the response by Government to the consequences of flooding, and the impact of funding cuts on the ability of local authorities to prepare for and address the impacts. A central issue was the general condition of the existing flood defence system. Speakers made good use of the information provided to them by the ASC, including its analysis on historical underinvestment in flood defences (ASC 2014). The Government ultimately agreed to increase flood defence spending.

ASC (and CCC) references by policymakers reflected the nature of the flooding debate. It was much more political than other debates in which the CCC or ASC featured. Every ASC reference in which a political stance was taken, was critical of Government policy (see Figure 7), and they all came from opposition politicians. ASC evidence and recommendations provided them with a technical justification to criticise the Government for the inadequacy of its flood response, its preparedness and risk management strategy, and its investment in addressing flood risks, especially in light of past and further planned budget cuts.

Figure 7. Context of references to the CCC/ASC in the debates on flooding



Note: The chart analyses references to the CCC with respect to three contextual aspects: (i) whether speakers are critical or supportive of the CCC and its analysis (here the supportive category also includes neutral views); (ii) where speakers adopt a stance towards Government policy whether CCC evidence is used to support or criticise Government, and (iii) where speakers call for action whether CCC evidence is used to advocate increased action (labelled 'supportive') or reduced action (labelled 'critical').

Source: Hansard (UK Parliament 2018)

All interventions referencing the work of the ASC argued for greater ambition. Speakers referred to the ASC when calling for more ambitious action on flood defences, climate risk management and adaptation more broadly. They also referenced the ASC when pointing to the expected increase in the occurrence of floods due to climate change. Some of them called on the Government to rely more heavily on the advice of the CCC/ASC when planning flood defence budgets. All but one reference to the ASC and its outputs were either directly supportive, complementing its work, or neutral in tone (i.e., making a technical reference).

5.4 Summary

Although the CCC does not have a formal statutory role in wider policy debates (apart from duties on shale gas, acquired under the 2015 Infrastructure Act), our analysis suggests that the CCC has performed the role of a knowledge broker beyond its immediate statutory mandate.

Consistent with our findings on the carbon budgets debate, the overwhelming majority of politicians took a supportive stance on the CCC in debates on the 2015-16 Energy Bill and on flooding. While CCC evidence was used by both supporters and detractors of the Government's energy policy, in the case of flooding, it was utilized only by opposition politicians to criticise the Government's actions. This confirms the importance of the CCC as a knowledge broker and provider of technical information, particularly for those politicians committed to strengthening climate change action.

6. Conclusion

Lawmakers around the world are reviewing their approach to climate change. Many of them see independent advice and scrutiny by an autonomous advisory body as an important aspect of a new institutional setup. By analysing the case of the UK Committee on Climate Change, this paper contributes to the emerging understanding of the role that advisory bodies play in climate governance.

We find strong evidence that the CCC's analysis is used by Parliamentarians across the political spectrum and that its influence is growing over time. The CCC has had substantial influence on Parliamentary debates within its statutory remit (the setting of carbon budgets), and to some extent on wider debates, indicating some spillover effects. We find that the majority of politicians have taken a supportive stance toward the CCC as an institution, and use its analysis to criticise the Government's policy, hold it to account and argue for more ambitious policy.

This suggests that the CCC has been an effective knowledge broker, providing independent analysis to all political actors and clarifying policy alternatives for politicians. In some areas, such as the scope of carbon targets and carbon accounting rules, the CCC has also served as a policy entrepreneur. There are no signs that the Committee has been reduced to the role of legitimiser, simply providing scientific justification for the Government's pre-decided policy choices.

Our results thus confound early concerns that the CCC would not have the institutional weight or statutory power to influence climate politics (e.g., McGregor 2012). They instead corroborate more recent research that finds that climate policy actors view the Committee as an effective analytical voice in political debates, which has made a material difference to the way climate policy is conducted in the UK (Averchenkova et al. 2020).

However, while the CCC has been a successful knowledge broker, there are limits to its influence on policy outcomes. The CCC's statutory advice on carbon budgets has generally been followed. However, its repeated warnings that policy was off track, and the recommended remedies, have largely gone unheeded by Government (e.g., CCC 2020). The CCC does not have any formal powers to change the Government's stance in these situations. Instead, it relies on the political process and the threat of a judicial review, brought about by environmental pressure groups for example, if the statutory targets of the CCA were to be missed (Averchenkova et al 2020).

The lessons for other jurisdictions are positive. Advisory bodies should be seen as a key part of a wider institutional framework for climate governance, which in the case of the UK includes both medium- and long-term mitigation targets, clear reporting processes and well-defined roles and responsibilities (Muinzer 2018). Our analysis suggests that independent climate advisory bodies can play an important role within such broad governance frameworks, as knowledge brokers that provide relevant, expert and timely information to policymakers, and as policy entrepreneurs that provide new policy options and push for more ambitious action.

Disclosure statement

Sam Fankhauser was a member of the UK Committee on Climate Change from February 2008 until December 2016.

Online Appendix

Table A1. Examples of selected independent expert advisory bodies on climate change in Europe

| Body | Mandate | Established |
|--|--|--|
| The Climate Change Council of Denmark - Klimarådet | An independent expert body tasked to advise the government on climate action; to assess the implementation of efforts and to make forward-looking recommendations on future action (including preparation of a catalogue of measures). It provides an annual assessment of the statement of progress in implementation of the Climate Act and international commitments. | In 2014 by the Danish Climate Act; further clarified by the 2019 Climate Act. |
| The Climate Change Council of Ireland | An independent expert body tasked to assess and advise on the transition to a low carbon, climate resilient and environmentally sustainable economy by 2050. The Council provides annual review of progress made; may also initiate its own reviews. No formal role is foreseen in proposing the level of emission targets or assessing consistency of policies with the targets. | In the Climate Action and Low Carbon Development Act of 2015 |
| The Finnish Climate Change Panel – Suomen ilmastopaneeli | An independent expert body to support climate policy planning and decision-making through compilation of scientific information on mitigation and adaptation. The expert body can also carry out other tasks concerning the generation of basic information on climate change. Little detail is given on the mandate and tasks in the law, these details were expected to be clarified in a subsidiary decree. | By the Finnish Climate Change Act of 2015, preceded by a council with the same name. |
| The Swedish Climate Policy Council - Klimatpolitiska rådet | An independent advisory body tasked to assess whether the Government's policy is compatible with the climate goals, including evaluation of whether the sectoral policies contribute to or counteract the achievement of climate goals, reviewing the effects of both existing and planned climate policies from a broad societal perspective, and identifying policy areas where additional measures need to be taken to achieve the climate goals. | Through a decree; not mentioned in the Sweden's Climate Act of 2017. |

Source: Authors, based on the review of relevant national laws and executive decrees.

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