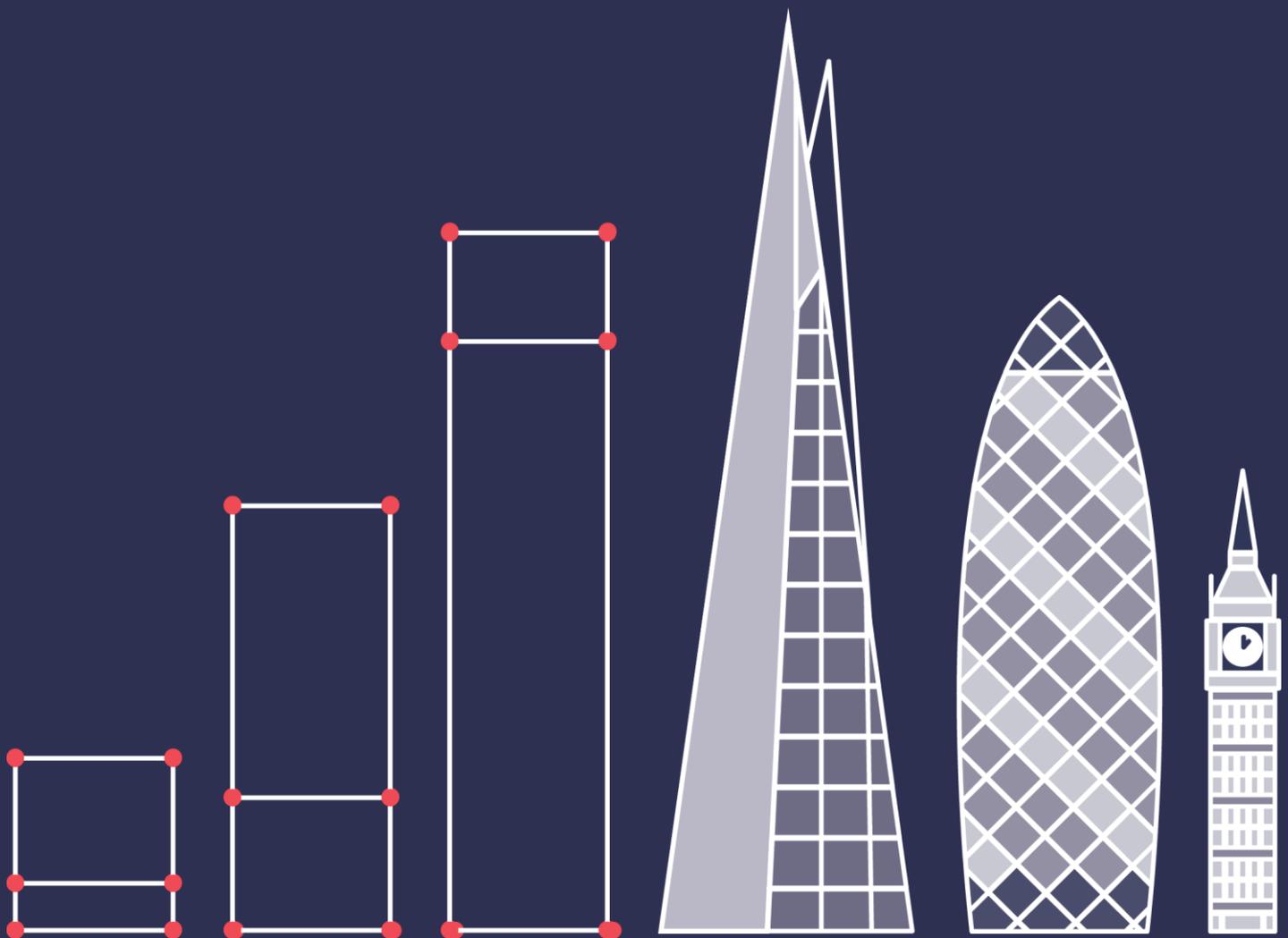


The role of independent bodies in climate governance: the UK's Committee on Climate Change

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This policy report is intended to inform decision-makers in the public, private and third sectors. It has been reviewed by internal and external referees before publication. The views expressed in this report represent those of the authors and do not necessarily represent those of the host institutions or funders.

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Executive summary

Lessons learnt

Lessons on establishing independent climate advisory bodies

- An independent expert body can strengthen climate governance by introducing a long-term perspective, enhancing the credibility of climate targets and ensuring more evidence-based policymaking.
- To be effective, independent advisory bodies must have an appropriate status. This means having a clear statutory mandate, strong leadership, adequate resources, and sufficient powers to hold Government to account.
- Independent bodies can support policy delivery on both emissions reduction (mitigation) and climate resilience (adaptation). There is sufficient thematic overlap to entrust independent scrutiny on both of these areas to the same body.
- As the number of independent climate change committees grows around the world, there is merit in deepening and formalising international coordination between these bodies. This could build on an existing informal network among European committees.

Lessons on the effectiveness of the Committee on Climate Change (CCC)

- A strong, independent CCC is essential to meeting Britain's climate change objectives. The CCC's analysis is used and trusted by stakeholders on all sides of the debate. In Parliament, CCC analysis is used particularly often by Opposition politicians and to make the case for greater ambition.
- The CCC has made a material difference to the way climate policy is conducted in terms of objectives (the statutory carbon targets), process (impact on parliamentary debate) and substance (e.g. influencing new laws on energy, infrastructure, housing and water).
- The basis of the CCC's success is a careful combination of rigorous analysis and extensive stakeholder engagement, including with Parliament. However, recent budget cuts and delays in the ministerial approval of new members could put at risk the CCC's ability to deliver its ambitious work programme over the coming years.
- The Government runs the risk of a judicial review if it does not follow the policy advice of the CCC more carefully. Important policy recommendations have been overlooked, and a gap has opened between climate targets and the policies to deliver them.

The Committee on Climate Change (CCC) was established in the United Kingdom 10 years ago under the 2008 Climate Change Act, one of the Act's most innovative institutional features. The CCC is at the centre of UK climate policy. Its analysis has introduced a long-term perspective into climate policy, helped to enhance the credibility of climate targets and ensured more evidence-based policymaking. The CCC covers both mitigation and adaptation, the latter through its Adaptation Sub-Committee (ASC). Given the apparent success of the CCC in helping to deliver the UK's climate change objectives, the Committee is worth studying. Other countries may wish to introduce independent bodies into their own frameworks for climate change governance.

How does the Committee on Climate Change work?

The Committee on Climate Change: independent advisory body



What and how?

Experts and secretariat

Annual budget approx. £3.7m, funded by government

Recommends carbon budgets

Modelling and scenario-planning

Advises on risks and opportunities from climate change

Monitors progress on emissions reduction and climate resilience

Outcomes

Independent, objective analysis

Advice on carbon targets generally followed

Long-term consistency in approach

Transparency and legitimacy

More informed decision-making

Used in Parliament to push for greater ambition

The CCC is an independent expert body with an annual average budget of £3.7 million. Its members do not represent particular interest groups, but were chosen for their technical expertise. The Committee is led by a high-profile chair and supported by a 30-strong secretariat with expertise in all aspects of the climate problem. Funding for the CCC is provided by the UK Government and the devolved administrations of Scotland, Wales and Northern Ireland: the CCC does not have budgetary independence.

The CCC combines analytical rigour with extensive stakeholder engagement. The CCC derives its recommendations from an exploration of the technological, economic and behavioural changes that are possible and required, based on detailed modelling and long-term scenario planning. Analytical insight is combined with a constant and intensive dialogue with stakeholders and government counterparts to work out what is feasible in practice.

The roles and responsibilities of the CCC are set out in the Climate Change Act and include statutory duties to:

- **Recommend to Parliament appropriate emissions reduction targets.** The Climate Change Act stipulates a statutory long-term target for 2050 and a series of five-year carbon budgets, which define the path to 2050. Both sets of targets are recommended by the CCC and set by Parliament.
- **Advise the Government on the risks and opportunities from climate change** and evaluate its National Adaptation Programme. This duty is carried out through the Adaptation Sub-Committee.
- **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.
- **Provide on-demand advice to the UK Government and the devolved administrations** of Northern Ireland, Scotland and Wales on specific questions of climate policy. The CCC has advised, for example, on aviation emissions, renewable energy, the climate impact of shale gas extraction and devolved climate policy.

The CCC does not have any formal powers to change the Government's approach to climate policy. Instead it relies on the political embarrassment that its assessments may cause and the threat of a judicial review. A more assertive stance towards the Government may be called for over the coming years to close the gap that has opened between the legislated carbon targets and the policies in place to meet them. The CCC's 2018 Progress Report was an important step towards formulating clearer expectations of Government.

What has the CCC achieved to date?

The CCC's statutory advice on carbon targets has generally been followed, albeit not always to the letter. At the recommendation of the CCC, the UK has legislated a progressive 2050 target and five carbon budgets that cover the period 2008 to 2032. They require emissions cuts of 57 per cent by 2030, on the way to a reduction of at least 80 per cent by 2050, relative to 1990. The parliamentary debates on the five carbon budgets between 2009 and 2016 drew extensively on the CCC, which was the main source of authoritative analysis.

The CCC has had more difficulty getting its broader policy recommendations accepted. Its annual progress reports to Parliament on mitigation and its biennial progress reports on adaptation contain a wealth of detailed policy recommendations. They do not carry any statutory weight and the Government's only obligation is to respond. The Government's responses are often non-committal and it has overlooked some important recommendations (e.g. in relation to emissions from buildings, carbon capture and storage, and managing the risks from overheating in buildings). This is one of the reasons for the gap between policy delivery and legislated targets.

CCC analysis is used in Parliament to push for greater ambition. Most political parties in Parliament, including all the major parties, have mentioned the CCC and/or ASC in their interventions since 2008. The CCC is mentioned particularly often by Opposition politicians. Our analysis of the carbon budget, energy and flooding debates shows that CCC analysis often provides a technical justification to political arguments for greater accountability and more ambitious action. This is the case both on mitigation (carbon budgets, long-term emissions targets) and adaptation (flood defence spending, climate risk management).

The CCC's advice reaches beyond recommendations on carbon targets. The CCC was mentioned in the parliamentary debates on 21 Government bills. It was referred to most often in the context of the four Energy Bills that have been passed since 2008, but also during the debates on the Infrastructure Bill (2014–15), the Water Bill (2013–14), the Civil Aviation Bill (2012) and the Housing and Planning Bill (2016). Our analysis of the flooding debate and the 2016 Energy Bill shows that the CCC has gained a reputation as an authoritative advisor not only on matters of climate policy, but on climate-smart public policy more generally. For example, the CCC was instrumental in bringing about the 2013 Electricity Market Reform.

1. Introduction

This report assesses the role of the independent Committee on Climate Change (CCC) in shaping UK climate policy, drawing out lessons for both international and domestic policymakers.¹ The CCC is a central pillar of climate governance in the UK. It was established 10 years ago under the 2008 Climate Change Act, its creation among the most innovative institutional features of the Act (Muinzer, 2018).²

Many observers see the CCC as an important contributor to the UK's success in decoupling economic activity and greenhouse gas emissions (see expert survey by Fankhauser et al., 2018). Since 1990 emissions have fallen by over 40 per cent, while gross domestic product (GDP) has grown by around 70 per cent (CCC, 2018). As a result, the UK's carbon intensity – the amount of carbon needed to produce a unit of GDP – has fallen by a factor of three. The trend started well before the Climate Change Act came into force, but it has accelerated over the past 10 years.

In a short period of time, the CCC has become the independent custodian of UK climate policy (Benson and Lorenzoni, 2014). The survey by Fankhauser et al. (2018) reveals the extent to which stakeholders on all sides of the debate value the work of the CCC and rely on its analysis to underpin their arguments. The CCC was widely praised for its analytical rigour, objectivity and evidence-based policy advice. Its reports are trusted in a way that government information or studies by non-governmental organisations (NGOs) may not be.

Report objectives and structure

The reputation and apparent success of the UK's Committee on Climate Change make it worth studying and this report offers an introduction to its main organisational features. If independent bodies can make a material difference to the delivery of climate change objectives, as appears to be so in the UK, other countries may wish to include this feature. While there is a perception that the CCC has been instrumental to maintaining the momentum in UK climate policy, to date it has not been formally assessed.³ Although this report does not offer a systematic review, it provides initial evidence on the influence of the CCC so far.

The report is structured as follows:

- **Chapter 2 describes how the CCC works.** Drawing on official documents, the chapter contains information on the role and responsibilities of the CCC, how it is organised, its budget and its analytical capabilities.
- **Chapter 3 assesses the impact of the CCC on the climate change debate in Parliament.** The chapter looks in particular at the success of the CCC in having its recommendations accepted, and the way in which CCC analysis is used in the parliamentary discourse. The analysis includes a case study of the debates on the first five carbon budgets.
- **Chapter 4 assesses the impact of the CCC on other relevant policy debates.** The chapter highlights the main Government bills for which the CCC's analysis was used in parliamentary debate. The analysis includes case studies of the 2016 Energy Act and the debate on flooding. Energy and flooding are among the most prominent debates on the low-carbon transition and climate resilience.

1 We disclose that one of the authors (Fankhauser) was formerly a member of the CCC but before the drafting of this report.

2 Our report *10 Years of the UK Climate Change Act* assesses the Act's content and impacts more widely (Fankhauser et al., 2018).

3 McGregor et al. (2012) compare the mandate and functioning of the CCC with the Monetary Policy Committee (MPC).

2. How is the Committee on Climate Change organised?

Roles and responsibilities

The roles and responsibilities of the Committee on Climate Change are set out in the Climate Change Act (2008). Like the Act itself, the CCC covers both mitigation and adaptation, the latter through its Adaptation Sub-Committee (ASC).⁴ The expectation of lawmakers was that the CCC would help to maintain a long-term perspective in climate policy, enhance the credibility of climate targets and ensure evidence-based policymaking (Fankhauser et al., 2018).

The notion of an independent, technocratic body to scrutinise and advise on climate policy was inspired by the experience in other areas of public policy, most notably monetary policy, where interest rates customarily are set by independent central banks. Whether the concern is inflation targets or carbon targets, an independent institution, led by technical experts, may be better equipped to take a long-term view than politicians (see McGregor et al., 2012 for a comparison).

The CCC plays a pivotal role in setting carbon targets

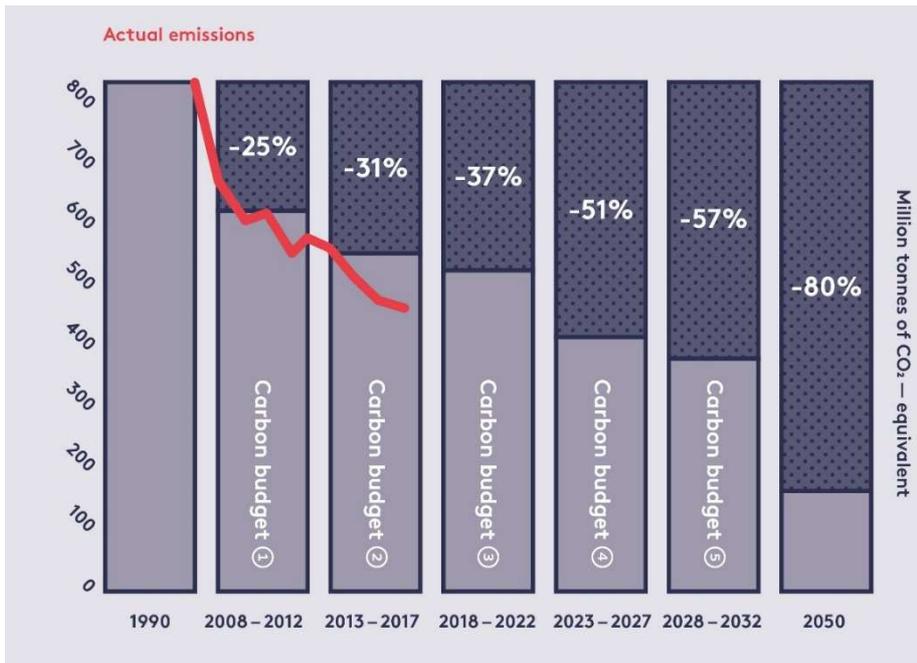
Under the Climate Change Act it is the statutory responsibility of the CCC to recommend to Government appropriate emission reduction targets for the UK. The CCC advises both on the UK's long-term carbon target and on the five-year carbon budgets, which define the best path towards the long-term target.

The current long-term target is defined in the Act as an emissions cut by 2050 of at least 80 per cent relative to 1990. This target was recommended by the CCC in 2008 (CCC, 2008), and the CCC would have to be consulted again if the long-term ambition were to change. This will be the case, for example, when the UK considers the introduction of a 'net zero' emissions target compatible with meeting the Paris Agreement's target. The Government has indicated that it will seek the CCC's advice on 'net zero' later in 2018.

The CCC has so far made recommendations on five carbon budgets (see graph on following page), covering the period 2008 to 2032. The fifth carbon budget, legislated in 2016, requires an emissions cut of 57 per cent from 1990 levels by 2030 (CCC, 2015). The CCC will issue its advice on the sixth carbon budget (2033–37) at the end of 2020, and Parliament will have to legislate a budget for this period by mid-2021 – 12 years before it comes into force.

⁴ References to the CCC in this report cover its work on both mitigation and adaptation (the latter through the ASC). We refer to the ASC only if the context is specifically on adaptation.

The UK's carbon budgets



Sources for data: Committee on Climate Change, 2017 (targets); BEIS, 2018 (actual emissions)

The CCC monitors performance and provides advice

The CCC plays a pivotal role in monitoring and assessing progress towards the carbon targets. It produces a statutory annual progress report to Parliament, to which the Government has an obligation to respond. At the end of each carbon budget the CCC offers a detailed view on policy performance through the budget period.

The CCC does not have any formal powers to change the Government's policy stance; instead it relies on the strength of analysis behind its advice and the political embarrassment that its assessments may cause.

The Government also runs the risk of a judicial review, brought about by environmental pressure groups, if it fails to meet its statutory obligations under the Climate Change Act. This prospect is real. Over the years the CCC has become increasingly critical of the Government's performance (e.g. CCC, 2017, 2018). While the first two carbon budgets (2008-2017) have been met comfortably, there is concern that the fourth and fifth budgets could be missed. NGOs are watching the issue closely (e.g. ClientEarth, 2016).

The Government can draw on the CCC's expertise in analysing particular policy questions, and has often done so, for example on aviation emissions and renewable energy. The devolved administrations of Scotland, Wales and Northern Ireland, the first two of which have their own climate change legislation, also have access to CCC expertise and make regular use of it.

Under the Climate Change Act, 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.

The CCC assesses the UK's preparedness for the impacts of climate change

The duties of the CCC with respect to adaptation are discharged by the Adaptation Sub-Committee (ASC). The ASC advises the Government on the risks and opportunities from climate change. It also scrutinises progress of the UK National Adaptation Programme (which despite the name only covers England) and can be asked by the devolved administrations to review their programmes. There is considerable overlap between the mitigation and adaptation agenda in areas such as agriculture, land use and the built environment, and the two parts of the CCC are collaborating increasingly closely.

The Climate Change Act establishes a framework of continual adaptation planning, which features five-yearly Climate Change Risk Assessments (CCRAs). The risk assessments are followed by a National Adaptation Programme, in which the Government outlines its strategy for dealing with identified risks, before the cycle starts again. The ASC has a statutory duty to assess the quality of the Government's adaptation response.

The ASC issued its first statutory assessment of the National Adaptation Programme in 2015 and is now reporting biennially (see ASC, 2015; 2017). The relatively slow ramp-up of activities on adaptation, compared with mitigation, was dictated by the Climate Change Act. The first Climate Change Risk Assessment was only due in 2012 (Defra, 2012) and the first National Adaptation Programme in 2013 (Defra, 2013). The ASC used this time to put in place its monitoring framework, and since 2009 has produced regular assessments of adaptation progress.

The ASC has begun to assume a more direct role in assessing climate change risks. For the first Climate Change Risk Assessment the ASC acted as an external advisor. Starting with the second risk assessment, the ASC has taken on the responsibility of collecting and interpreting the evidence on climate risks, on which the Government's statutory Climate Change Risk Assessment is then based. The ASC issued its evidence report for the second risk assessment in 2016 (ASC, 2016) and is now starting work on the third CCRA, with the Evidence Report due for publication in 2021.



Internal structure

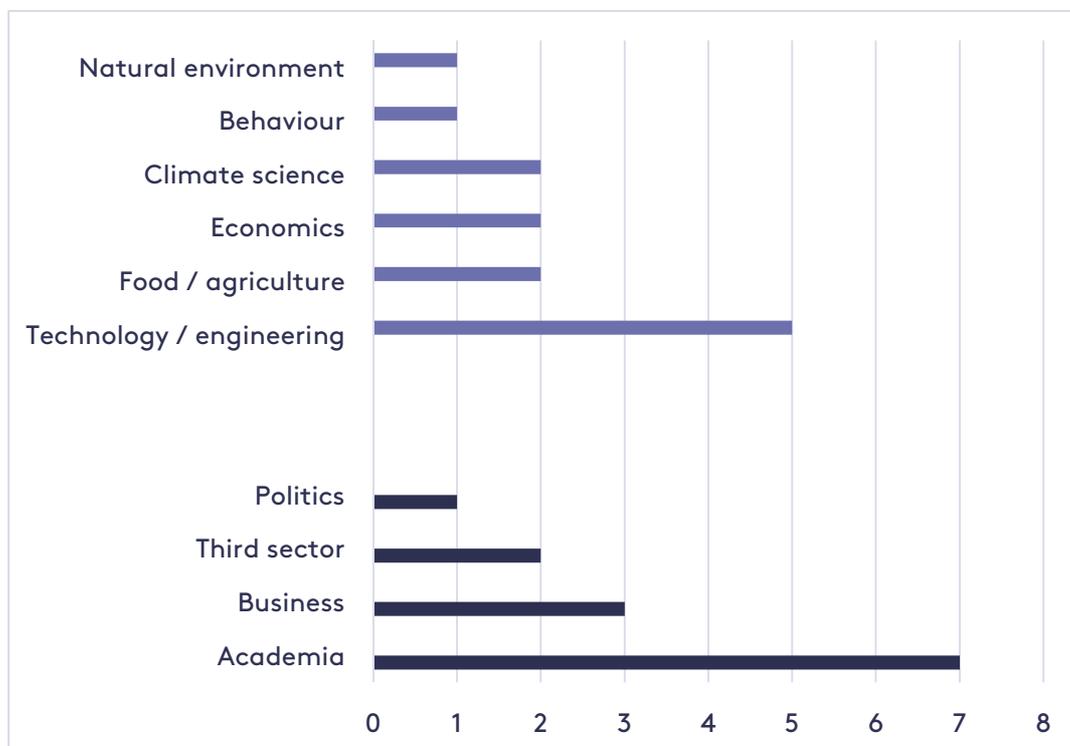
Analytical rigour combined with extensive engagement

The CCC is formally a non-departmental public body (NDPB), that is, a ‘body which has a role in the processes of national government, but is not part of a government department and operates at arm’s length from ministers’ (Cabinet Office, 2018), and it is governed by the rules for NDPBs.

The Chair of the CCC is appointed by the Prime Minister for a period of five years. Committee members are formally appointed by the responsible Secretary of State (for Environment, Food and Rural Affairs for ASC members, and for Business, Energy and Industrial Strategy for the CCC), although the CCC and ASC chairs lead the respective selection processes. The involvement of senior politicians in the appointment process underlines the importance of the CCC in climate governance, but it is not always without difficulties. There have been instances in the past where choices were rejected, and the current delay in the ministerial approval of new members is affecting the renewal of the Committee.

The CCC is an independent expert body. While its current chair, Lord Deben (a prominent member of the Conservative Party, and Secretary of State for the Environment from 1993–7), is an experienced politician, the other seven members of the CCC and all six members of the ASC are foremost technical experts. They do not represent particular interest groups, and their terms of office are not tied to the electoral cycle. Instead members are selected for their expertise in the nuts and bolts of climate policy, including low-carbon technology, climate resilience, economics, climate science, behaviour, business, and the natural environment. Many of them are high-profile academics (see Figure 2.1). (Several past and present members of the CCC, including the current chair of the ASC, are members of the House of Lords, but they are all cross-benchers without party-political affiliation.)

Figure 2.1. Background of CCC and ASC members (number of members)



Note: The CCC has eight members, including the chair. The ASC has six members, including the chair, who also sits on the CCC.

This does not mean that the CCC remains above the political fray. The Climate Change Act explicitly expects the CCC to 'have regard to the desirability of involving the public' (section 39[4]) and its members are actively involved in the policy debate, and to a lesser extent the wider public debate. As members of the House of Lords, the chairs of the CCC and ASC inject relevant findings directly into the climate debate in the Upper House of Parliament. Our analysis of parliamentary records shows that Lord Deben, the current CCC chair, is responsible for 5.8 per cent of all mentions of the CCC in Parliament (see Chapter 3).

The CCC's recommendations are derived from a careful analytical exploration of the technological, economic and behavioural aspects of different decarbonisation paths, based on detailed modelling. Members actively get involved in the shaping of reports. CCC and ASC meetings, which occur once a month, are primarily about technical content. Governance issues are largely delegated to the three-member Audit Committee, which also covers risk, remuneration and budget issues. Each report has one or several Committee champions, who work with the production team on technical details, enabling the full Committee to focus on the broader content and messaging.

Analytical insight is combined with a constant and intensive dialogue with stakeholders and government counterparts. The engagement is both formal, inviting feedback on particular reports and market developments, and informal through individual contacts. Important questions are shaped through consultations, and technical reports often benefit from the input of advisory groups. Consultant reports are peer-reviewed externally. The CCC's openness is recognised. Even high-carbon industries praise the CCC for its willingness to consider all sides of an argument, even if, in their own words, they "are not necessarily the easiest constituency for the CCC" (respondent to survey by Fankhauser et al., 2018).

CCC activities are supported by a strong secretariat

The CCC relies heavily on a secretariat of about 30 people, which is led by the Chief Executive. About 20 secretariat staff specialise in mitigation, with the adaptation team and corporate services employing five people each, including finance and communications staff. The secretariat has a broad range of skills, including technical expertise (mainly economics and the physical sciences) and modelling capabilities.

There is an emphasis on technical, economic and engineering skills in sectors such as electric power, energy use in buildings and industry, and transport. The secretariat also provides expertise related to climate science, low-carbon competitiveness and international climate policy. There is dedicated expertise on Scotland, Wales and Northern Ireland.

Although all aspects obtain the requisite coverage, comparatively fewer resources are allocated to climate resilience and areas like low-carbon behaviour, land use and agriculture (as observed by a respondent from the latter sector in the Fankhauser et al. 2018 survey). The five people in the adaptation team cover between them the natural environment, the built environment, infrastructure, business, local government and international dimensions of adaptation.

The CCC's annual budget (see below) includes a sizeable consultancy budget, which enables the secretariat to cover specialist skill gaps by bringing in external expertise. Most CCC reports are accompanied by supplementary analysis and consultant reports, but the core analysis, quality control and interpretation are carried out in-house.

The CCC is responding to the evolving priorities in the decarbonisation agenda – away from electricity towards 'hard-to-treat' sectors like consumption-related emissions and agriculture – by adjusting its skill mix. For example, in 2016 a behavioural scientist was appointed to the Committee.

The CCC has maintained its delivery capacity despite budget cuts, but more resources may be needed in the coming years

The CCC’s annual budget has been around £3.7 million on average since 2009/10, the first year of full operation (see Table 2.1). The past 10 years have been a period of fierce public sector budget cuts (Emmerson, 2017) and the CCC has not been insulated from these pressures. Financial support has fluctuated, but the CCC has broadly managed to maintain its delivery capacity. Additional resources are usually made available in years of high analytical demands, and there is a mechanism to secure separate funding for special reports that the Government may commission. When reviewing the evidence for the second Climate Change Risk Assessment in 2014/15, the ASC also secured extra funding for research from the Natural Environment Research Council.

Nevertheless, efficiency gains had to be made. The funding available to produce the fifth carbon budget advice in 2015/16 was 14 per cent lower than that for the fourth carbon budget in 2010/11, when funding was at its peak. In 2016/17, funding was reduced by a further 8 per cent, which the CCC was able to accommodate by reducing its office space.

Year	2008/ 2009*	2009/ 2010	2010/ 2011	2011/ 2012	2012/ 2013	2013/ 2014	2014/ 2015	2015/ 2016	2016/ 2017
Total expenditure (£m)	1.09	3.65	4.36	3.78	3.41	3.71	4.07**	3.76	3.47
Secretariat headcount	22	29	34	32	31	30	31	30	28

** Not operating at capacity for the whole year – e.g. the ASC team was not yet in place.
** Includes a £350,000 one-off grant from the Natural Environment Research Council.*

Source: CCC Annual Reports

Particularly in years of high analytical demand, resources can therefore be tight. The next few years will be exceptionally demanding, with a number of special reports due (e.g. on ‘net zero’ emissions) on top of the regular statutory advice (e.g. the sixth carbon budget; the third climate change risk assessment). This suggests that the CCC’s budget may have to be increased temporarily in line with existing processes.

The bulk of the CCC’s resources are provided by two sponsor departments, the Department for Business, Energy & Industrial Strategy (BEIS) for mitigation and the Department for Environment, Food and Rural Affairs (Defra) for adaptation. The devolved administrations also contribute.

The CCC’s budgetary reliance on the same government it is tasked to scrutinise is a clear shortcoming in the Committee’s governance framework. Maintaining financial autonomy is good practice among regulatory agencies and a key determinant of an institution’s de facto independence (Gilardi, 2009; OECD, 2017). There is no evidence that the financial dependence of the CCC on the Government has had any detrimental effects so far, but budget negotiations with civil servants, who are used to dealing with delivery bodies whose outputs they can dictate, are occasionally tense.

3. How has the Committee on Climate Change influenced the climate debate?

How is the CCC's advice received?

Statutory advice on carbon budgets is generally accepted

The Committee on Climate Change has established a good record of getting its main recommendations accepted. Its statutory advice on carbon targets has generally been followed – but not without debate and not always to the letter.

The first set of statutory recommendations – on the 2050 carbon target and the first three carbon budgets, all made in 2008 – were adopted under the same political consensus that had led to the Climate Change Act (see Table 3.1). Although critical questions were raised, there was little appetite to second-guess the CCC, as long as its advice was evidence-based and analytically sound (Fankhauser et al., 2018).

Table 3.1. Parliamentary responses to the CCC's main recommendations			
Issue (date)	CCC recommendation	Parliamentary decision	Advice implemented...
2050 target (2008)	Reduce all greenhouse gas emissions by at least 80% from 1990 level by 2050	Legislated the 2050 target as recommended	Fully
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
<i>Source: Authors based on CCC reports</i>			

By the time it came to setting the fourth carbon budget in 2011, the political climate had changed. There was considerable opposition, including from the Treasury, to the recommendations made by the CCC (Carter, 2014; Gillard, 2016; Fankhauser et al., 2018). In the end, the fourth carbon budget was legislated as recommended, but Parliament insisted on a review a few years later. A crucial further recommendation, to tighten the second and third carbon budgets, was quietly forgotten. The Government would now like to use the headroom this has created to compensate for under-delivering on later carbon budgets (BEIS, 2017), contravening the advice of the CCC.

For the fifth carbon budget, set in 2016 and covering the period 2028–32, Government and Parliament adopted the headline number recommended by the CCC, but they ignored a more technical recommendation to bring emissions from international shipping into the accounting framework.

The CCC's advice on devolved climate change policy has also in general been followed. Particularly in Scotland and Wales the London-based CCC has a surprisingly high standing. A Scottish climate change expert interviewed by Fankhauser et al. (2018) spoke of the "high expectations" in the Scottish government of the analytical capacity of the CCC and the high profile that CCC reports enjoy in Scotland. According to that respondent, the CCC is seen as "the body that people want to listen to". There has been less engagement with Northern Ireland, which does not have its own climate change legislation.

The CCC's policy recommendations are not always followed

The CCC has had more difficulty getting its broader policy recommendations accepted. The CCC's annual progress reports contain a wealth of detailed recommendations on policy intervention. The progress reports are statutory documents, laid in Parliament, but the recommendations themselves do not carry any statutory weight. The CCC's role is to comment on progress in cutting emissions and advancing climate resilience. It cannot do so without expressing a view on the policies that are in place to achieve this, but it is the Government's prerogative to set climate policy.

The Government has a statutory duty to respond to the CCC progress reports and particularly in recent years it has done so meticulously (see most recently Her Majesty's Government, 2017a, b). All the CCC's recommendations are listed and responded to. Since 2015 this process has also covered climate resilience, on which the ASC comments every other year.

Important CCC recommendations have been taken on board, for example on electricity market reform and long-term spending on low-carbon energy (the so-called levy control framework). On adaptation, the Government responded to criticism about the first Climate Change Risk Assessment by assigning a larger role to the ASC in subsequent risk assessments.

However, the Government's responses are frequently non-committal, offering merely to "explore" or "consult on" proposals. Some key recommendations have been consistently overlooked. For example, the CCC has repeatedly called for a more proactive approach to carbon capture and storage, a more aggressive stance on delivering low-carbon heat and a stronger policy framework on agricultural emissions. The ASC has repeatedly warned about the risks from overheating in buildings. These calls have been largely ignored, and a gap has opened between the legislated carbon targets and the policies in place to meet them (Fankhauser et al., 2018). As a result the CCC's progress assessments have become increasingly explicit and assertive (see in particular CCC, 2018). This is an important evolution in the way the CCC reports, making it easier to monitor and judge the Government's response.⁵

⁵ The CCC's own review of its impact is summarised on its website: <https://www.theccc.org.uk/our-impact/>

How is CCC analysis used in Parliament?

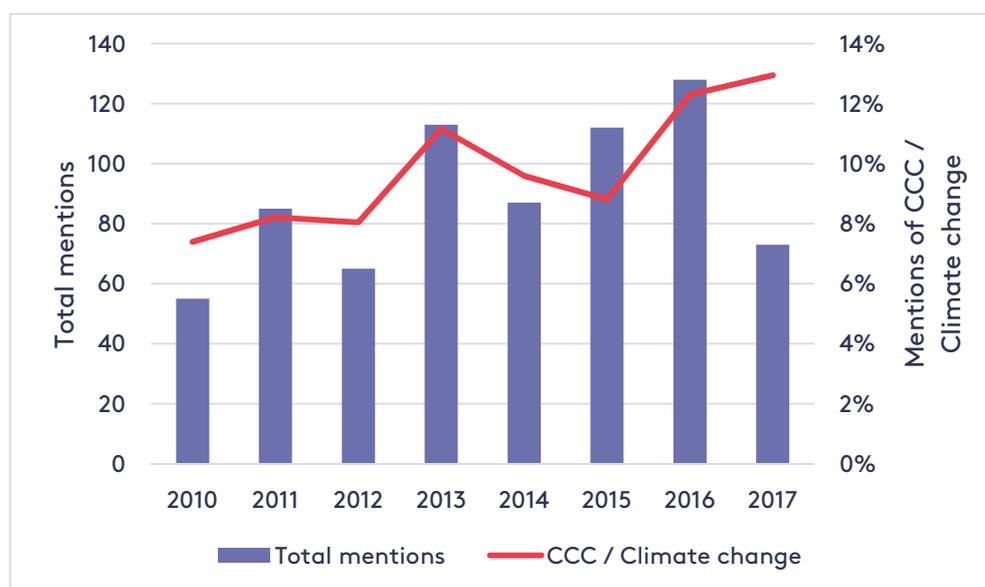
The CCC features regularly in the parliamentary debate

A good measure of the CCC's influence is the frequency with which its findings are used in parliamentary debates. Our review of parliamentary records shows that legislators make good use of the evidence provided to them by the CCC.

Between 1 December 2008 and 1 May 2018 the CCC and ASC were name-checked 856 times in parliamentary interventions captured in the Hansard database (the official, verbatim report of all parliamentary debates).⁶ These mentions were spread over 379 individual sittings of Parliament and include 484 mentions in the House of Commons (56.5 per cent) and 372 mentions in the House of Lords (43.5 per cent). The CCC was referenced almost five times more often than the Intergovernmental Panel on Climate Change, the most authoritative body on climate change science internationally.⁷

The CCC's influence on parliamentary debates (Commons and Lords) has grown over time (Figure 3.1). In 2010, about 7 per cent of parliamentary speeches related to climate change referred to the CCC (the red line). By 2017 this number had increased to 13 per cent. In absolute terms, the total number of parliamentary mentions grew from around 55 per year in 2010 to well over 100 in 2015 and 2016 (the blue bars). While the absolute number of CCC mentions fell in 2017, it continues to be increasingly mentioned in climate-related debates. One reason for the drop-off in CCC mentions in 2017 may be the reduced attention Parliament has paid to climate change since the Brexit vote in June 2016.

Figure 3.1. Number of times parliamentarians mention the CCC



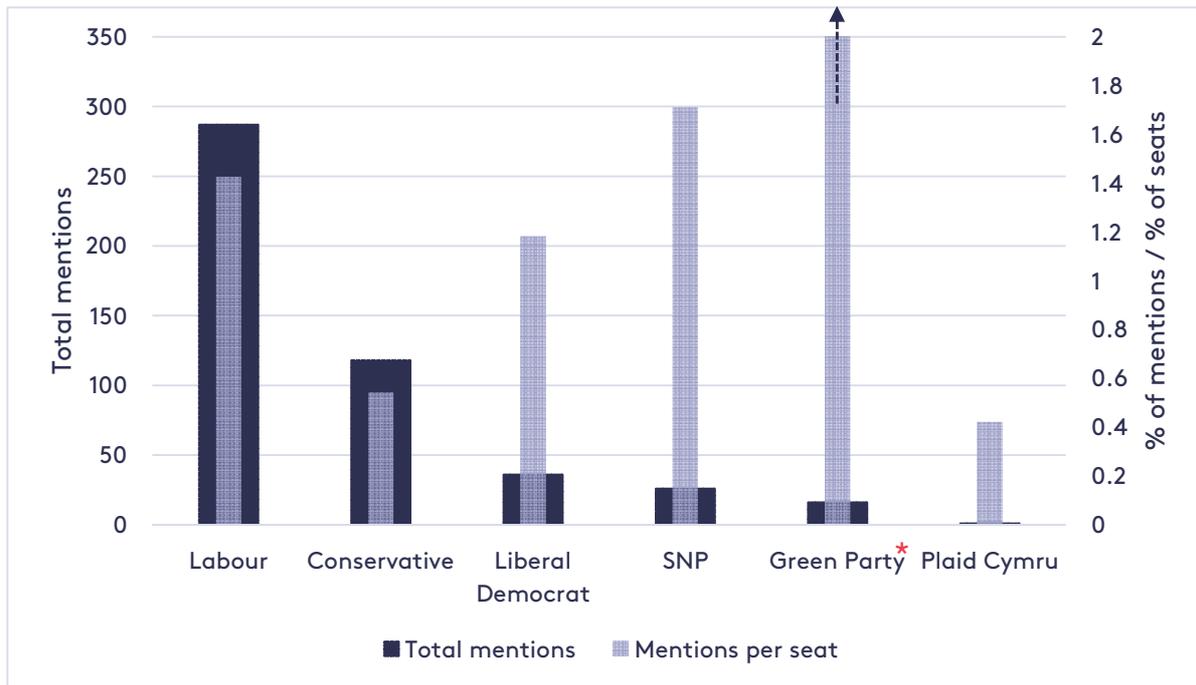
Note: For data availability reasons, the series only runs from March 2010 to the end of 2017. The bars represent the total absolute number of CCC mentions. The line represents a metric of CCC mentions divided by mentions of 'climate change'. This statistic can be interpreted as measuring the extent to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

Source: Authors' analysis of Hansard

⁶ Included in the count of CCC mentions are individual references by parliamentarians to 'Committee on Climate Change', 'Climate Change Committee', 'CCC', 'Adaptation Sub-Committee' and 'ASC'. The data does not include Select Committee hearings.

⁷ Data for the period 2010 to 2017. There were 718 references to the CCC during this time and 151 references to the IPCC.

Figure 3.2. CCC mentions by political party in the House of Commons (2008–2018)



Notes: *The Green Party has a score of 26 (right-hand axis). However, for presentation purposes the axis is scaled 0–2. UKIP MP Mark Reckless referred to the CCC once while still a Conservative MP. Source: Authors’ analysis of Hansard

Most political parties in the House of Commons, including all the major ones, have mentioned the CCC at least once in their interventions since 2008 (Figure 3.2). The Labour Party is responsible for about 60 per cent of all mentions (287 out of 484) and the Conservatives for just under 25 per cent (118 out of 484). The Liberal Democrats are responsible for 7.5 per cent of CCC references.

To take into account party size, Figure 3.2 also shows each party’s share of CCC references divided by their share of parliamentary seats. The indicator can be interpreted in the following way. Parties with a score above 1 refer to the CCC more often than their seat share would suggest. That is, they have more references to the CCC per seat than other parties in the House of Commons. Parties with a score of less than 1 refer to the CCC less often relative to their seat share.

The party with the highest score is the Green Party, whose sole MP, Caroline Lucas, 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. There is a similar pattern in the House of Lords (not shown).

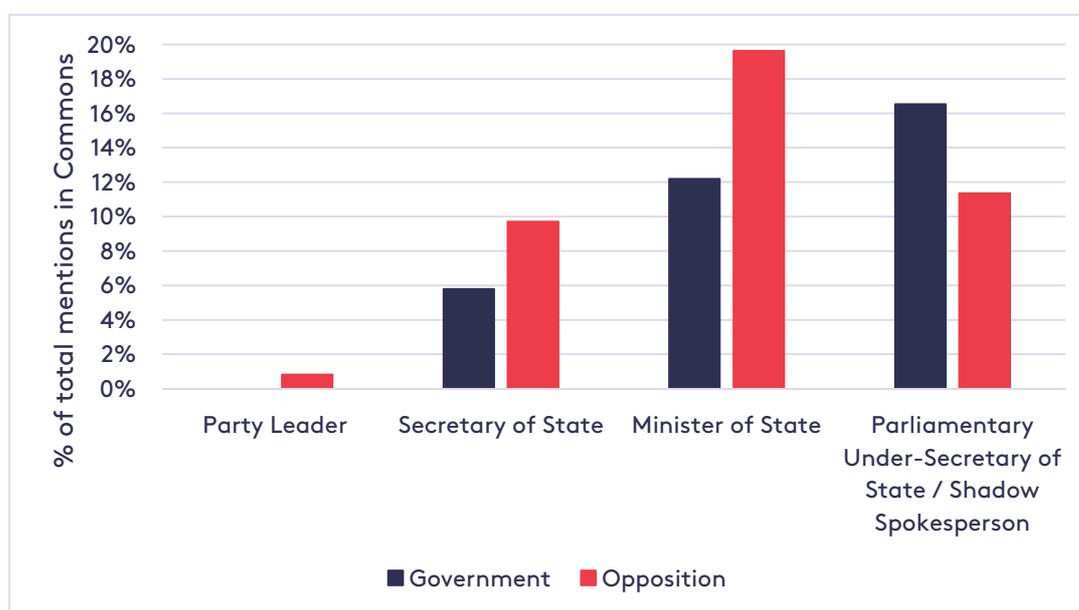
Opposition parties have tended to mention the CCC more than government parties. There may be a number of reasons for this. First, government parties have access to information from the civil service, which they may cite instead of CCC evidence. Second, it may be that CCC analysis is used by the Opposition 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 mentions and been in

Opposition for most of the sample period (2010 to present). More mentions by the Opposition may simply reflect a prioritisation of climate policy by Labour.

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 per cent of CCC mentions. Across both houses (Commons and Lords), they were responsible for 47 per cent of mentions.

In the House of Commons, shadow ministers, shadow spokespersons and shadow secretaries of state made the most mentions – further evidence that CCC analysis is used more by the Opposition (Figure 3.3). For the Government, Parliamentary Under-Secretaries made the most mentions in the Commons, perhaps because they are closest to the details of climate policy. Surprisingly, to date no Prime Minister has mentioned the CCC, unlike the leaders of the Opposition, who are responsible for making about 1 per cent of CCC mentions in the Commons.

Figure 3.3. Mentions in Commons: Government vs. Opposition (2008–2018 average)



Source: Authors' analysis of Hansard

Case study 1: The carbon budget debates (2009–2016)

To recap, the Climate Change Act mandates Parliament to set five-year carbon budgets that place UK greenhouse gas emissions on a path towards a cut of at least 80 per cent by 2050 relative to 1990 levels. Carbon budgets are legislated 12 years ahead of time at the recommendation of the CCC. Parliament has passed three carbon budget orders so far, 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, that is six debates in total. The carbon budget debates are interesting because Parliament is explicitly deliberating recommendations made by the CCC. They therefore provide a direct indication of Parliament's attitude towards the CCC.

Most parliamentarians referred to the CCC to endorse its recommendations

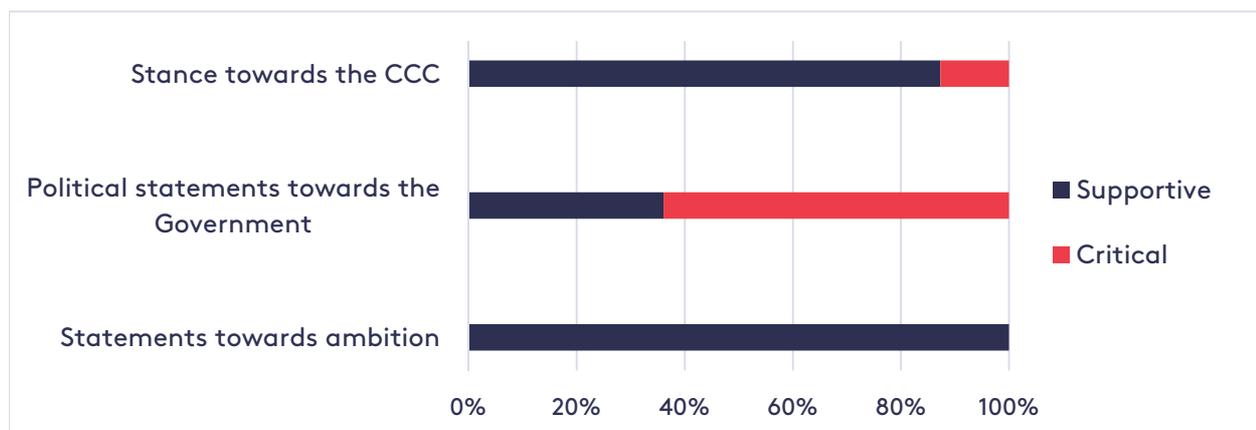
Parliamentary references to the CCC during the six carbon budget debates were overwhelmingly positive. Parliamentarians were either directly endorsing the CCC's recommendations or citing its analysis to call for additional action. All references to the CCC where a direct call for action was made argued for greater ambition on climate change (e.g. to include additional sectors, to tighten accounting rules or to increase overall ambition). About two-thirds of all references to the CCC where a position towards the Government was taken were critical towards the Government or its actions (see Figure 3.4).

In 2009, the discussions on the first three carbon budgets revolved around the progress made by the UK in decarbonising the economy, reducing its emissions and the additional steps that would be necessary.

In 2011 the parliamentary debate was about approving the target for the fourth carbon budget. All speakers referring to the CCC endorsed the Committee's recommendations and called on the Government to follow its advice. Some speakers demanded explanation on why certain recommendations were being ignored (e.g. excluding EU emissions trading system [ETS] purchases from accounting under the fourth carbon budget).

Moving to 2016 and the discussions on the fifth carbon budget, most parliamentarians cited CCC recommendations to endorse the level of the proposed carbon budget, similar to the debate in 2011. 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 recommendations and being behind on meeting the emission reduction targets.

Figure 3.4. Context of references to the CCC in the debates on carbon budgets



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: Authors' analysis of Hansard

Comments that are critical of the CCC have reduced over time

The references to the CCC that were critical in nature accounted for less than 13 per cent of all references to the Committee in the debates on the carbon budgets (see Figure 3.4). Over time the number of critical references has decreased significantly. This suggests growing trust in the CCC's analysis across all major political parties, which is especially interesting given that the cross-party political consensus on climate action more broadly has come under increasing pressure over time (Carter, 2014; Gillard, 2016; Fankhauser et al., 2018).

In 2009 nine speakers in the House of Lords and no speakers in the House of Commons spoke critically of the analysis or recommendations of the CCC. In 2011 only two speakers in the House of Lords made a critical reference to the Committee's analysis, both of whom are known to be critical towards action on climate change. A third critical intervention in 2011 was made by the Secretary of State in the context of the Government justifying why it was not accepting some of the CCC's recommendations (specifically on the tighter rules for carbon accounting). We did not find any critical references to the Committee's work in the debates on the carbon budgets in 2016.

Most of the criticism towards the CCC in 2009 was in response to the first report published by the Committee and covered a wide range of mainly technical issues. This included speakers disagreeing with certain parts of the report, namely questioning the effectiveness of the EU ETS and its ability to stimulate low-carbon investment in the UK, technical treatments of the aviation sector, the focus on electricity and lesser attention given to heat, transport and other sectors, and the role of particular technologies in the energy balance assumed in the CCC's projections. There were also comments on the overall approach and the balance of focus on 2020 versus 2050 targets. In the 2011 debate the references came from speakers questioning the UK's overall approach to climate change and the need for a rapid transition to a low-carbon economy, hence the later critiques were mainly based on the political stance of the speakers rather than the technical content and quality of the CCC's outputs.

Our analysis of the parliamentary debates on the carbon budgets in 2009, 2011 and 2016 indicates that the CCC is the main authoritative source of analysis used in determining the carbon budgets, and that it is trusted by parliamentarians as a competent advisory body on climate change matters. Evidence from the CCC has also provided the core technical justification when parliamentarians put pressure on the Government to act with more ambition on mitigation.

4. How has the Committee on Climate Change influenced other policy debates?

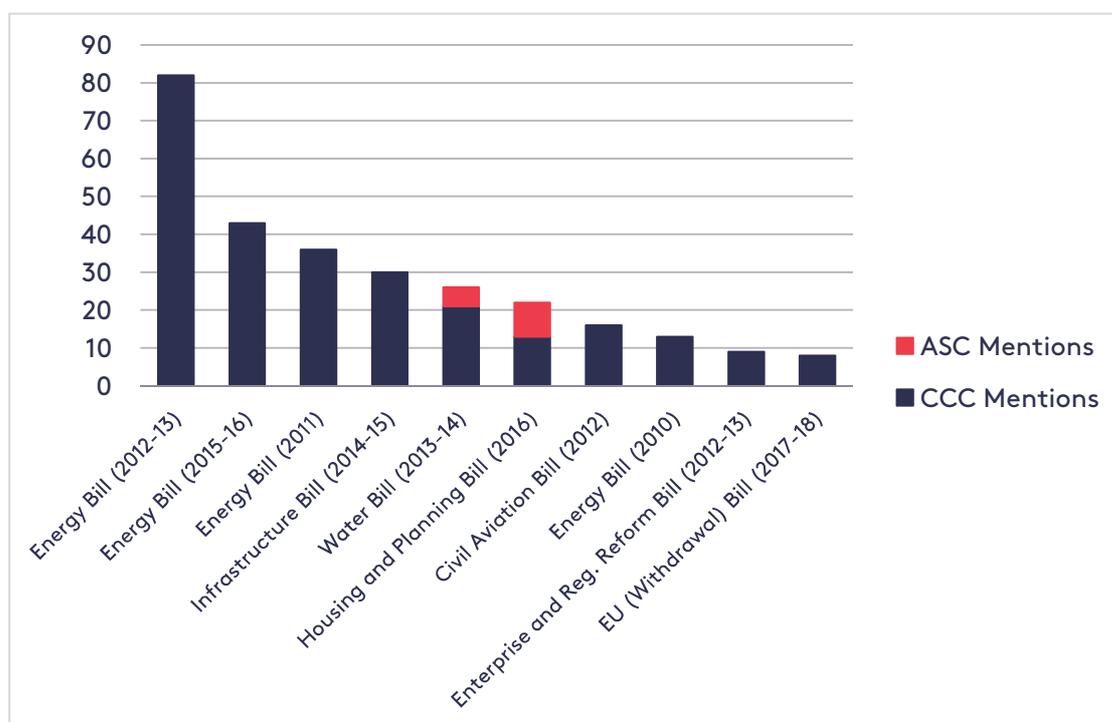
In which policy debates has the CCC been involved?

CCC analysis has been used in a range of Government bills

The Committee on Climate Change has been mentioned in a variety of legislative contexts. Most notably, this includes the debates around 21 Government bills between 2009 and 2017. The breadth of areas that these bills cover suggests that the CCC has succeeded in injecting climate change concerns into other relevant debates. Together with the debates on carbon budgets, CCC references in the debates around Government bills constitute 40 per cent of all mentions of the Committee in Parliament.

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 UK's low-carbon agenda. Around 22 per cent of CCC mentions in Parliament occurred during the debates on the 2010, 2011, 2013 and 2016 Energy Bills (Figure 4.1). On average, the CCC was referred to in every third sitting on the four bills (Figure 4.2). The CCC was particularly influential in bringing about the 2013 Electricity Market Reforms (part of the 2013 Energy Bill), the importance of which the Committee first documented in its 2009 Progress Report (CCC, 2009) and continued to promote until the reforms were successfully adopted.

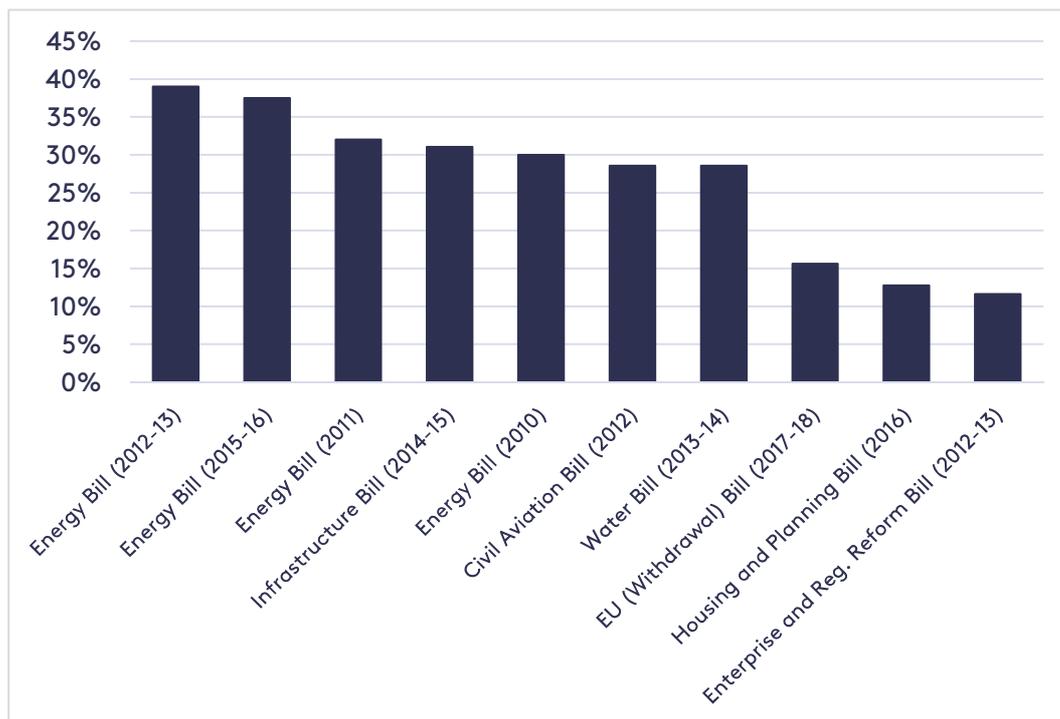
Figure 4.1. Mentions of the CCC and ASC in the debates on Government bills



Note: The dates refer to the period during which the bills were debated in the two Houses of Parliament. Once the parliamentary debate is completed, a bill receives royal assent and becomes an Act of Parliament. Thus the Energy Bill 2015–2016 became the Energy Act 2016.

Source: Authors' analysis of Hansard

Figure 4.2. Share of sittings where the CCC or ASC was mentioned out of total number of sittings on various bills



Note: The dates refer to the period during which the bills were debated in the two Houses of Parliament. Once the parliamentary debate is completed, a bill receives royal assent and becomes an Act of Parliament. Thus the Energy Bill 2015–2016 became the Energy Act 2016.
Source: Authors' analysis of Hansard

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.

Case study 2: The Energy Bill, 2015–16⁸

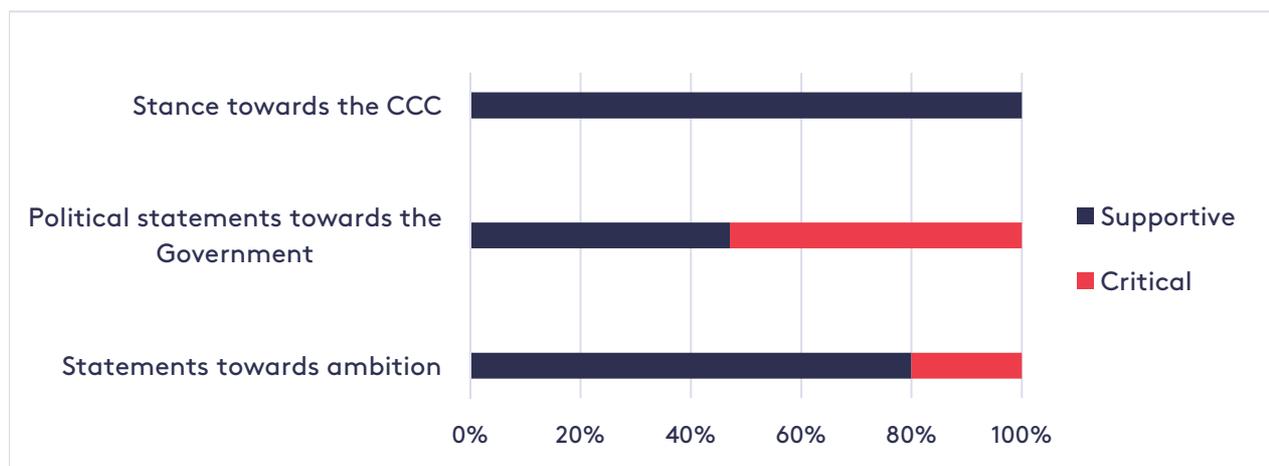
Under the Energy Bill 2015–16 Parliament considered a range of issues in relation to energy generation in the UK. The bill made provisions for the Oil and Gas Authority and its functions and addressed rights to use upstream petroleum infrastructure and the abandonment of offshore installations. It also determined provisions about the disclosure of information for the purposes of international agreements, and the fees in respect to activities relating to oil, gas, carbon dioxide and pipelines. It also made provision for wind power.

Overall there were 25 debates in the House of Lords and in the House of Commons on the Energy Bill 2015–2016 and the CCC was mentioned in nine of them. Our analysis of these nine debates suggests that the CCC is not just an authoritative advisor on carbon targets, but also a trusted

⁸ As per the original records in the Hansard database we refer to the parliamentary debate on this bill as the 'Energy Bill 2015-16'. The Bill received royal assent on 12 May 2016 to become the Energy Act 2016.

analytical source on the decarbonisation of the energy sector. All mentions of the CCC during the 2015–16 energy debates were supportive of the Committee. CCC analysis and advice also provided an evidence base to parliamentarians calling for higher ambition (see Figure 4.3).

Figure 4.3. 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: Authors' analysis of Hansard

The CCC's analysis has informed the debate on policy fundamentals

The CCC featured as an important analytical body from which the Government should seek advice on the decarbonisation of the energy sector. The debate included a proposal (ultimately rejected) that Government should seek advice from the CCC on energy decarbonisation targets and the underlying policy measures for the energy sector. The Committee also featured in a proposal put forward by several parliamentarians that requested the Secretary of State to publish an assessment of progress towards the decarbonisation of energy supply, including a strategy for the development of renewables and energy efficiency within the supply system.

The CCC was cited in the discussions on a 'net zero' emissions target for the UK that came to light as potentially necessary following the Paris Agreement. Several speakers in the debates on various aspects of decarbonising the UK's energy supply proposed to establish a 'net zero' target for the UK and proposed that the Government asks the CCC for advice on the date by which this target should be achieved.

Evidence from the CCC also featured in the discussions on the importance of carbon capture and storage (CCS) for meeting the fifth carbon budget and decarbonisation over the longer term. Speakers cited CCC analysis to criticise the Government for withdrawing support for developing CCS technology and to call for support to be reinstated at a higher level, and for mandating the Secretary of State to develop a comprehensive CCS strategy. In these discussions the speakers proposed asking the CCC for additional advice on the issue.

The CCC was referenced in both Houses in the context of the Government's level of support to onshore wind. All of the interventions citing the CCC in this context were critical of the reduction in Government support for renewable energy. The advice and analysis by the CCC was used as the technical justification for the political argument.

Overall, all but two references to evidence and advice from the CCC were in support of greater ambition or stepping up action by the Government on decarbonisation of the energy sector or the UK's economy more broadly (see Figure 4.3 above).

The CCC's analysis also informed technical questions

Specific references to the CCC were made in a range of technical discussions. The CCC was mentioned during the discussion of accounting rules for greenhouse gas emissions and the possibility of borrowing emission reductions from future carbon budgets. The main point of contention on accounting was whether the UK should focus on its actual emissions when assessing compliance with the carbon budgets and setting targets (gross base accounting) or whether it should continue accounting for the sales and purchases of emission allowances in the EU ETS.

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. The analysis and recommendations were used by parliamentarians as the core justification to support their arguments for more ambition (see Figure 4.3 above).

Case study 3: The debate on flooding, 2014–2016

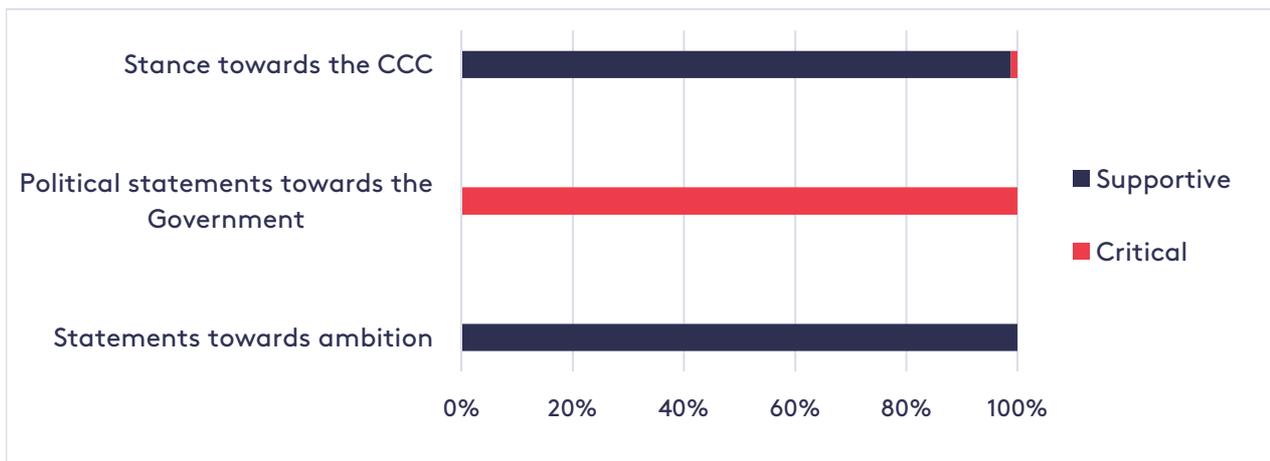
During the winters of 2013/14 and 2015/16 parts of the UK experienced severe flooding. The scale of the impact pushed flood protection up the political agenda, not least since flood defence expenditure had been cut in the years immediately before the floods (ASC, 2014a, b).

Parliament debated flooding on a number of occasions. 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 Adaptation Sub-Committee, including its analysis on historical underinvestment in flood defences (ASC, 2014a, b). The Government ultimately agreed to increase flood defence spending.

References to the CCC/ASC have reflected the political nature of the flooding debate

Unsurprisingly, the flooding debate was highly political, much more so than other parliamentary debates in which the CCC or ASC have featured. Every reference to the ASC where a political stance was taken was critical of the Government (see Figure 4.4). The evidence and recommendations of the ASC provided technical justification for parliamentarians seeking to criticise the Government for the inadequacy of its response to the consequences of floods, its preparedness and risk management strategy, and its investment in addressing flood risks, in light of past and further planned budget cuts.

Figure 4.4. 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: Authors' analysis of Hansard

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, making a technical reference. There was only one slightly critical remark.

5. Lessons for climate governance

Lawmakers around the world are reviewing their approach to climate change. They recognise that meeting the objectives of the Paris Agreement will require new, stronger and more comprehensive approaches to climate governance.

Many of them see independent advice and scrutiny by an autonomous technical body as an important aspect of the new institutional set-up. More than 40 countries have introduced advisory bodies on climate change, although few of them can be described as independent from government.⁹ Among the countries in the Organisation of Economic Co-operation and Development (OECD) this includes commissions in, for example, Australia, Finland, Ireland, Mexico and Sweden. Others are under consideration.

Attempts to compare the experiences of these commissions are slowly getting underway. At the instigation of the UK and Finland, representatives from selected countries have started to meet informally. There is a case for setting up a broader and more systematic coordination mechanism that would assist independent climate commissions in the pursuit of their mandate. Similar coordination bodies exist, for example, for central banks and energy regulators. They provide a platform to exchange views, compare approaches and establish good practice.

In the meantime, the UK committee is a good institutional model for independent climate advisory bodies. The Committee on Climate Change is an effective voice in the UK climate debate and has made a material difference to the way climate policy is conducted in terms of objectives (the statutory carbon targets), process (e.g. parliamentary debate) and substance (e.g. impact on energy sector reform).

The CCC has been able to play this role because it has a clear statutory mandate, a high-profile chair, sufficient resources and skills, and a track record of rigorous, independent analysis, which it established early on. Lawmakers trust the analysis of the CCC.

Making climate policy is, rightly, the prerogative of Government and the CCC has no formal enforcement powers, relying instead on political embarrassment and the threat (by others) of a judicial review. This enhances the democratic legitimacy of climate action, but it also increases the risk that climate policy may veer off track. Over the coming years, the UK will need to step up the pace of decarbonisation, and the ability of the CCC to hold the Government to account will be tested.

⁹ See the Climate Change Laws of the World database (www.lse.ac.uk/GranthamInstitute/climate-change-laws-of-the-world/). The statistics are based on a subset of countries – the 99 countries covered in Nachmany et al. (2015).

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