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Taking stock of Climate Change Acts in Europe: living policy processes or symbolic gestures?

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Abstract

Since the UK introduced a Climate Change Act (CCA) in 2008, similar legislative innovations have followed in a number of states, with each having a slightly different take. What unites these innovations is that they all represent framework legislation that aims to facilitate climate change mitigation by creating continuous policy processes whereby mechanisms for the reduction of greenhouse gas (GHG) emissions are developed and implemented. This article is concerned with the extent to which they are living policy processes or rather symbolic gestures. We analyse seven European CCAs with regard to GHG emission reduction targets, planning/implementation mechanisms, and feedback/evaluations prescribed by the laws. These three features correspond with three aspects of climate policy integration (CPI): interpretations of CPI as a norm; CPI as a process of governing; CPI as a policy outcome. We show that CCAs address all three aspects of CPI and constitute living policy processes, although to varying extents. However, CCAs are also policy processes in that they are part of a political system and can be affected by political forces external to the legislation, positively and negatively.

Policy Insights:

- CCAs are pieces of framework legislation that aim to reduce greenhouse gas emissions.
- CCAs go beyond previous policy approaches, such as National Mitigation Strategies (NMS) by i) translating international commitments into national law; ii) being difficult to abolish, weaken, or ignore them due to their legislative character; iii), and by further institutionalising climate change policymaking in dedicated institutions, and cycles of mandatory planning, reviews, and reports.
- CCAs are limited because they do not include short-term as well as long-term targets and sanctions for missing them.
- Whilst Climate Change Acts bring some stability and predictability to climate change policymaking, they are still vulnerable to political developments.

1. Introduction

In 2005, Friends of the Earth (FoE) UK started campaigning for national framework legislation on climate change. The United Kingdom (UK) government embraced the idea and the UK parliament adopted a Climate Change Act (CCA) that entered into force in 2008 (Carter and Childs, 2017). Since then, similar acts have been adopted in Austria (2011), Iceland (2012), Denmark (2014), Finland and Ireland (both 2015), Norway and Sweden (both 2017). This article describes and compares key characteristics of these pieces of legislation.

For the purposes of this article, we define CCAs as framework legislation adopted by parliament that lays down general principles and obligations of climate change policymaking in a nation-state (or sub-state entity), with the explicit aim of reducing greenhouse gas (GHG) emissions in relevant sectors through specific measures to be implemented at a later stage. Our definition excludes climate strategies or policies of the executive, and it excludes climate legislation focussing on specific sectors and/or policy instruments (such as framework legislation related to the EU Emission Trading Scheme). It allows us to concentrate on a very particular legislative innovation: CCAs “as a comprehensive, unifying basis for climate

change policy addressing multiple aspects and issues of climate change mitigation or adaptation (or both) in a holistic, overarching manner' (Nachmany et al., 2015: 17).

CCAs are not the first attempt to facilitate climate policymaking comprehensively. Since the early 2000s, the most common approach has been national mitigation strategies (NMS). Apart from being policy documents, ideal-typical NMS aspired to become policy processes able to better integrate mitigation concerns across relevant sectors. Although in particular second and third-generation NMS took their process-oriented function more seriously than early NMS, they nevertheless 'resembled "lacklustre bookkeeping" of emissions, targets and mitigation options' that barely played a role when governments did make progress towards climate policy integration (Casado-Asensio and Steurer, 2016: 88). Because NMS are not legally-binding they have neither systematically integrated climate change mitigation in other sectors, nor have they been able to systematically reduce GHG emissions (Casado-Asensio and Steurer, 2016; Kerr, 2007). This obvious failure prepared the ground for CCAs. In the UK, the CCA was a response to erratic GHG emissions that, despite previous progress, were not following a discernible downward trend (Carter and Childs, 2017: 5-6). It was expected to address the weaknesses of the UK mitigation strategy, *inter alia* by strengthening the institutionalisation of and political commitment towards climate change policies.

The legal texts and the procedures established by CCAs are the focus of this article. In particular, we ask the following question: to what extent are CCAs symbolic gestures, to what extent are they policy-relevant processes? We answer this question drawing on the results of a desk-study on every CCA that existed at state-level in Europe at time of writing in 2018, excluding the Icelandic Act due to the lack of translated documents. The seven CCAs covered here are from the UK (2008), Austria (2011), Denmark (2014), Finland (2015), Ireland (2015), Sweden (2017) and Norway (2017). We excluded sub-state CCAs such as those in Scotland (UK) (Climate Change (Scotland) Act, 2009) and Baden-Württemberg (Germany) (Gesetz zur Förderung des Klimaschutzes in Baden-Württemberg, 2013). We focus on European CCAs due to the high level of integration between climate politics in European states and the European Union (EU) (with both Iceland and Norway being drawn into many EU mechanisms as members of the European Economic Area).

Although nation-states are only one of several levels of policymaking on climate change, they retain a privileged position in the international political architecture, even in the EU: The United Nations Framework Convention on Climate Change (UNFCCC) (UNFCCC, 1992), the subsequent Paris Agreement (UNFCCC, 2015), and most EU regulations emphasise GHG emission reductions at state-level. The Paris architecture introduced pledges in the form of Nationally Determined Contributions (NDCs) (UNFCCC, 2015). In the EU binding targets have been set for each individual member state for 2013-2020 (Official Journal of the European Union, 2009), and a similar proposal has also been made for 2020-2030 (European Commission, 2016). Against this international context, measures that are being implemented by individual nation-states therefore take on a pivotal role in achieving emission reductions globally. As well as establishing processes for domestic climate policy, CCAs can be part of adhering to commitments in NDCs and under EU targets.

The next section introduces the concept of climate policy integration (CPI) as the heuristic used to organise this article. In the third section we turn to empirics, documenting and characterising CCAs along three lines: GHG emission reduction goals; planning mechanisms; feedback and evaluation mechanisms. In the fourth section, we undertake a procedural analysis of CCA implementation. Finally, in the fifth section we draw conclusions.

2. Climate Policy Integration

In this section we turn to the concept of CPI, with which we structure our empirical analysis. CPI is a concept that recognises the need for climate change to be integrated across all areas of policymaking (Adelle and Russel, 2013: 5), and is linked to the broader concept of environmental policy integration (EPI). The concepts are so closely related that CPI is sometimes considered ‘a subset of, and an analytical entry point to, the larger environmental policy integration challenge’ (Nilsson and Nilsson, 2005: 364). Both concepts function within a top-down understanding of policymaking and share the core characteristic of policy integration, which ‘concerns policy-making in certain domains that take policy goals of other, arguably adjacent, domains into account’ (Tosun and Lang, 2017: 7).

Following Jordan and Lenschow’s review of EPI, we draw on three categories of analysis: normative interpretations of what needs to be integrated, why and how; policy integration as a process of governing; and EPI/CPI as a policy outcome (Jordan and Lenschow, 2010). In the first category of analysis, EPI/CPI is understood as a normative ordering principle that requires a broad variety of policies to take environmental concerns into account because the latter cannot be addressed adequately by environmental policies alone (Jacob and Volkery, 2004). This implies a ‘revision of the traditional hierarchy of policy objectives, where environmental goals and values historically have tended to be at the lower end of the scale’ (Lafferty and Hovden, 2003: 2). In the following empirical section, we analyse CCAs from this perspective via the presence (or absence) of quantified GHG emission reduction targets, to be obeyed by a broad variety of sectors.

The second category of analysis is EPI/CPI as a process of governing, ‘of day-to-day policymaking by which policy integration is achieved’ (Adelle and Russel, 2013: 5). It is concerned with ‘measures that aim to change the process of sectoral policy making’ (Jordan and Lenschow, 2010: 152). Whilst CCAs contain various procedural provisions we turn to planning mechanisms that are supposed to facilitate the implementation of the act.

The final category is EPI/CPI as a policy output and outcome. The latter is ‘the influence of any EPI related activity on the state of the environment’ (Jordan and Lenschow, 2010: 154). EPI/CPI as policy outputs relates to the procedural category of EPI/CPI. It focuses on policy instruments as tools to realise desired outcomes rather than policy documents (Adelle and Russel, 2013: 8). In the following section we analyse the feedback and evaluation mechanisms that document outputs and outcomes of CCAs and aim to improve them.

3. Taking stock

In this section, we take stock of seven state-level CCAs in Europe (see table 1) from the three perspectives outlined above: GHG emission reduction targets, planning mechanisms, and feedback and evaluation mechanisms.

Table 1: Overview of Climate Change Acts in Europe

Title of law	Adopting State	Year of Adoption
Climate Change Act	UK	2008
Climate Protection Law (<i>Klimaschutzgesetz</i>)	Austria	2011 Amendments: 2013, 2015, 2017
Law on the Climate Council, climate policy statement and determination of national climate objectives (<i>Lov om Klimarådet, klimapolitisk redegørelse og fastsættelse af nationale klimamålsætninger</i>)	Denmark	2014
Climate Change Act (<i>Ilmastolaki</i>)	Finland	2015
Climate Action and Low Carbon Development Act	Ireland	2015
Climate Law (<i>Klimatlag</i>)	Sweden	2017
Law on climate targets (<i>Lov om klimamål</i>)	Norway	2017

Normative CPI: Targets for GHG emission reductions

Not only the numerical value of quantitative targets for GHG emissions reductions (hereafter ‘targets’) varies across CCAs, but there is also divergence on whether targets are directly included in the CCA. In the UK, the ‘key elements of the legislation’ (Hill, 2009: 13) are the target for an 80% reduction of GHG emissions by 2050 (Climate Change Act, 2008: 1.1), the interim target for a 26% reduction by 2020 (increased to 34% in a 2009 amendment) (Climate Change Act, 2008: 5.1.a; The Climate Change Act 2020 Target, Credit Limit and Definitions Order, 2009), and a system of carbon budgets. Amending the targets is possible, following a complex procedure set out in the CCA, and only under circumstances involving significant developments in scientific knowledge or European or international law or policy, the designation of a further GHG as falling under the act, or new regulations including international aviation or shipping (Climate Change Act, 2008: 2.2).

Two further CCAs include targets for 2050 aligned with the UK target. Finland’s CCA includes a target of (at least) 80% by 2050 (Ilmastolaki, 2015: 6.3) and also legislates for the eventuality that the target may need to be amended, in this case if an international treaty binding on Finland or EU legislation sets a different target (Ilmastolaki, 2015: 6.3). This implies ‘that the national target may be stricter or looser, depending on the development of the supranational climate regime’ (Pölonen, 2014: 309). The Norwegian law is more aspirational, with the 2050 target set at 80-95% (Klimaloven, 2017: 4) and including an interim 40% target for 2030 (Klimaloven, 2017: 3). The Norwegian government is to present updated goals to Parliament every 5 years, although crucially new targets must constitute a progression and promote a gradual transition towards 2050 (Klimaloven, 2017: 5), suggesting that backpedalling on the 2050 target will not be possible.

Table 2: GHG Emission Reduction Targets (chronological order according to agreement of CCA by the legislature)

CCA	Date	Targets in CCA (baseline 1990, or stated)	Targets in Auxiliary Document(s)
UK	2008	80% by 2050 34% by 2020	
Austria	2011	16% by 2020 (baseline 2005) Removed in 2013 amendment when highest permissible levels of GHG emissions were added	
Denmark	2014	‘low emissions society’ by 2050	Government’s Climate Plan (2013): 40% by 2020 Ambition to bring development on track towards the EU long-term goal of 80-95% by 2050. Targets expired with change in Government in 2015.
Finland	2015	At least 80% by 2050	
Ireland	2015		Climate Action and Low Carbon Development National Policy Position Ireland (2014): 80% of CO ₂ emissions by 2050 in electricity generation/ built environment/ transport sectors
Sweden	2017		Climate Policy Framework for Sweden (2017): Zero emissions by 2045 (at least 85% by 2045 for emissions from operations in Sweden)
Norway	2017	80-95% by 2050 40% by 2030	

The Austrian CCA, the only other CCA to contain targets, does so very differently. The 2011 legislation includes highest permissible sectoral emissions levels for 2008 to 2012, and a provision for sectoral levels to be negotiated for 2013 to 2020, based on a total emission reduction of 16% for all non-ETS sectors combined by 2020 compared to 2005 (Klimaschutzgesetz, 2011: Annex 1 & 2). A 2013 amendment replaced the 16% target with negotiated highest permissible sectoral emissions (Änderung des Klimaschutzgesetzes, 2013). Despite no longer being mentioned in the CCA, the 16% target is still applicable, as it was included in the EU’s 2013 Effort Sharing Regulation, thus becoming binding for Austria.

The CCAs of Denmark, Ireland, and Sweden do not contain explicit targets. However, in all three a policy document either already existed (Denmark, Ireland) or was agreed at the same time as the CCA (Sweden) that include quantitative targets. It can be debated whether these documents can be interpreted as constituting legislated targets under the CCA. However, as they are contained in policy documents these targets are much more vulnerable to reversal than those explicitly included in legislation.

In place of targets, the Danish CCA includes the purpose of establishing a framework for transitioning to a 'low-emissions society' in 2050 (Klimalov, 2014: 1, author translation). In a more precise articulation, the Government at the time had published a 'Climate Plan' the year previously containing a concrete target of 40% reduction by 2020, and an 'ambitious but necessary' aspiration to contribute to reaching the long-term EU goal of a reduction of 80-95% by 2050 (Danmarks Regeringen, 2013: 10, author translation). The political, rather than legislative, nature of Denmark's target has been criticised for not putting precise legal obligations on Danish governments (Basse, 2015).

The Irish CCA also does not contain targets. However, in tandem with the publication of a draft bill in 2014, the government published a national policy position setting out the target of an 80% reduction in CO₂ emissions by 2050 in the electricity generation, built environment and transport sectors (DCCAE, 2014). A hook was included in the CCA linking to this policy position, in that in implementing the CCA, 'the policy of the Government on climate change' must be taken into account (Climate Action and Low Carbon Development Act, 2015: 3.2.b). This reference has been taken to mean that the government must take its 2050 target into account when implementing the CCA (Torney, 2017).

Finally, the Swedish target, one of only two targets set post-Paris, is the most ambitious, although it is not included in the core CCA. Instead, it is included in the broader 'Climate Policy Framework for Sweden', of which the CCA is only one pillar of three alongside the climate targets and plans for a Climate Policy Council (Sveriges Regering, 2017). The policy framework includes the target of zero emissions by 2045 and subsequently negative emissions, with emissions from operations in Sweden reducing at least 85% by 2045 (Sveriges Regering, 2017: 1). Despite the targets not being included explicitly in the CCA, a hook is built into the text that clearly links the two, stating that the government's climate policy work is to be based on the long-term target set by parliament (Klimatlag, 2017: 3).

CPI as process: Planning mechanisms in CCAs

The procedural character of CCAs is most clearly illustrated by planning mechanisms. Most CCAs contain a series of bureaucratic steps, such as the periodic adoption of particular budgets, strategies, or plans, termed in relation to the UK CCA as a 'banquet for bureaucrats' (Townsend, 2009: 116). The complex system of 5-yearly carbon budgets set 11.5 years in advance mandated by the UK's CCA (Climate Change Act, 2008: 4) is often held up as an example of a planning mechanism placing strict obligations on governing authorities. The carbon budget necessitates, on the one hand, emissions reductions to be carried out in a downwards trajectory towards 2050 (Carter and Childs, 2017: 6) and, on the other hand, requires governments to plan ahead, overcoming the time-consistency problem and front-loaded costs of mitigation that so often plague climate policy (Bowen and Rydge, 2011: 28). The first three carbon budgets were set without great difficulty in 2009, although in 2011 when the fourth carbon budget was due to be set, ambition appeared to be waning and the budget was set with a caveat of a review of proportionality in 2014 (Gillard and Lock, 2017). This target was retained.

Table 3: Planning Mechanisms in CCAs

CCA	Date	Planning Mechanism	Time Scale
UK	2008	Carbon Budgets	5-yearly, 11.5 years in advance Budget 1: 2008-2012 by 2009 Budget 2: 2013-2017 by 2009 Budget 3: 2018-2022 by 2009 Budget 4: 2023-2027 by 2011 Budget 5: 2028-2032 by 2016 Budget 6: 2033-2037 by 2021 Budget 7: 2038-2042 by 2026 Budget 8: 2043-2047 by 2031 Budget 9: 2048-2050 by 2036
		Mitigation Plan	As soon as reasonably possible after setting a carbon budget
		Adaptation Plan	5-yearly, directly following Climate Change Risk Assessment
Austria	2011	Sectoral Targets	2008-2012 2013-2020
Denmark	2014	<i>Interim Targets (not included in the text of the CCA)</i>	5-yearly, 10 years in advance
Finland	2015	Mitigation Plan (Long-term)	At least 10-yearly
		Mitigation Plan (Medium-term)	Once per electoral term (approximately 4-yearly)
		Adaptation Plan	At least 10-yearly
Ireland	2015	Mitigation Plan	Within 18 months of passing of the Act, then 5-yearly
		Adaptation Plan	Within 24 months of passing of the Act, then 5-yearly respectively
Sweden	2017	Mitigation Plan	4-yearly, the year after ordinary elections to Parliament
Norway	2017	Revision of targets	5-yearly

The Austrian CCA does not include a planning mechanism, although the highest permissible annual limits for GHG emissions that are meanwhile set out until 2020 provide a clear trajectory. Therefore, despite the absence of an explicit requirement for plans, the annual sectoral limits can be partially interpreted as such.

Three of the remaining five CCAs require some kind of periodically reviewed policy action plan or strategy as planning mechanism. Whilst this still doesn't overcome the time-consistency problem by locking in future policies, it does lock in the obligation to plan towards the goals that have been set (Kymenvaara, 2015). The Swedish (Klimatlag, 2017: 5) and Finnish planning processes (Ilmastolaki, 2015: 9) are both tied to election cycles, although in the Finnish case this is also complemented by a long-term plan (Ilmastolaki, 2015: 7) to be approved by Government on a ten-yearly basis. Although the Finnish planning mechanism is more rigid than others, there are indications that Finnish public opinion would

have been in favour of an even more rigid design (Schoenefeld, Hildén, & Mäkinen, 2015). Although not explicitly based on election cycles, the Irish CCA requires both mitigation and adaptation plans to be published every five years, which corresponds to a regular election cycle.

The final two CCAs do not include explicit planning mechanisms, however, do foresee the periodic revision of targets that can be part of a planning process. The Norwegian CCA provides for the revision of targets on a five-yearly basis (Klimaloven, 2017: 5). Finally, in the Danish case a mechanism for setting interim targets is in place, not included in the text of the CCA itself, but rather in a broad political agreement (Energi- Forsynings- og Klimaministeriet, 2014).

CPI as output and outcome: Feedback and evaluation mechanisms in CCAs

All CCAs include provisions for feedback and evaluation, predominantly through a combination of government reporting, advice and evaluation from more or less independent bodies, some of them created by CCAs. The UK's Committee on Climate Change, "the first environmental body of its kind" (McGregor, Kim Swales, & Winning, 2012: 466) was created by the CCA in 2008 and has been identified as "a good institutional model for independent climate advisory bodies" that 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 [...], process [...] and substance" (Averchenkova, Fankhauser, & Finnegan, 2018: 24). The committee is tasked with advising the Government on carbon budgets (Climate Change Act, 2008: 34), and publishing annual reports to which the Government has to respond (Climate Change Act, 2008: 36-37) in addition to annual emissions statements, final statements for each budgetary period, and reports on the policies and proposals for meeting carbon budgets that the Government is also obliged to publish (Climate Change Act, 2008: 16, 18, 14).

Table 4: Advisory bodies

CCA	Date	Institution
UK	2008	Committee on Climate Change
Austria	2011	National Climate Protection Advisory Council (abolished in 2017) National Climate Protection Committee
Denmark	2014	Climate Council
Finland	2015	Finland's Climate Panel (in existence since 2011)
Ireland	2015	Climate Change Advisory Council
Sweden	2017	Climate Policy Council (included in Climate Policy Framework)
Norway	2017	

Similar to the UK, both Ireland and Sweden explicitly include reviewing Government progress within the remit of their advisory bodies. The Irish Climate Change Advisory Council is to carry out annual and periodic reviews (Climate Action and Low Carbon Development Act, 2015: 12), which complement annual governmental reporting (Climate Action and Low Carbon Development Act, 2015: 14). In Sweden the Climate Policy Council is to submit an annual progress report and periodic reports on mitigation planning to the Government (Förordning med instruktion för Klimatpolitiska rådet, 2017: 5). However, both bodies differ slightly from the UK model: the Swedish Climate Policy Council is not anchored in the CCA but in an auxiliary document as a separate pillar of Sweden's Climate Policy Framework (Sveriges Regering, 2017). The Irish Advisory Council is also less clearly independent than the UK's committee, with ex officio members sitting alongside independent members. However, a campaigning victory while the legislation was going through parliament elicited an explicit recognition of the council's independence in the CCA (Torney, 2017).

Table 5: Government Reporting and External Advice and Evaluation Mechanisms

CCA	Date	Government Reporting	External Advice and Evaluation
UK	2008	Annual emissions statement to Parliament	Advice to Government on setting carbon budgets
		Final statement for each budgetary period to Parliament	Annual progress report to Parliament (plus Government response)
		Report on policies and proposals for meeting carbon budgets to Parliament	Advice on Climate Change Risk Assessment
Austria	2011	Annual report by Minister to Parliament and National Climate Protection Committee	Advice on questions of climate politics
Denmark	2014	Annual report by Minister to Parliament	Annual recommendations to Minister
Finland	2015	Report to Parliament on medium and long-term mitigation plans	Support planning of climate change policy
		Annual report to Parliament	
Ireland	2015	Annual National Transition Statement by Minister to Parliament	Annual and periodic reviews
		Annual Sectoral Mitigation Statement by Minister to Parliament	
Sweden	2017	Annual Climate Report to Parliament in the budget bill	Annual report to Government on progress, consistency of policy with climate goals, other analyses and assessments
			Report on Mitigation Plan
Norway	2017	Annual statement to Parliament in the budget bill	
		Statement to Parliament on emissions	

Austria, Denmark, and Finland all have bodies only tasked with providing advice on policymaking, with reviewing Government progress not included in their remits. Once again, the approaches vary. The Danish Climate Council is identified as the strongest element of the Danish CCA (Basse, 2015), functioning independently and feeding into policymaking in Denmark. In Austria, two separate bodies were created in the 2011 law; the National Climate Protection Advisory Council and the National Climate Protection Committee. The Advisory Council was tasked with advising the Committee in its functions and was populated with political parties, ministries, and relevant stakeholders including the Chamber of Commerce, economic representative organisations, and federal states alongside environmental NGOs. The Committee was a narrower group of ministries, economic organisation and federal states that was tasked with debating fundamental questions of long-term climate policy in Austria and putting together plans to reach emission reduction targets. However, in a 2017 amendment of the CCA, the Advisory Council was abolished, whilst the Committee's remit and membership were broadened to take its place. The work of both government-related groups has been lacking in transparency and devoid of publically available outputs. Finally, the Finnish body is unusual in that it was created four years prior to a Finnish CCA (Utter, 2013: 9), which gives it a statutory basis for its work. It is an independent scientific expert body with the purpose to "support the planning of climate change policy and the related decision-making" (Ilmastolaki, 2015: Section 16(1)).

In a feature seen only in the Swedish and Norwegian CCAs, government reporting is included in the annual budget bill (Klimatlag, 2017: 4; Klimaloven, 2017: 6). One commonality is present across all CCAs: Government (or the relevant Minister) has the duty to report annually to parliament.

4. Analysis of CCAs: Procedures and performance

In this section we analyse the procedural and outcome-related aspects of CCAs in more depth. First and foremost, we analyse whether and how the main bureaucratic steps outlined above are being executed. Here we exclude the Swedish and Norwegian CCAs as both entered into force at the beginning of 2018 with very few procedural steps already implemented.

The UK's CCA sets out the most complex procedure. On paper, all 43 specific procedural steps mandated for 2008-2017 have been kept to: the first five carbon budgets have been set (The Carbon Budgets Order 2009, ; 2011; 2016), with the Committee on Climate Change delivering advice on each occasion (Committee on Climate Change, 2008, 2010, 2015); the Government has published its plans on how to meet the carbon budgets (HM Government, 2011, 2017a); annual progress reports from the Committee on Climate Change and the government response to the progress reports have been published (for 2017, see Committee on Climate Change, 2017; HM Government, 2017b); and the Government annual emissions statements have also been delivered as per the CCA (for 2017, see DBEIS, 2018). In 2011, when setting the fourth carbon budget, ambition appeared to be waning and it was set with a caveat of a review of proportionality in 2014 (Gillard and Lock, 2017). However, upon review the budget remained unchanged, matching advice that 'there has been no significant change in circumstances as specified in the Climate Change Act and therefore the budget should not and cannot be changed under the terms of the Act' (Committee on Climate Change, 2013: 8).

The only other procedural question mark concerns the publication of the carbon plan required as soon as reasonably possible after setting a carbon budget (HM Government, 2017a). In 2016, a delay of the plan linked to the fifth carbon budget was criticized by civil society

organizations (Client Earth, 2016) who then also criticized the plan as inadequate (Client Earth, 2017). Looking beyond mere publication of the plan, further concerns have been raised that it does not conform to the CCA's requirements, which stipulates that the proposals and policies are to be set out 'as the Secretary of State considers will enable the carbon budgets that have been set under this Act to be met' (Climate Change Act, 2008: 13.1). This requirement does not equate to implementation of policies but is rather a step prior to implementation, with the Government required to ensure that its plans (at least on paper) match the level of ambition set in the budgets. Despite this requirement, the Government's own analysis shows a gap of +6% between expected results from existing and proposed policies and the fourth budget (51% reduction) (HM Government, 2017a: 41).

The Austrian case presents a different, less laborious procedural design. The main procedural building block, aside from the highest permissible (sectoral) GHG emissions drawn from EU legislation, is annual government reporting. These reports have all been completed (for 2017, see BMLFUW, 2017), but since the Austrian CCA is the only one containing only a short-term target for 2020 (see table 2), long-term planning for decarbonisation is missing. Similar to the UK, the latest Austrian progress report highlights difficulties in achieving targets. According to scenarios plotting expected GHG emissions, current measures will fall short. However, as during the Kyoto Period (Steurer and Clar, 2015) the Ministry plans to close this performance gap with emissions allowances (some of them left over from overachievement in the past) and some additional measures (BMLFUW, 2017: 20). The same report indicates that the Austrian EU Effort Sharing target for 2030 (-36%) will require profound policy changes (BMLFUW, 2017: 4). Since this is beyond the Austrian CCA's timeline, no planning exists for this task yet.

The Danish procedural set-up is also rather meagre, with a general perception of lawyers being that the Danish CCA from 2014 does little beyond establishing the Climate Council, committing the government to present its political strategies, and indicating some opportunities for public involvement (Basse, 2015). All of these elements have subsequently been implemented. However, since a change in Government in 2015, climate change mitigation has been particularly vulnerable to political developments (Kosiara-Pedersen and Little, 2016: 561). Since 2015, the new Danish government has pursued a policy of 'green realism', which has included scaling back policies introduced by the previous administration (Dyrhaug, 2015). This included the 2020 target (-40%) contained in the 'Climate Plan' of 2013. Indeed, the incoming Energy, Utilities and Climate Minister argued that 37% would be a more acceptable 2020 target (Politiken, 2015). Looking forward, Denmark does not have an explicit target for overall reductions, apart from targets drawn from EU legislation. While the Danish CCA contains a 2050 target of becoming a low-emission society, it has not been concretised (Klimarådet, 2017). Although Denmark is likely to meet 2020 energy and climate targets, for 2030 'it is a different story. Many of the present climate initiatives will expire a few years from now, and then, the projection shows, the green transition will come to a halt unless new climate and energy initiatives are implemented' (Klimarådet, 2017: 16).

According to the Chair of the Finnish Climate Change Panel, experiences with the CCA have been positive. A first medium-term plan that is to be produced every electoral term and which includes projections of GHG emissions for '10-20 years after the approval of the plan' (Ilmastolaki, 2015: 9.3) has been adopted (Finnish Ministry of the Environment, 2017). Furthermore, the Climate Change Panel has been interacting with politicians, undertaking assessments requested by parliamentary committees and supporting the Ministry of Environment (Ollikainen, 2017). As the medium-term plan argues, it is 'clear that existing

measures will not be sufficient to reach the emission reduction target proposed for 2030' (Finnish Ministry of the Environment, 2017: 51). The plan goes on to identify a long list of policies that could be implemented in order to reach the target. However, it also includes a caveat on the uncertainty of the estimates and defaults to future plans to provide more specificity: 'the starting point is that the contents of the measures provided here and the details of their implementation can be further specified in future medium-term climate change policy plans' (Finnish Ministry of the Environment, 2017: 99). In late 2016 the Government also published its Energy and Climate Strategy. It references the CCA extensively, and the medium-term plan adopted afterwards is foreseen as complementing and specifying the Energy and Climate Strategy (Finnish Ministry of Economic Affairs and Employment, 2017: 9).

The Irish CCA from late 2015 is the youngest CCA in this analysis. The first procedural steps set out in the CCA have been adhered to, with annual transition statements from the Government satisfying reporting requirements (for 2017, see DCCAE, 2017a), first external evaluations being carried out by the Advisory Council (2017) and planning obligations being met with the National Mitigation Plan (DCCAE, 2017b). However, similar to the UK, the Irish plan has been subject to severe criticism. According to the CCA, the plan shall 'specify the policy measures that, in the opinion of the Government, would be required in order to manage greenhouse gas emissions [...] at a level that is appropriate for furthering the achievement of the national transition objective' (Climate Action and Low Carbon Development Act, 2015: 4.2.b). As the Climate Change Advisory Council, (2017: 17) noted, the plan does not contain this level of detail. Thus, Friends of the Earth (2017) criticised the plan as 'more an 'action promise' than an action plan', and another NGO announced their intention to counter the plan with legal action, as they interpret it as breaching the CCA

(Friends of the Irish Environment, 2017). This threat is set against the background of rising rather than decreasing emissions in Ireland since 2015 (DCCAE, 2017a) and the likelihood of Ireland breaching its 2020 targets (DCCAE, 2017b). The Climate Change Advisory Council confirms societal critique by arguing that 'without urgent action, Ireland will breach its 2020 target and face an increasingly difficult and expensive task of decarbonisation in the medium and long terms' (2017: 10).

5. Discussion and conclusion

The central question of this article is: to what extent are CCAs symbolic gestures, to what extent are they policy-relevant processes? We have set this discussion against the background of failing NMS that have resembled "bookkeeping rather than climate policy making" (Casado-Asensio and Steurer, 2016).

CCAs have a number of similarities with their NMS forerunners, with CCAs arguably building on the rationale of NMS that CPI (or cross-sectoral framing of policy making) is necessary in order to guide GHG emission reductions. As NMS have done, CCAs provide a normative basis for climate policymaking, mainly by stating quantitative emission reduction targets as an ordering principle. As with NMS, CCAs also facilitate coordination processes across sectors, with the planning processes initiated in CCAs requiring input from and having consequences for the functioning of different ministries/departments. Finally, the bookkeeping element that came out particularly strongly in NMS also features in all CCAs analysed here: they all institutionalise monitoring of and reporting on progress made.

Despite strong similarities with NMS, CCAs go beyond these precursors in a number of important ways. Firstly, CCAs shift the focus away from climate change mitigation as a series of international and EU obligations, translating them into national law. This usually includes concrete national and/or sectoral targets (that may go beyond EU obligations), which could lead to more political ownership of climate ambition. Secondly, as pieces of legislation that have been passed through parliaments (rather than NMS adopted by governments), CCAs are more difficult to ignore, weaken, or abolish, with legislation ‘typically harder to reverse than climate strategies or policies across successive governments’ (Iacobuta, Dubash, Upadhyaya, Deribe, & Höhne, 2018: 1120). Whilst strategies may simply expire with a change in government unless actively adopted by their successor, CCAs require active legislative processes to amend or remove them. An example is provided by the case of Denmark where, following the 2015 election, the 40% target for emission reductions until 2020 contained in a government policy document was not adopted by the incoming government. However, the elements included in the CCA (the establishment of a Climate Council and government reporting obligations) have continued. Whilst weakening or removing a CCA is not impossible, it is more laborious and likely to attract attention because of the parliamentary processes this would require. Thirdly, CCAs institutionalise climate change policymaking with the establishment of dedicated institutions, and cycles of mandatory reviews and reports. These procedural aspects represent regular impulses that make it more difficult to take climate change off the political agenda.

These strengths of CCAs that take them beyond NMS are also tempered with two important limitations. Firstly, in some cases there is a disparity between the density of targets and of planning, reporting and evaluation mechanisms. The majority of CCAs analysed here do not include short or medium-term targets, looking purely towards 2050 (Denmark, Finland, Ireland) or 2045 (Sweden). However, at the same time annual reporting and/or evaluation mechanisms require short-term progress updates against this long-term target. If a constant decline of GHG emissions is the goal of a CCA then interim targets are needed to guide this process. At the other end of the scale, the Austrian CCA does not contain any long-term perspective, with targets expiring in 2020. This does not provide any impetus for long-term planning and the Austrian CCA is notable for the absence of a planning mechanism. The UK’s CCA is the only example that combines short-term and long-term targets with planning on how to achieve them via carbon budgets.

A second limitation is the vulnerability of CCAs to political developments. Although CCAs are legislation that can withstand events such as changes in government, they are not immune to changing political priorities. This point can be illustrated with the UK, where cross-party consensus on climate change facilitated the agreement of the CCA but dissipated shortly after a change in Government in 2010, with a ‘deep partisan hostility to climate policy’ developing in the Conservative right (Carter, 2014: 429). Coinciding with another change in government in 2015, a number of policy changes such as halting the construction of new onshore wind farms and the application of a carbon tax to renewable energy suppliers’ energy consumption took place (Gillard and Lock, 2017). Furthermore, with a change in Prime Minister and reorganisation of the Government in 2016, the Department for Energy and Climate Change was subsumed within the Department for Business, Energy and Industrial Strategy. These signs suggest that whilst the CCA is superficially being adhered to in procedural terms, climate policymaking is nevertheless a dynamic process that can also go backwards. Therefore, despite the bureaucratic density of many CCAs, it would be remiss to view them simply as technocratic processes divorced from the politics within which they are embedded.

While our analysis shows that CCAs are more binding on governments than NMS, it also suggests that there is still room for improvement. The following options are derived from some remarkable practices we found not in a single but in various countries (with one exception). Firstly, every CCA should combine long-term targets with binding short and medium-term targets to guide climate policymaking continuously towards decarbonisation. Secondly, the innovation in the Austrian CCA of sectoral targets is also worth exploring further in different contexts, especially as the low-hanging fruit of relatively easy emissions reductions (e.g. in the energy sector) are achieved and more difficult measures need to be taken. Thirdly, targets should be supported by planning processes such as the carbon budgets system of the UK's CCA, which ensures that government is actively planning for how targets are going to be met. Finally, a remarkable practice in a negative sense is that sanction mechanisms are lacking across all the CCAs analysed here. Thus, it is not clear what will happen when legally binding targets are not met. One way to address this gap is to explicitly include sanction mechanisms in CCAs. A major progress towards CPI could be a combination of sector-specific targets and sector-specific sanctions for missed targets.

Overall, CCAs represent progress in comprehensive climate policymaking (in particular when compared to NMS), but as they stand today they are most likely still inadequate to deliver decarbonisation until 2050. To achieve this goal, more policy innovations will be needed that further enhance the binding character of emission reduction targets for the entire government. This article provides a starting point for analysing CCAs and their potential advancements in more depth. Subsequent studies could build on our analysis with in-depth case studies of particular legislative experiences with CCAs and comparative studies would provide possibilities to tease out legal framework conditions (including the role of sanctions) with the potential to deliver substantial emission reductions.

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