

Climate governance systems in Europe: the role of national advisory bodies

Lead authors:

Nick Evans (Ecologic Institute)

Matthias Duwe (Ecologic Institute)

Contributing authors:

Ewa Iwaszuk (Ecologic Institute)

Nicolas Berghmans (IDDRI)

Lola Vallejo (IDDRI)

Alexandra Deprez (IDDRI)

Report

11 May 2021

Contact

Matthias Duwe
Head, Climate
Ecologic Institute
Pfalzburger Straße 43/44
10717 Berlin

E-Mail: matthias.duwe@ecologic.eu

Suggested citation

Evans, Nick; Matthias Duwe (2021): 'Climate governance systems in Europe: the role of national advisory bodies'. Ecologic Institute, Berlin; IDDRI, Paris.

Acknowledgements

This overview report is the culmination of a ten-month research effort, conducted by Ecologic Institute and IDDRI for the European Environment Agency (EEA). Especially, the lead authors would like to thank Magdalena Józwicka-Olsen, Rasa Narkeviciute, François Dejean and Eva Jensen from the EEA for the initial impulse for this project as well as their valuable inputs over the course of many fruitful discussions. Grateful thanks also to the EEA design and communications staff for the production of maps and the members of the EIONET network for a close review of the final report. Finally, we would like to thank our project partners and contributing authors at IDDRI for the close collaboration throughout this endeavour and our colleagues at Ecologic Institute: Katharina Umpfenbach for advice on comprehensibility and readability and Ramiro de la Vega for research support.

In our research, we consulted with a range of national experts from ministries, agencies and advisory bodies. We owe a debt of gratitude for their feedback and expert input in interviews, in writing and during a two-day workshop for representatives of European climate advisory bodies that took place in November 2020 via two separate virtual sessions. The willingness of these individuals to provide input in the course of this work should not be understood as an endorsement of its assumptions or conclusions.

Contract details

This report synthesizes the findings of a study commissioned by the European Environment Agency (EEA) under Framework Service Contract EEA/ACC/18/001/LOT2, Specific Contract Number 3413/B2020/EEA.58028: Establishing and structuring a dialogue between climate change advisory bodies in Europe. The EEA project managers were Magdalena Józwicka-Olsen and Rasa Narkeviciute.

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Abbreviations

EEA	European Environment Agency
EPA	Environmental Protection Agency
ESR	Effort Sharing Regulation
EU	European Union
EU ETS	European Union Emissions Trading System
GHG	Greenhouse Gas
LTS	Long-term Strategy
NECP	Nation Energy and Climate Plan
NDC	Nationally Determined Contribution
UK CCC	United Kingdom Committee on Climate Change
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change

Executive Summary

Key messages

This report, commissioned by the European Environment Agency (EEA), provides a comprehensive mapping of national climate change advisory bodies in its 32 member countries plus the United Kingdom and frames this exercise with an analysis of their national governance contexts.

Sufficiently detailed governance systems can facilitate effective national climate policy-making. The accountability and transparency of these systems can be strengthened by dedicated advisory bodies. Mapping of the landscape of climate advisory bodies in Europe reveals four types differentiated by composition and connection to government.

Advisory bodies that qualify as **‘independent scientific climate councils’** play a unique role, exercising a combination of watchdog, information provider and convenor functions. To have an impact, all forms of advisory bodies, and **climate councils in particular, need a specific mandate and sufficient resources to create robust outputs and enhance visibility.**

Existing national governance systems in EEA member countries can be grouped into three tiers of specificity, with each tier expanding and further detailing and formalising the respective procedures and institutions and their responsibilities. Many national systems could be strengthened, for example, through the adoption of framework climate laws.

This report shows that **independent scientific climate councils** are both a sign of and an important enabler for more robust governance. They are currently most often found in highly formalised and specific governance systems, but also **require regular and specific governance mechanisms to be able to function effectively**—in support of greater transparency, increased accountability and informed policy-making.

Preliminary results of this research served as input into a virtual dialogue workshop between representatives of advisory bodies in Europe, which was aimed at jumpstarting capacity building and exchange based on a shared understanding of the current climate advisory landscape. An extended summary of the report’s main insights is available as an EEA briefing: EEA (2021): [‘The contribution of national advisory bodies to climate policy in Europe’](#).

Managing the transition to net-zero greenhouse gas (GHG) emissions is a mammoth task for governments worldwide, not least because of the societal and economic complexities of the climate crisis and the uncertainties that arise from planning with mid-century time horizons. Therefore, an effective climate governance system must be based on the best possible scientific advice, while establishing efficient procedures and allowing for transparent progress monitoring to track and potentially highlight insufficient action. Many European countries have long-standing climate governance frameworks to help manage their climate policy, but not all are enshrined formally in national climate laws, and fewer still include dedicated advisory bodies for improving policy and tracking progress.

Three tiers of climate governance in European countries

An analysis of the existing national climate policy systems points to three categories or ‘tiers’ of governance in EEA countries, underscoring the diversity of approaches:

1. **‘EU/UN baseline’**: Thirteen countries have little formal structure but the minimal institutional arrangements and processes required to deliver on international or EU commitments.
2. **‘Light framework’**: The eleven countries in this tier incorporate additional governance elements, such as a concrete and iterative policy cycle or national progress monitoring.
3. **‘Robust framework’**: The final tier is currently composed of nine countries that have a legally enshrined climate policy-making system with concrete mechanisms for enhancing accountability and in most cases a dedicated body for scientific input.

Many of the countries analysed are considering further refinements to their governance systems, mainly through the adoption (or revision) of climate framework laws. The elements contained in pending legislation would move them to higher tiers (e.g., Spain).

A diverse landscape of national climate advisory bodies

The landscape of national climate advisory bodies is as varied as the governance contexts in which these institutions operate. In our research we found a total of 57 bodies working in 27 countries across Europe. Based on their composition and connection to government we grouped these bodies using a working typology: (1) ‘independent, scientific councils’, (2) ‘in-house scientific advisory bodies’, (3) ‘stakeholder engagement platforms’ and (4) ‘stakeholder and/or inter-ministerial roundtables’. Each type can be further distinguished based on thematic scope (climate-specific or broader environment/sustainable development focus). Twelve bodies were categorised as Type 1a—i.e., independent councils dedicated to climate policy and composed chiefly of representatives from the scientific and research community.

Independent scientific climate councils as ‘watchdogs’, ‘advisors’ and ‘convenors’

A closer look at nine independent scientific climate councils (Type 1a) highlighted three key functions that these bodies play in their respective governance systems:

1. The ‘watchdogs’ act as policy monitors adding weight and accountability to climate policy processes through policy evaluation and targeted quality checks.
2. ‘Advisors’ seek to improve climate policy by providing scientific guidance and making concrete policy recommendations.
3. Finally, ‘convenors’ engage stakeholders and/or the public through formal (e.g., as in Denmark) or informal channels to broaden climate policy discourse.

Our research suggests that Type 1a councils have the ability to enhance the accountability of national governance, but their reach is attenuated by, among other things, resource availability, structural support and greater visibility in climate policy circles. Moreover, the specific (or unspecific) nature of their mandates impacts the degree of influence they have in policy formulation as well as their overall effectiveness in keeping governments on track and holding them accountable.

The importance of the last element cannot be overstated: a climate advisory body is only as effective as its governance context allows. Countries with Type 1a climate councils tend to have more structured climate governance systems, often enshrined in overarching framework laws. While this may be unsurprising—Type 1a climate councils are usually established as part of such frameworks—a robust system for managing climate action should be seen as a prerequisite for the work of an advisory body. An iterative process for setting targets and adopting measures opens up regular windows of opportunity for expert councils to guide policy decisions as ‘watchdogs’, ‘advisors’ and ‘convenors’.

1 Introduction

In the midst of the climate crisis, urgent action is required in all sectors to reach climate neutrality and in many cases net-negative emissions thereafter. Yet, the pace and scope of the required response and the lack of ready-made solutions for the transformation present an unprecedented challenge for governments worldwide. It extends beyond electoral cycles and investment horizons but demands action in the present to ensure future success.

European countries rely on governance frameworks, often established through national climate framework laws, to organise their climate policy. A robust, formal framework can uphold policy cohesion in the long run and allow for monitoring progress towards stated goals, while fostering engagement with a broad range of stakeholders on the appropriate procedures and measures. Moreover, in many countries national climate change advisory bodies are established to inject science into the policy-making process and enhance governmental accountability.

There is a long history of European governments seeking external environmental policy advice—e.g., one of the oldest, the German Advisory Council on Environment, was established in 1971 as part of the Federal government’s environmental programme.¹ However, bodies dedicated specifically to climate are a newer policy innovation, beginning most visibly with the United Kingdom’s Committee on Climate Change (CCC) in 2008. Notably, unlike most other key elements of national climate governance systems (e.g., targets, strategies, etc.) the creation of a dedicated climate advisory body, scientific or otherwise, does not stem from existing EU or UN obligations, and, in fact, the EU lacks any analogous body itself—although some of its potential functions are currently performed by the European Environment Agency (EEA). Importantly, this research finds that advisory bodies come in many forms and while many may not be dedicated to climate issues, still have relevance to climate action.

This report serves as an overview of national climate change advisory bodies, framing this with a comparative analysis of climate governance systems in thirty-two EEA member countries plus the United Kingdom.² First, in section 2 we provide background on the inter- and supranational political arenas, in which EEA member countries are positioned, and end with a brief discussion of our methodological and analytical approach. Next, in section 3 we systematically compare the climate governance systems in all EEA countries along three essential qualities—formality, accountability and specificity—mapping systems into one of three tiers based on the existence of key elements, such as policy cycles, targets and mechanisms to enhance transparency. In section 4, we provide an overview of the landscape of national climate advisory bodies in Europe before focusing on a select subtype: ‘independent scientific climate councils’ like the CCC in the United Kingdom. Section 5 brings the analysis full circle with a discussion of climate change advisory bodies in a broader governance context.

¹ Weaver, S., Lötjönen, S. & Ollikainen, M. (2019): ‘Overview of national climate change advisory councils’, Report 3/2019. Helsinki: Finnish Climate Change Panel

² In this document, the abbreviation, EEA, refers solely to the European Environment Agency and *not* the European Economic Area, i.e., the international agreement which extends the EU’s single market to member states of the European Free Trade Association (EFTA). See: <https://www.eionet.europa.eu/countries> (accessed 06 May 2021). The EEA member countries are the 27 EU Member States, Iceland, Liechtenstein, Norway, Turkey and Switzerland.

2 Background

The way that governments manage their climate mitigation and adaptation actions depends both on national circumstances and constraints as well as broader contextual elements, such as higher level commitments. In the following section 2.1, we focus on the latter in order to paint a picture of the overarching governance architecture each national framework fits into. This architecture is the foundation upon which European Environment Agency (EEA) member countries build their national climate policies and a key starting point for our subsequent analysis in section 3. In sections 2.2 and 2.3, we provide a brief history and background on framework climate laws and national advisory bodies—two rapidly spreading climate policy innovations.

2.1 Governance context: EU and international obligations

National climate governance systems do not exist in a vacuum. EEA member countries are subject to numerous EU and international obligations when it comes to their domestic actions to combat climate change. Those EEA countries that are not in the EU appreciate the necessity of cooperation with EU Member States on climate matters and have often developed climate policy hand-in-hand with their EU neighbours (e.g., Iceland and Norway).³ Here we highlight two key contexts: the international regime as embodied by the Paris Agreement and the climate policy system of the EU.

The Paris Agreement

The Paris Agreement has been a strong impulse for the development of climate governance systems across the globe, especially in regards to long-term climate action.⁴ The 2015 agreement itself incorporates a concrete temperature goal and corresponding emissions trajectory for mid-century in Articles 2 and 4, respectively.⁵ It attempts to link short- and long-term ambition through a pledge and review process coupled with a global stocktake every five years to determine whether the country pledges (i.e., so-called ‘nationally determined contributions’ or NDCs) are sufficient in aggregate to reach the collective long-term temperature goal.

Despite a handful of mandatory elements—such as the submission of NDCs, designation of national focal points, biennial monitoring of GHG emissions and national communications—the UN climate regime does not prescribe the form that climate action should take at a national level, much less the adoption of regularly occurring policy cycles or an overarching framework law to manage short- and long-term action. Therefore, it falls on EU and national decision-makers to choose how best to organise efforts to meet their international obligations. Nevertheless, the agreement’s focus on long-term transformation and integrated global stocktaking based on the latest scientific evidence undoubtedly caused many countries to re-examine their climate policy-making and highlighted the need to incorporate independent scientific oversight.⁶

³ See Decision of the EEA Joint Committee No 269/2019 of 25 October 2019 amending Protocol 31 to the EEA Agreement, on cooperation in specific fields outside the four freedoms.

⁴ Duwe, M., Freund, M., Iwaszuk, E., Knoblauch, D., Maxter, M., Mederake, L., et al. (2017): “Paris compatible” governance: long-term policy frameworks to drive transformational change’, Berlin: Ecologic Institute

⁵ UNFCCC (2015): Paris Agreement

⁶ Duwe, M. & Bodle, R. (2020): “Paris Compatible” Climate Change Acts? National Framework Legislation in an International World’, in: *Major National Climate Change Acts. The Emergence, Form and Nature of National Framework Climate Legislation*, London: Hart Publishing

EU Climate Governance

Twenty-seven of the 33 total countries included in the analysis fall under the auspices of the EU climate policy system, which is composed of numerous regulations and processes to guide climate action by EU Member States. Many of these go beyond the immediate obligations of the Paris Agreement. For one, the Regulation on the Governance of the Energy Union and Climate Action (Governance Regulation) obliges Member States to produce integrated National Energy and Climate Plans (NECPs) as well as long-term climate strategies that aim at transformational change.⁷ The Governance Regulation further mandates that NECPs, which are essentially packages of concrete policy actions for the short-term, must align with the long-term course charted in the country's long-term strategy (Art. 15.6).⁸ Member States must also report on progress in implementing their NECPs and meeting their targets every two years.

A second major piece of EU legislation known as the Effort Sharing Regulation (ESR),⁹ delegates EU-level ambition among the Member States as quantitative targets for those sectors of the economy not already covered by the *de facto* target set centrally under the EU Emissions Trading System (ETS) (i.e., non-ETS GHG emissions). The ESR further lays out a process for corrective action whenever national emissions projections are not on track to target achievement. Together with the compliance regime in place for the ETS, the ESR is a key instrument to ensure that the EU as a whole delivers on its NDC under the Paris Agreement.¹⁰

In sum, EEA member countries are subject to several international obligations that determine specific governance elements, and thus at a minimum, they must already have processes in place and responsibilities established to deliver on them. In particular, the NECP and LTS planning instruments, mandatory at regular intervals for EU Member States, oblige national governments to consider economy-wide climate policy perspectives for both the short- to medium-term and longer term.

2.2 The proliferation of framework climate laws

A national climate governance system can take on different shapes and may be made up of a variety of legal and non-legal elements. Many EEA countries still manage their climate policy using a mix of legislative packages and government or ministerial planning documents, as well as more or less formalised internal procedures and institutions. However, in recent years, many have begun to realize the added value of a cohesive legal instrument and have opted for more formal organisation in the

⁷ European Parliament and Council (2018a): 'Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, Amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and Repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council.' Text with EEA relevance. PE/55/2018/REV/1, Brussels

⁸ For a discussion of LTS in the EU see Duwe, M. & Iwaszuk, E. (2019): 'LTS in Europe: Experience from National and EU-wide 2050 Climate Planning', Berlin: Ecologic Institute.

⁹ European Parliament and Council (2018b): Regulation (EU) 2018/842 of the European Parliament and of the Council of 30 May 2018 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No 525/2013 (Text with EEA relevance), PE/3/2018/REV/2

¹⁰ The EU climate governance system also incorporates clear mandatory reporting procedures for Member States pertaining to annual GHG data in addition to the biennial reporting on policies and measures, projected impact and NECP progress stipulated in the Governance Regulation. Until January 2021, GHG emission inventory requirements are covered by the Mechanism for Monitoring and Reporting (MMR) legislation: Regulation (EU) No 525/2013 of the European Parliament and of the Council of 21 May 2013 on a mechanism for monitoring and reporting greenhouse gas emissions and for reporting other information at national and Union level relevant to climate change and repealing Decision No 280/2004/EC.

form of *climate framework laws*—in past literature also referred to as ‘flagship laws’.¹¹ The United Kingdom Climate Change Act, enacted in 2008, is often cited as the pioneer framework law, in large part due to its emphasis on long-term transformation. Similar legislative instruments developed pre-Paris, e.g., in Iceland, Liechtenstein and Switzerland, involved shorter time horizons and were thus aimed at more incremental change.¹²

Since the adoption of the international climate agreement in 2015, there has been an increase in the number of laws with a mid-century focus in Europe, many with the express objective of aligning short-term action with long-term ambition.¹³ At the time of writing, 18 out of 33 countries included in the analysis have adopted some form of climate law, with an additional 4 countries in the process of drafting a law or planning to do so.¹⁴ Notably, Austria, Ireland, Liechtenstein and Switzerland are in the middle of revising their existing laws and another six countries have already done so, in order to account for an increase in national ambition, or, as in the case for Denmark among others, to realign national policy with the requirements and timetables of the Paris Agreement.

Framework laws provide added value through regular processes and clear responsibilities

Framework climate laws equip policy-makers with a set of management tools to enhance the functioning, accountability, transparency and longevity of a climate governance system. At a minimum, these laws codify EU and/or international obligations, but often they go a step further, establishing iterative cycles for target revision, policy-making and progress monitoring as well as clear guidance on who is responsible for each process. While climate laws are diverse in both form and function, many share a set of common design elements: emission reduction targets, long-term strategic planning, short-term actions and measures, progress monitoring, institutional arrangements, public participation, vision (i.e., short and long-term policy cohesion) and scientific advice in the form of a dedicated national advisory body.¹⁵ Simply put, climate laws are designed ‘by government for government’, in an effort to streamline and manage climate actions. Legally enshrining short- and/or long-term emission reduction targets (e.g., for 2030, 2050) can lead to ‘climate mainstreaming’ among otherwise disparate governing institutions with diverse—and oftentimes competing—priorities. In particular, a long-term time horizon also serves as a clear statement of intent. It signals a government’s commitment to transformation both to private stakeholders and the international community.

The added value of climate laws is evident—if they contain the core good governance elements identified by Duwe and Evans (2020). At a bare minimum, well-formulated framework laws provide a

¹¹ Fankhauser, S., Gennaioli, C. & Collins, M. (2015). ‘The political economy of passing climate change legislation: Evidence from a survey’. *Global Environmental Change*, 35, 52-61

¹² The original names of these laws are: Bundesgesetz vom 23. Dezember 2011 über die Reduktion der CO₂-Emissionen (CO₂-Gesetz) 641.71 (Switzerland); Lög um loftslagsmál (2012 nr. 70 29. júní) (Iceland); Gesetz vom 6. September 2013 über die Reduktion der CO₂-Emissionen (CO₂-Gesetz) (Liechtenstein)—additional details in English can be found on the Climate Change Laws Database run by the Grantham Research Institute: <https://climate-laws.org> (accessed 23 July 2020). In Switzerland, at the time of writing a referendum for the new CO₂ law is still pending with a related vote for or against the law expected in 2021.

¹³ In this report we use the following terms interchangeably: ‘framework climate law’, ‘climate protection law’, and ‘climate law’.

¹⁴ Duwe, M. & Evans, N. (2021): ‘Professionalizing climate policy via legislation’. Policy Paper Series: *Shaping the Transition to a Low-Carbon Economy: Perspectives from Israel and Germany*. Tel Aviv: Israel Public Policy Institute, Heinrich Böll Foundation, p. 9.

¹⁵ Duwe, M., & Evans, N. (2020): ‘Climate laws in Europe: Good practices in net-zero management’, Brussels: European Climate Foundation; Berlin: Ecologic Institute; a World Bank Reference Guide that also investigated laws outside of the EU adds the additional core elements (termed ‘key principles’), risk and vulnerability assessments, subnational government, financing implementation and emphasises the importance of a coordination mechanism, see: World Bank (2020): ‘World Bank Reference Guide to Climate Change Framework Legislation: Equitable Growth, Finance and Institutions Insight’. Washington DC: World Bank.

normative foundation for climate action, facilitating the integration and mainstreaming of climate priorities across governmental agencies and ministries.¹⁶ Not only can they formally establish a coherent system of goals (targets) and means of achievement (cycles of action and planning), but they often lead to a professionalization of political structures by clearly assigning roles and responsibilities within government and creating new coordinating institutions or advisory bodies, composed of external scientific experts, stakeholders and public officials. As we discuss in the next section, such bodies play key advisory and monitoring roles in European climate governance systems.

2.3 National climate change advisory bodies: History and function

Climate change advisory bodies are as varied as the national governance contexts in which they operate. They range from independent scientific councils to stakeholder engagement platforms to inter-ministerial coordinating groups with external representatives. Many are dedicated specifically to climate mitigation with some including adaptation issues, while others have a broader environmental or sustainable development focus—climate being only one of many covered topics.¹⁷ The German Energy Transition Monitoring Commission, for instance, is focused primarily on monitoring Germany's transition to renewable energy (*Energiewende*), but its work is also clearly relevant from an emissions reduction perspective. Advisory panels and councils for environmental (and even climate) policy pre-date the spread of climate laws and therefore they do not always go hand in hand. However, as we discuss in section 4, consideration of such bodies, especially scientific advisory councils, frequently occurs within the context of designing new climate legislation and is often enshrined in it.

While individual environmental advisory bodies were formed decades earlier,¹⁸ arguably the current landscape of national advisory bodies started to be populated in the 1990s, in part following the emergence of transboundary and global environmental issues and the international attention to sustainable development around the Rio Earth Summit in 1992.¹⁹ Ever since, national advisory bodies have also been communicating with one another: the establishment of the network European Environmental Advisory Councils (EEAC) serves as evidence—its first documented gathering took place in 1993.²⁰

The emergence of advisory bodies dedicated to the issue of climate change specifically is a more recent phenomenon. The Committee on Climate Change (CCC) in the United Kingdom considered the pioneer climate change advisory body in Europe, based on its mandate and available resources. Established by the Climate Change Act in 2008, the CCC is an autonomous group of scientific experts charged with monitoring and advising climate change mitigation *and* adaptation efforts. The CCC is no longer alone. Numerous other European countries have followed suit adopting their own national expert climate councils or panels (e.g., Denmark, Sweden, Finland, France) and still more are on the way (e.g., Portugal, Spain). As we discuss in detail in section 4.2, independent scientific climate

¹⁶ Nash, S. L. & Steurer, R. (2019). 'Taking stock of Climate Change Acts in Europe: Living policy processes or symbolic gestures?' *Climate Policy*, 19(8), 1052-1065.

¹⁷ Weaver, Lötjönen & Ollikainen (2019)

¹⁸ Example: Germany's Advisory Council on the Environment ("Sachverständigenrat für Umweltfragen" (SRU)), founded in 1971 https://www.umweltrat.de/EN/council/council_node.html (accessed 06 May 2021)

¹⁹ For example, Germany's Advisory Council on Global Change ("Wissenschaftlicher Beirat für Globale Umweltfragen" (WBGU) was founded in 1992 <https://www.wbgu.de/en/the-wbgu/mission> (accessed 06 May 2021); for a discussion of international developments and influence in EU climate policy-making see Oberthür, S., & Pallemmaerts, M. (2010): 'The EU's Internal and External Climate Policies: an Historical Overview'. In S. Oberthür, & M. Pallemmaerts (Eds.), *The New Climate Policies of the European Union: Internal Legislation and Climate Diplomacy* (pp. 27-63). Brüssel: VUBPRESS; Mederake, L. & Duwe, M. (2014): *Einfluss globaler Themen auf die deutsche Umweltpolitikforschung*. Ecologic Institute, Berlin, <https://geschichte-umweltpolitikberatung.org/info/schlaglichter-und-meilensteine> (accessed 06 May 2021).

²⁰ See Archive section of the EEAC website at <https://eeac.eu/documents/eeac-archive/> (accessed 6 May 2021).

councils like the CCC play a crucial role not only as expert advisory panels, guiding governments towards evidence-based policy decisions, but also as independent monitors within the governance context, lending transparency through the publication of regular progress reviews. In their work, they often pursue stakeholder consultation, and some are tasked specifically with facilitating dialogue between interest groups (e.g., the Danish Council on Climate Change).

Climate advisory bodies contribute various functions to their respective governance systems

Previous work by the authors on advisory bodies within the context of climate framework laws delineates at least three clear functions for climate advisory bodies: (1) the ‘watchdog’ function or independent monitoring governmental climate action, (2) the ‘advisor’ or consultant that performs ex ante and or ex post impact evaluations and provides evidence-based recommendations for future policy formulation and (3) the ‘convenor’ tasked with broadening dialogue on national climate policy to include stakeholders and civil society.²¹ The exact function or role of a climate change advisory body depends, among other things, on its composition, capacity and surrounding political culture as well as the legal nature of its mandate.

Importantly, there is no one-size-fits-all solution and not all climate change advisory bodies are designed or function like the CCC in the United Kingdom. At another end of the spectrum, national advisory bodies are positioned *within* government and take the form of inter-ministerial coordinating committees or working groups that include representatives of the business and/or scientific community, such as the National Climate Protection Committee in Austria. Others, such as the Icelandic Climate Council function more as stakeholder engagement platforms, designed to allow a wider range of voices to enter the national discussion surrounding climate policy.

National advisory bodies come in different shapes and sizes: but typology possible

To date, little research has been done on national climate change advisory bodies despite their growing popularity in Europe and elsewhere, and to the best of our knowledge only one other report, by the Finnish Climate Change Panel, provides a comprehensive overview (see Weaver, Lötjönen and Ollikainen, 2019). Numerous other studies investigate the CCC in detail.²² **In this report we seek to add to this limited body of research by developing a working typology of relevant bodies in European countries** in an attempt to systematically account for the large diversity described above. In the latter half of this report we present our typology before taking a closer look at a sample of nine expert councils that typify the CCC-like independent scientific council described above.

Important to note is that in parallel to data collection phase of this report, negotiations were ongoing in the EU on the European Commission’s proposal for an EU Climate Law²³ and concluded in the early hours of 21 April 2021. The newly agreed law enshrines long-term climate neutrality target and establishes a set of specific additional progress measurement and consistency checks in this context. A key governance innovation established through the EU Climate Law is the establishment of a ‘European Scientific Advisory Board on Climate Change’ as an independent EU-level advisory body on

²¹ Duwe & Evans (2020); Averchenkova, A. & Lazaro, L. (2020): ‘The design of an independent expert advisory mechanism under the European Climate Law: What are the options?’ London: Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, London School of Economics and Political Science

²² For in depth assessments of the role, design and history of the United Kingdom’s CCC see: Averchenkova, A., Fankhauser, S. & Finnegan, J. (2018): ‘The role of independent bodies in climate governance: the UK’s Committee on Climate Change’. London: LSE Grantham Institute on Climate Change and the Environment; McGregor P., Swales J.K. & Winning M.A. (2012): ‘A review of the role and remit of the committee on climate change’, Energy Policy 41: 466-473 and Rüdinger, A. & Vallejo, L. (2018): ‘UK’s Committee on Climate Change: What lessons for France?’ Study N°6, Paris: IDDRI.

²³ European Commission (2020): Proposal for a Regulation of the European Parliament and of the Council establishing the framework for achieving climate neutrality and amending Regulation (EU) 2018/1999 (European Climate Law). COM/2020/80 final

climate policy, a concept brought into the negotiations by the European Parliament.²⁴ The establishment of this brand new body can be seen as recognition of the important role that external advisory bodies can play in climate policy-making at any level of governance.

2.4 Analytical approach

The research presented in this report was conducted in two steps: (1) a comparative overview of national climate governance systems and (2) developing a typology for the landscape of European national climate advisory bodies and further analysis of one specific type. Information for each country was gathered and organised in each step using a predetermined analytical framework, as described below. For a detailed overview of the research methodology underlying this report refer to Annex I, 'Note on methodology'.

Step 1: Analysis of national climate governance systems

EEA member countries' climate governance systems data was collected across three predefined 'essential qualities': (1) **formality**, (2) **accountability** and (3) **specificity**. The essential qualities and their underlying criteria were informed by recent analyses of European climate framework laws and can be derived from design characteristics common to most governments in their approaches to climate action.²⁵ For example, criteria for formality included the existence of a consolidated frame-

Box 1: Accountability and the role of parliament in a climate governance system

The role that the parliament or legislative body has (or does not have) in national climate policy-making can enhance the overall accountability of a government's climate actions. In some countries, the legislative chambers only passively receive monitoring or emission projection reports and may or may not put these up for debate, while in others the parliament takes a more active or proactive role, adopting measures and targets and at times instigating action on its own. The more dedicated and active the role of parliament the more likely that the government's climate plans and strategies are subject to public scrutiny, adding another layer of transparency to a climate governance system.

Accordingly, we distinguished between four potential ways in which parliament is involved in climate governance: (1) *standard legislative procedure*, i.e., adopting laws but not plans and strategies; (2) *dedicated but passive*, i.e., standard role plus reception of governmental and/or independent reviews or plans, which may or may not be put to debate; (3) *dedicated and active*, i.e., adoption of plans and strategies and/or debate and input in progress reporting processes and (4) *proactive*, i.e., the capacity to call for additional climate actions.

²⁴ Summary of the vote is available on the website of the European Parliament. <https://oeil.secure.europarl.europa.eu/oeil/popups/summary.do?id=1635123&t=e&l=en> (accessed 29 January 2021)

²⁵ The analytical framework is based on recent research by the project partners on good climate governance in the EU, including analyses of existing climate framework laws and long-term policy frameworks: Duwe & Evans (2020); Duwe et al. (2017); Duwe, M., & Stockhaus, H. (2019): 'Klimaschutzgesetze in Europe'. Berlin: WWF; Duwe, M., Donat, L. & Sartor, O. (2016): 'Integrating national reality into the 2030 Governance system: An assessment of experience with existing climate and energy planning and reporting obligations in select EU Member States', Paris: IDDRI, Berlin: Ecologic Institute; Rüdinger, A., Voss-Stemping, J., Sartor, O., Duwe, M., Averchenkova, A. (2018): 'Towards "Paris-compatible" climate governance frameworks: An overview of findings from recent research into 2050 climate laws and strategies'. Paris: IDDRI; Rüdinger, A. (2018): 'Best practices and challenges for effective climate governance frameworks: A case study on the French experience'. Paris: IDDRI and Umpfenbach, K. (2015): 'Streamlining planning and reporting requirements in the EU Energy Union framework', Berlin: Ecologic Institute.

work climate law versus an ‘implicit’ regulatory structure imposed across numerous guiding documents as well as regular policy cycles.²⁶ For accountability we considered, among other things, the establishment of a dedicated stakeholder engagement platform, national progress monitoring and the role of parliament in climate policy design (see Box 1). Finally, for specificity we took a look at the concreteness of the climate policy system as indicated by national GHG reduction targets for the entire economy as well as the adoption of a clear package of measures to meet these.

Step 2: Analysis of national climate change advisory bodies

The analysis of national climate advisory bodies consisted of two parts. First, in a scoping exercise, all existing advisory bodies were identified and classified based on the criteria: (1) *proximity to government*, (2) *thematic scope* and (3) *composition*. Based on the resulting typology, we took a closer look at one type of national climate advisory body. Framing our discussion around a comparative analysis of ‘independent scientific climate councils’ in nine EEA member countries we highlight the key functions that these bodies can play within their wider governance context.

It is important to note a couple limitations to the research approach described above. At EU and international levels, climate action and its related institutional setups are constantly changing; national governance systems are no different. Our assessments were based on the current state of *existing* institutional arrangements and systems. When information was available, we attempted to note how and if a country was in the process of amending or otherwise reorganising its climate governance practices. Ongoing processes throw some uncertainty into the assessment—over a fourth of the 33 countries have some element pending or only just established, including in some cases sweeping legislative changes.

Furthermore, the analytical framework is based on the climate governance system of each country at face value and our evaluation does not weigh by national context, such as economic situation, differences in national resources, political and social acceptability of climate action or the power of invested, incumbent industries. Naturally, taking these elements into account as a reference point would provide for a more comprehensive picture of why some countries have more robust institutions and structures in place. Nevertheless, an assessment of underlying domestic situations was deemed beyond the scope of the current research.

²⁶ For a discussion of ‘explicit’ or ‘direct’ (i.e., regulatory frameworks consolidated into a single overarching law) vs ‘implicit’ or ‘indirect’ climate laws (i.e., part of a fragmented regulatory framework that in aggregate creates some degree of coherence) see: Scotford, E. & Minas, S. (2019): ‘Probing the hidden depths of climate law: Analysing national climate change legislation’. *Review of European, Comparative & International Environmental Law*, 28(1), 67-81.

3 Analysis of climate governance systems in Europe

3.1 Mapping governance systems

Existing literature on climate governance in Europe suggests that national systems vary substantially in scope and design, in particular when it comes to frameworks for a long-term low-carbon or climate neutral transition.²⁷ Furthermore, as outlined above, European climate policy has been marked by dynamic developments, including on governance elements, especially in the context of the Energy Union and the Paris Agreement. At the time of writing in early 2021, numerous countries are in the midst of updating or restructuring their governance systems to account for changes in national priorities and ambition—in parallel to and in response to EU-level developments.

As per our analytical approach, the mapping focused on the three primary qualities of a climate governance system: delivering a *formal* cycle for policy-making, planning and monitoring, putting mechanisms in place to enhance *accountability* and adopting *specific* climate targets and mitigation actions. Countries were assigned a ‘high’, ‘medium’ or ‘low’ for each quality based on a standardized metric—see Annex I on methodological considerations. A comprehensive overview of how each country was evaluated on each essential quality, including descriptive summaries for all governance systems can be found in Annex II.

Key insights that can be derived from the assessment are as follows:

- ▶ There is a significant degree of variability between countries across all three qualities, but less so between the three qualities for any given country. In other words, more formal climate governance systems tend also to exhibit higher degrees of accountability and specificity. The opposite was also found; less formal climate governance systems were more likely to have fewer transparency mechanisms in place and in general exhibit less specificity on emission reduction targets, policies and measures (e.g., no economy-wide targets and a lack of a concrete policy package for 2030, etc.). This finding is not surprising and speaks to the validity of our metric.
- ▶ We considered a climate law or at least a cohesive framework defined in a policy document a prerequisite for ‘high’ formality, and such legal instruments often simultaneously enhance both *accountability* and *specificity* with dedicated policy mechanisms. For instance, the recently revised Danish Climate Act (2020) not only enshrines the country’s short- and long-term emission reduction targets in law but also outlines a concrete five-year cycle that includes ‘climate action plans’, an annual process for progress monitoring and an independent expert council with its own monitoring capacity. Notably, only two countries’ governance frameworks other than the Danish case exhibit a ‘high’ degree for all qualities—France and the United Kingdom. Indeed, across all countries, the presence of a climate law is linked to a higher degree of formality, accountability and specificity.
- ▶ The governance systems in Bulgaria, Hungary and Malta, however, did not follow the overarching pattern for countries with climate laws. Each country has a (form of) climate framework law in place as well as an internal or inter-ministerial coordination mechanism. Still, in practice all three governance systems lacked key elements on the other two qualities, accountability and specificity. Bulgaria and Malta are missing economy-wide emission reduction targets, a clear process for setting targets as well as a trigger mechanism at a national level to correct for insufficient action. On accountability, Hungary lacks a national

²⁷ Duwe & Evans (2020)

process for monitoring.²⁸ This country cluster exemplifies how a formal system with a climate law does not guarantee the implementation of mechanisms to enhance transparency or national economy-wide reduction targets, especially if the law does not include these elements itself.

Additional groupings of countries can be gleaned from how countries perform across the three qualities, and in the following section, we present a three-tiered mapping of countries with comparable systems.

3.2 Three tiers of climate governance in Europe

A closer look at how countries are distributed along the three essential climate governance qualities suggests that governance systems can be grouped into one of three descriptive categories (see Table 1): ‘EU/UN baseline’, ‘light framework’ or ‘robust framework’.

Table 1: Three ‘tiers’ of climate governance in Europe

Name	Description	Determining criteria: Measures for formality, accountability, specificity*	#	Countries
Category 1: EU/UN Baseline (13 countries)				
EU/UN baseline	<i>No system other than dedicated ministry; policy system defined by EU policy cycles; no national monitoring other than EU/UN requirements; NECP serves as policy package (may have additional sectoral policies or plans)</i>	LLL, MLL, LML, LLM	7	Belgium, Greece, Italy, Poland, Slovakia, Slovenia, Turkey
EU/UN baseline plus	<i>Little or no formalised governance structure, follows the EU cycle but with additional elements, such as, e.g., national monitoring, a dedicated stakeholder dialogue, national action plan, internal coordination mechanism etc.</i>	LML, MLL, MMM (without climate law)	6	Cyprus, Czechia, Latvia, Portugal, Romania, Spain
Category 2: Light framework (11 countries)				
Formal, weak spot	<i>Governance system set forth in law or other form but accountability and/or detail is low.</i>	HLM, HML, MMM, MML (with climate law)	5	Bulgaria, Hungary, Liechtenstein, Luxembourg, Malta
Informal, without some detail or transparency	<i>Governance system somewhat formally established but missing one or more key elements in practice</i>	MMH, MHM	3	Estonia, Norway, Switzerland
Formal, without some detail and transparency	<i>Strong law or coherent governance system on paper missing one or more key elements in practice</i>	HMM	3	Austria, Croatia, Finland
Category 3: Robust framework (9 countries)				
Informal, strong	<i>No law or weak or low detail in law but otherwise robust institutions, policy-processes and accountability mechanisms</i>	MHH	2	Lithuania, Netherlands
Formal, without some detail	<i>Strong framework but specifics on, e.g., long-term planning or target setting process could be stronger</i>	HHM	3	Iceland, Ireland, Sweden
Formal, without some transparency	<i>Formalised governance system with strong detail but room for improvement on accountability</i>	HMH	1	Germany
Formal, strong	<i>Robust framework with high level of detail and degree of accountability</i>	HHH	3	Denmark, France, United Kingdom

Source: Ecologic Institute

Note: Status as of January 2021; * Example: HML = high *formality*, medium *accountability*, low *specificity*; the main difference between the ‘EU/UN Baseline plus’ and ‘formal weak spot’ groups is the existence of a climate law.

²⁸ Note: because Malta’s economy is not industry-intensive and there are only two power installations participating in the ETS the non-ETS target covers most domestic emissions and could be considered economy-wide.

These groups should be thought of as tiers with each subsequent level encompassing the previous. In other words, a ‘complex framework’ country will also exhibit many if not all of the elements of the two other categories, adding to the complexity and detail of climate policy processes.

Tier 1: ‘EU/UN baseline’

As outlined above, all EEA member countries and the United Kingdom are required to submit emission reduction plans in the form of NDCs under the Paris Agreement and the 27 out of 33 countries analysed are further subject to the NECP- and long-term strategy (LTS)-related processes laid down in EU law. As such, the first category comprises those countries (13 of 33) that follow through with EU/UN obligations but otherwise lack significant further governance elements at a national level—i.e., those countries which we considered low or (occasionally) medium on formality, accountability and specificity.

Box 2: System defined largely by higher level climate commitments

Belgium, Cyprus, Czechia, Greece, Italy, Latvia, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Turkey

As a rule, countries in this group have a climate governance system defined in large part by EU or international climate policy cycles and no national monitoring other than what is required by these higher-level commitments. In some cases, climate action is engrained in broader environmental policy, such as **Poland’s** National Air Pollution Reduction Program. Six countries in the ‘EU/UN baseline’ tier stand out for incorporating some additional governance elements and thus have the beginnings of a dedicated national climate policy framework (the ‘EU/UN baseline plus’ subgroup). **Cyprus, Latvia, Portugal and Romania**, for example, each have a regular national monitoring system in place that functions in addition to EU and UN reporting requirements. In a similar vein, the ‘National Emission Reduction Programme’ in **Czechia** represents a domestic plan to reduce air pollutants, including GHG emissions, and the country also has numerous supplemental sectoral plans in addition to (and mentioned in) its NECP. Furthermore, Czechia, Latvia and **Spain** also have dedicated stakeholder engagement bodies, which enhances the accountability of their governance systems.

Notably, many of the countries in the ‘EU/UN baseline’ tier are in the middle of revamping their climate governance systems. While none of the baseline countries has adopted an overarching or framework climate law, four are either planning to or already have a draft law pending a final or interim parliamentary vote (i.e., **Greece, Latvia, Portugal and Spain**). In some cases, these legislative processes are posed to significantly enhance a country’s climate policy system. For example, if passed without major amendments, **Spain’s** draft climate law would decidedly strengthen the country’s climate governance system across all three qualities by *inter alia* introducing a new dedicated inter-ministerial coordination mechanism, a national system for progress monitoring and reporting and adding transparency through new active roles for the Cortes Generales (parliament) and the creation of an independent, scientific expert committee.

Greece’s NECP describes the development of a ‘single governance framework’, to monitor and assess both policies implemented to achieve the country’s 2030 goals as well as stakeholder engagement during their implementation. While this legal framework is in the early stages of development, once realised, it may play a role in enhancing the formality and accountability of the country’s governance climate system.²⁹ For **Belgium**, passing an overarching law has proven difficult politically, in large part due to the division of competencies among the regions in the country’s complex federal

²⁹ See Greek NECP: Hellenic Republic (2019): National Energy and Climate Plan, Athens: Ministry of Environment and Energy: https://ec.europa.eu/energy/sites/ener/files/el_final_necp_main_en.pdf (accessed 06 October 2020).

system.³⁰ In February 2019, a group of parliamentarians from various parties proposed draft legislation for a national climate law.³¹ However, this did not result in a majority—an amendment to the constitution that was needed was not able to be adopted; the debate therefore stopped before the federal elections in May 2019. However, two of Belgium’s three regions either have or will soon have climate laws in place—Walloon (climate law adopted in 2014) and Brussels-Capital (draft ordinance approved in mid-July 2020).³²

The parliaments in 11 EU/UN baseline countries currently have either a standard legislative or dedicated but passive role in their country’s climate policy system. In some cases, the role of parliament depends on the process. **Slovenia**’s National Assembly plays an active role in adopting the country’s LTS but not for the purposes of the NECP.³³ In this tier, the legislative body only occasionally plays a more proactive role as an extension of its standard operating procedure, e.g., in budgetary spending (**Portugal**) or in the field of energy policy (**Romania**).

Tier 2: ‘Light framework’

The second tier of climate governance systems is composed of eleven countries with a relatively structured system that may, however, depending on the contents of a climate law or the performance of governance mechanisms in practice, lack the robustness of the final tier. As touched upon above, the governance systems in Bulgaria, Hungary, Malta and to a somewhat lesser extent Liechtenstein can be characterised by a high degree of formality due to the existence of one or more climate-related laws.³⁴ **Hungary**’s climate law, adopted in 2020, enshrines national climate neutrality by 2050 and renewable energy targets but does not detail clear policy processes to achieve these other than calling on the government to adopt measures in the short-, medium- and long-term. Nevertheless, formal processes do exist outside of the law—Climate Change Action Plans are implemented on a three-year schedule, and the LTS is updated every five years as mandated by parliamentary decree.³⁵ Thus, while Hungary exhibits a relatively high degree of formality and specificity overall, it is lacking key elements on accountability, including progress monitoring and a forum for stakeholder dialogue. Conversely, **Bulgaria** and **Malta** lack economy-wide emission reduction targets (and any process for setting these) and do not have policy packages in place other than their respective NECP submissions. Still, both countries show higher accountability through dedicated stakeholder engagement bodies as well as national progress monitoring.

Box 3: System defined by climate law or other government document, may be missing key elements, such as transparency mechanisms or target-setting processes

Austria, Croatia, Finland, Estonia, Norway, Switzerland, Bulgaria, Hungary, Liechtenstein, Luxembourg, Malta

³⁰ An academic seminar on national climate governance in Belgium organized in 2018 by the University of St. Louis-Bruxelles, with the support of the Federal Public Service Health, Food Chain and Environment published a synthesis report on this issue: see Cycle de Séminaires Académiques (2018): ‘Gouvernance Belege en Matière de Climat: Rapport de Synthèse’, Brussels: Université Saint-Louis: https://climat.be/doc/KlimGov_Synth_FR.pdf (accessed 06 October 2020).

³¹ The proposed legislation can be found online: <https://fleron.ecolo.be/2019/03/27/proposition-de-loi-speciale-coordonnant-la-politique-de-lautorite-federale-des-communautés-et-des-regions-en-matiere-de-changements-climatiques-et-fixant-des-objectifs-generaux-a-long-terme/loi-climat/> (accessed 06 October 2020).

³² Source: Interview

³³ Source: Interview

³⁴ In the case of Liechtenstein, a law on the country’s 2020 target and ETS (2012) and a separate regulation on CO2 emissions (2013) do not fit our definition of a climate framework law entirely because they do not establish a structured cycle for climate action. Furthermore, the governance system does not include a clear process for target revision and despite an unique ‘open door’ culture of transparency there is no national progress monitoring system.

³⁵ See the Hungarian, Fourth Biennial Review submission to the UNFCCC, p. 9: https://unfccc.int/sites/default/files/resource/20191219_UNFCCC_BR4_fin.pdf (accessed 06 October 2020).

The existence of a strong framework climate law is not strictly necessary to have an otherwise well-performing and structured climate governance system. For instance, **Estonia** does not have a formal law in place but instead relies on numerous government documents, including binding resolutions to organise its national actions. Thus, while we assessed only a medium level of formality, Estonia's climate governance system is nevertheless highly specific with economy-wide short-, interim and long-term emission reduction goals, a clear process for updating the long-term target and a policy package consisting of over 70 measures for 2030. Estonia also has a robust national progress monitoring system but does not feature a permanent, dedicated stakeholder engagement forum. Conversely, **Norway** and **Switzerland** both have climate laws enacted, but neither document enshrines a concrete system of climate policy or planning cycles to meet national targets. Both countries display a high level of accountability but some elements on specificity are pending—Norway is currently developing its policy mix for 2030 and Switzerland is reviewing its climate law to enshrine a 2050 net-zero target and revising its NDC to reference the Paris Agreement's cycles. The Swiss target-setting system falls largely in line with the NDC cycles and the country has set quantitative targets of -50% by 2030 and communicated a net-zero objective for 2050 in its long-term strategy.

Austria, Croatia and Finland have enacted or amended overarching climate laws since 2015, which include formalised climate governance structures. However, in practice all three are missing elements, especially on the accountability and specificity qualities, which would otherwise enhance the governance system in each country. **Austria**, for example, does not have nationally determined short-term targets for the whole economy and instead uses a breakdown of EU commitments by sector to determine its sectoral emission budget limits, which have a time horizon of 2-4 years. Moreover, the Austrian National Climate Protection Committee (NKK) serves multiple roles as the country's stakeholder engagement group, scientific advisory board and inter-ministerial coordination mechanism. Pending major revisions to Austrian climate policy including the framework law include a full institutional restructuring to incorporate a more dedicated and independent advisory body.³⁶ **Croatia's** climate framework includes short- and long-term policy/planning cycles but lacks an independent review of policy progress (a dedicated, coordinating body called the Commission for Intersectoral Coordination for Policies and Measures for Climate Change Mitigation and Adaptation reports on progress but with no required regularity). Moreover, the framework does not detail a process for setting national targets and the country is lacking an economy-wide short-term target, despite having a carbon neutrality target for 2050.³⁷

Of the three countries, **Finland** has the most robust framework although its law is currently pending significant revisions. Still, the governance system set forth in the current law at present does not establish a clear process for target review and revisions, nor does it employ a dedicated stakeholder engagement forum. Despite this, the governance system incorporates a high degree of public engagement through the work of an independent scientific advisory body, the Finnish Climate Change Panel, which also provides its opinion on each governmental climate plan and strategy.

Based on our analysis, in the 'light framework' tier, 7 out of the 11 countries incorporated a dedicated and active role for parliament. **Estonia's** *Riigikogu* is unique for having active and proactive roles in its country's climate policy-making. Normally, the Ministry of the Environment presents climate policy proposals to various parliamentary committees, which then introduce their own suggestions and proposals. These same committees also debated numerous drafts of the Estonian NECP. As is the

³⁶ Source: Interview

³⁷ Currently, the Croatian Ministry of Environment is undertaking follow-up work on the necessity of additional measures to meet the nation's long-term neutrality goal and thus future developments are likely (Source: Interview).

case in other countries, because strategic planning is implemented through the state budget procedures, the *Riigikogu* can actively shape the way in which climate spending is allocated and also directly influence strategic plans.

Tier 3: 'Robust framework'

The 'robust framework' group is made up of nine countries that have in place a formally structured system for governing climate action with a high level of detail and in many cases numerous dedicated accountability mechanisms.

Denmark, France and the **United Kingdom** come in at the top of the 'robust framework' category for having governance systems that score high across all essential qualities. In all three cases, this is largely due to a detailed and comprehensive climate law which enshrines quantitative short-

and/or long-term GHG emission reduction targets, sets out clear policy-making and progress monitoring cycles and establishes a dedicated stakeholder engagement forum and/or an independent expert climate council. The systems in both France and the United Kingdom make use of a budget-based approach, assigning a quantitative cap on the level of emissions for ten-year periods that is updated on a five-year schedule. Notably, of the three, only France has a long-term planning cycle built into its climate law, with regular five-year updates to its 'Stratégie Nationale Bas Carbone'. Among the strongest when it comes to formal target-setting, Denmark's law requires the Ministry of Climate, Energy and Utilities to determine a national climate target with a 10-year perspective every five years.

Box 4: Formal system defined by a climate law or other government document, regular action and planning cycles and strong monitoring and transparency processes

Denmark, France, Germany, Iceland, Ireland, Lithuania, Netherlands, Sweden, United Kingdom

With the adoption of the Federal Climate Change Act at the end of 2019, **Germany** has a comparable framework in place for managing domestic climate action based on a cycle of sectoral emission limits and required updates to the country's 'climate action programme' if targets are missed. However, the law lacks a clear progress monitoring role for the planned Council of Experts on Climate Change and there is room for improvement in general on public engagement, which to date has been conducted in a more ad hoc fashion (thus a 'medium' on accountability). Notably, with the exception of Lithuania and Norway, all other governance systems with 'high' accountability include an assessment by a dedicated climate change advisory body, which in most cases is an independent expert council. In **Norway**, an expert body called the Technical Calculation Committee on Climate reviews and checks the assumptions behind government projections and policy impact evaluations, advising on the underlying methodologies.

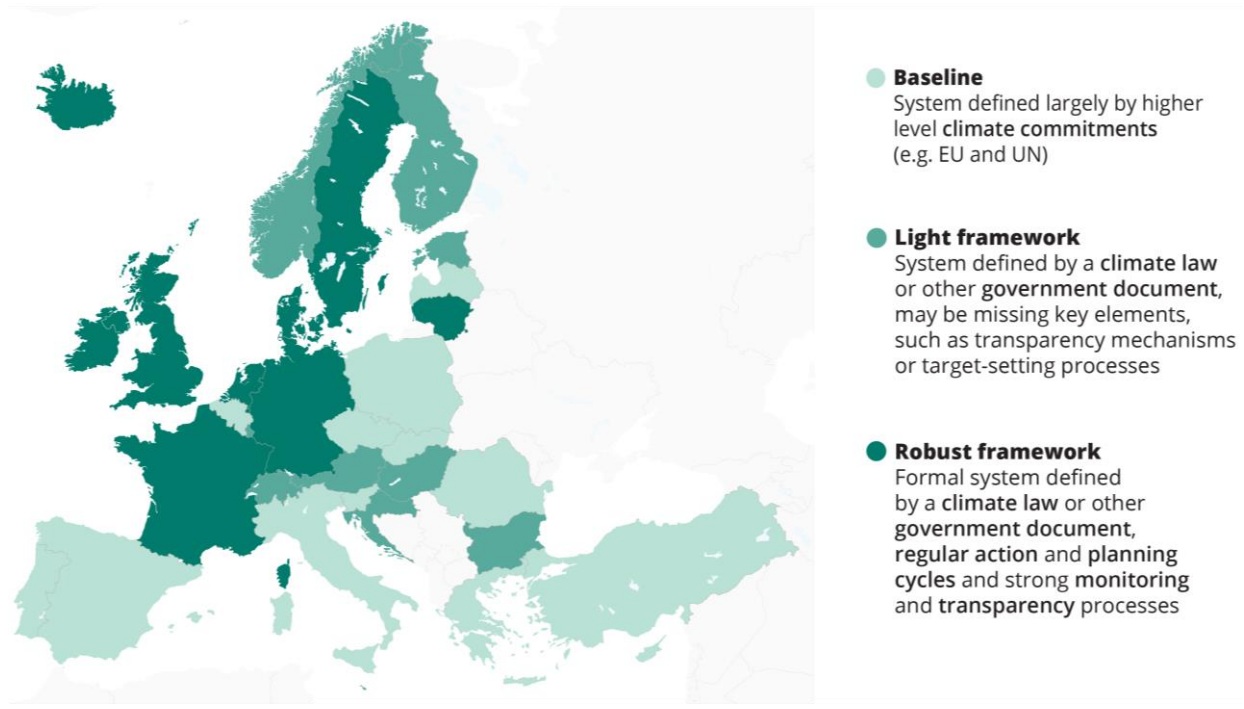
Iceland, Ireland and **Sweden** all have formally established climate laws and policy-cycles as well as dedicated progress monitoring systems which include a check by a climate advisory body. However, all three are missing some detail on the dimension of specificity. In all three governance frameworks there is no clear process for setting and reviewing national climate targets and Iceland, in particular, has yet to formally adopt its emission reduction targets (although they have been agreed upon politically). All three also lack a regularly recurring review process for long-term planning.³⁸

The governance systems in Lithuania and the Netherlands can be characterised by weaker or otherwise informal legal structures but strong performance across accountability measures and high detail. **Lithuania**, for one, does not have a climate law in the traditional sense but instead a coherent system outlined across multiple legally binding documents, including the *Law on Financial Instruments for Climate Change Management* (2009). The **Netherlands** does have a law but the legal

³⁸ A pending revision of the Irish Climate Action and Low Carbon Development Act 2015, i.e., the Climate Action (Amendment) Bill, expected in 2021 will include long-term planning cycles.

instrument itself lacks much of the detail of other climate laws in Europe. For instance, it does not establish an internal coordinating or advisory body, although each exists separately in the Dutch governance system (separate sector-specific implementing committees were established under supervision of the relevant Ministers and the government-financed environmental advisory body PBL is consulted on climate action planning and has a monitoring role).

Figure 1: Three ‘tiers’ of climate governance in Europe (map)



Source: design by EEA; based on data compiled by Ecologic Institute

Note: Status as of January 2021.

Countries with a robust climate policy framework incorporated predominantly dedicated and active plus proactive parliamentary responsibilities. **Sweden's Riksdag**, in particular, stands out in this group for how integrated it is in the climate system. The country's Climate Act gives the *Riksdag* the tasks of setting the country's overall long-term climate goal, receiving annual climate reports along with the proposed budget and adopting the climate plan of each new government (every 4 years). The Bundestag in **Germany** also has an active role in approving any revisions to Germany's emission reduction targets after 2030 as well as changes to the sectoral emission budget limits once set. It can also request special reports by the planned Council of Experts on Climate Change (*Klimaexpertenrat*).

The governance systems in EEA member countries have and will continue to develop significantly over time as more and more countries enact climate framework laws and other policy mechanisms that bolster the formality, accountability or specificity of the system. As such, the proposed three-tiered distinction among current systems offers only a snapshot in an otherwise ever evolving landscape (see map in Figure 1).

3.3 Conclusion: A framework to achieve climate neutrality?

As mentioned in the introduction, perhaps the main motivating factor driving the uptake of overarching framework laws in many European countries is the realisation that a transition to climate neutrality in 2050 can be more readily managed using a long-term perspective. Transformative climate policy-making requires the foresight to *implement actions in the present that will allow for future undertakings*. A framework that seeks to reconcile short-term action with long-term aspirations is more likely to withstand fluctuating electoral cycles, economic shocks and shifting policy priorities and set a country on a path towards climate neutrality or net-zero emissions.

Arguably, the existence of formal structures for climate governance will always enhance short- and long-term cohesion, but some countries make this more explicit by enshrining a long-term goal in their climate law (e.g., **Denmark, Sweden, France**) or incorporating legal text that requires current action to account for emission pathways to mid-century or long-term targets (e.g., **Finland, Ireland, Norway, United Kingdom**). Some countries' laws imply this connection but do not explicitly require that action in the immediate future be implemented accounting for 2050 goals (e.g., **Austria, Germany, Hungary**) and still others refer to long-term cohesion in various policy documents or plans in a less formal manner (e.g., **Estonia, Greece, Latvia**). Specifically, of the 18 countries with an existing climate law, seven concretely enshrine the need to link long-term policy planning with short-term actions; all of these countries belong to either the 'light framework' or 'robust framework' tiers.

Policy-making with a multi-year time horizon, not to mention strategic planning for two or three decades down the road, is no easy feat. Governments must rely on the best evidence they have at hand to make the right decisions now so as not to close doors or make future actions prohibitively costly. Most importantly, governments must know that their actions are sufficient to actually combat climate change and do their part to deliver on the temperature goals of the Paris Agreement. With this in mind, we turn now to the important role of national climate change advisory bodies in helping to ground the transition towards climate neutrality in sound science as well as economic and societal realities. In the following analysis, we present a typology for understanding the landscape of these advisory bodies in their governance contexts and then take a more in-depth look at the archetypal 'independent scientific climate council' for evidence-based climate policy-making.

4 Analysis of national climate change advisory bodies in Europe

4.1 Landscape of national climate change advisory bodies

There exist countless advocacy, civil society, research and business or trade organisations, large and small, which attempt to influence or guide the direction of climate action in EEA member countries. The vibrant role that civil society plays in European climate governance is important, but not all of these organisations function as national advisory bodies. For the purposes of this report, the following criteria were used: (1) the entity must be *solicited by government* for input on climate policy development, implementation and/or monitoring, especially when it pertains to policy evaluation; (2) consultation must be *recurring and continuous* (i.e., not one-off or isolated consultations);³⁹ (3) if the entity is a private NGO/research organisation it should have *a unique relationship with the government* compared to its peers (i.e., consultation is not based on an open tender/grant process).⁴⁰

Based on these criteria, our research identified 57 national climate change advisory bodies operating in 27 European countries, albeit with varying degrees of relevance to climate policy. At the time of writing, many were brand new or awaiting final setup, and thus there was little information regarding their functionality to base an analysis on (including two new scientific climate councils in Germany and one in Luxembourg). Furthermore, an additional three advisory bodies were either planned or awaiting final adoption (i.e., in Slovakia, Spain and Turkey). In our research, we were unable to find a fitting example in four countries—Cyprus, Liechtenstein, Romania and Slovenia. Importantly, as for climate governance systems broadly, the landscape of climate advisory bodies in Europe is a moving target. To the best of our knowledge, the overview table in Annex III and displayed in Figure 2 provide a comprehensive picture of this landscape, but there is a chance that we missed one or two entities, especially if these operate more behind-the-scenes. Furthermore, in our search we came across numerous expert commissions established temporarily to advise on specific matters, some that have had more staying power than others. We chose to focus on bodies with a longer lifespan (or that were established with a long-term mandate) and our analysis only includes those national advisory bodies still in operation at the time of writing.

In order to develop a working typology for the landscape of national climate change advisory bodies, we assessed each body against three criteria: (1) the degree of governmental involvement as indicated by its position within or external to government (and membership by public officials), (2) the extent to which it is dedicated to climate policy thematically and (3) its composition. The three criteria and their two main variants are displayed in Table 2. The legal nature of each body was assessed as an additional fourth criterion for the scoping exercise but left out of the typology for two reasons.

³⁹ Inter-ministerial bodies or committees for climate policy consisting of solely public officials were considered in the three-tier analysis of governance systems in section 3. However, such coordination mechanisms can also have an advisory role if they include external stakeholders as sitting members. In some cases it is a fine line. The Slovak High Level Commission for Climate Change Policy Coordination, for instance, is formally composed of ministry officials but has ad hoc working groups, which involve external experts. Nevertheless, in section 4, we omit coordinating bodies that are exclusively internal to government.

⁴⁰ Three specific instances of omission are worth mentioning: (1) Separate entities working only on climate adaptation (i.e., Swedish National Expert Council for Climate Adaptation); (2) Networks or groups focused primarily on climate research or R&D but not policy (i.e., Climate Research Coordination Group in Ireland, ProClim in Switzerland and Czech Globe and (3) advisory groups focused on one specific or technical area of climate policy—Norwegian Technical Calculation Committee (pertains solely to methodology, e.g., for GHG emission projections and accounting) and the Spanish Social Dialogue Tables established in 2005 to provide stakeholder input into the implementation of the EU ETS, especially regarding the allocation of emission credits.

First, the majority of bodies we identified are enshrined or formally established in some form by the government (albeit not always in a climate framework law), and second, the role of the body in its given climate governance context does not depend so much on the legal nature of its mandate but rather that mandate’s contents, scope and structure.

Table 2: Criteria for the typology of national climate change advisory bodies

Criteria	Involvement of government	Composition (i.e., type of constituencies represented)	Thematic focus
Variants	No direct governmental connection other than funding (‘independent’)	Essentially only scientists	Clearly dedicated to climate policy (‘dedicated’)
	Inside a governmental institution (‘in-house’) or involvement of governmental representatives as members	Range of stakeholders included (‘mixed’)	Broader environmental or sustainable development scope (with climate included to varying degrees)

The resulting typology derived from the three criteria consists of four main categories of national advisory bodies and one special category to account for a unique case in Ireland (see Table 3). For each type there is a subtype that accounts for national environmental or sustainable development advisory bodies that do climate advisory work or analyses on occasion but are not dedicated to climate issues or were not established for the express purpose of advising governmental action on climate (i.e., Types 1b, 2b, 3b and 4b). Roughly half of the bodies identified in our survey are dedicated specifically to climate policy (see overview map in Figure 2).

Type 1: Independent Scientific Council

Twelve existing bodies exhibit the features of a truly independent, scientific climate advisory body, as typified by the CCC in the United Kingdom (Type 1a and 1a*). An additional seven organizations—in Estonia, Finland, Netherlands, Norway and Sweden as well as two in Germany—are focused on environmental or sustainable development issues more broadly (Type 1b).

Type 1a bodies or climate councils are autonomous and consist solely of scientific experts and follow the United Kingdom CCC prototype. They generally function as independent watchdogs, monitoring the sufficiency of climate action at the national level. These councils also play a key role as policy advisors, solicited by governmental agencies in a frequent and recurring manner to provide recommendations that guide national climate policy-making. In some cases, they enjoy significant soft power either by design or due to the reputation of their members and can impact decision-making in the climate governance system. The CCC in the United Kingdom, for instance, has direct influence over the country’s long-term targets and must be consulted by the government before these can be amended (as was the case for the United Kingdom’s adoption of climate neutrality in 2019).⁴¹ The Danish government is required to respond to the annual review and recommendations of its nine-member Council on Climate Change (*Klimarådet*). The Irish case is unique for including four public officials as members but still falls squarely in the 1a category on closer inspection due to the clear autonomy dictated by its mandate.

A unique example that we place in the Type 1b category is the Dutch Environmental Assessment Agency (*Planbureau voor de Leefomgeving, PBL*), which is a research institute deemed independent in its work but closely connected to the government structurally. PBL is mandated under the Dutch climate law to perform a formal monitoring role by providing its own (separate) annual report on

⁴¹ Averchenkova, Fankhauser & Finnegan (2018), p. 6

emissions projections and policy impacts—a task often carried out by Type 1a climate councils in other countries. Although it is officially part of the Dutch government, specifically the Ministry of Infrastructure and Water Management, its autonomy as an independent monitor of governmental activities is safeguarded by regulation.⁴²

Table 3: Typology of national climate change advisory bodies in Europe

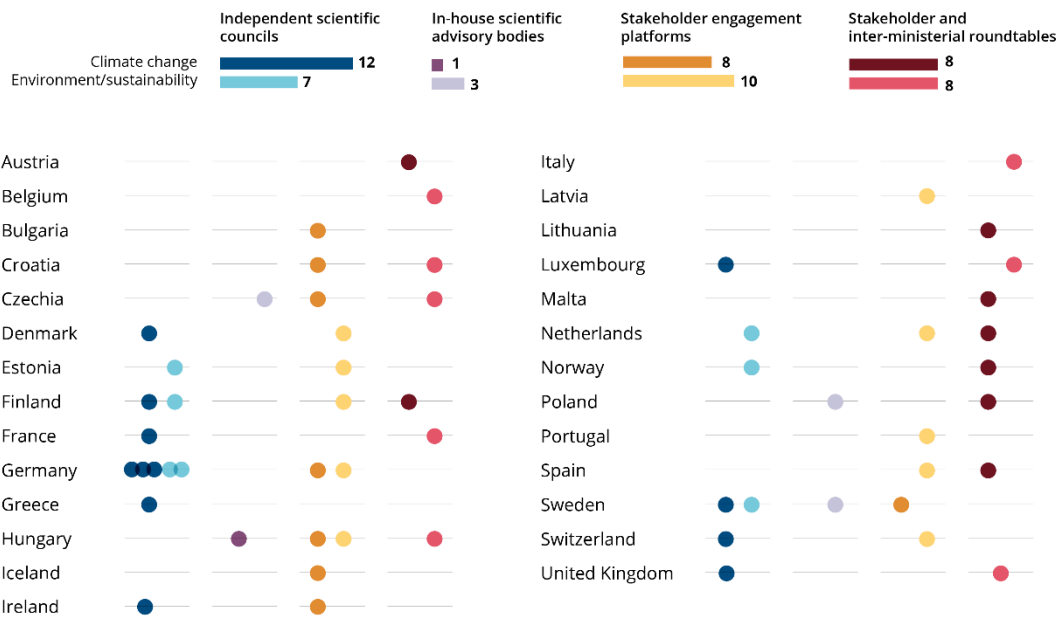
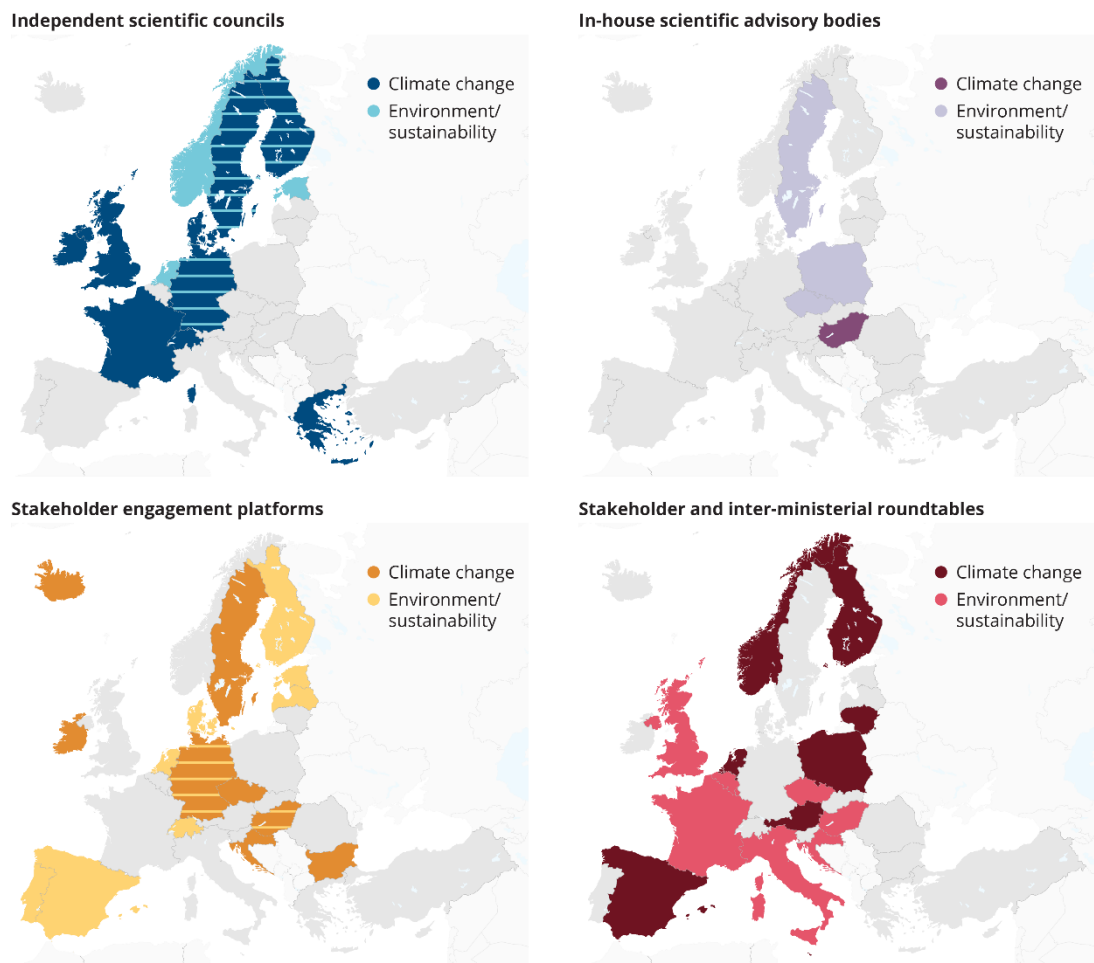
Key	Name	Description	#	Example	Countries (1/2 indicates 1 of 2 total)
Type 1: Independent scientific councils					
1a	Independent Scientific Climate Council	<i>Independent, scientific, climate dedicated</i>	11**	Danish Council on Climate Change	Denmark (1/2), Finland (1/4), France (1/2), Germany (3/7), Greece, Luxembourg (1/2), Sweden (1/4), Switzerland (1/2), United Kingdom (1/2)
1a *	Independent Scientific Climate Council - w/public officials	<i>Independent, scientific, climate dedicated with some representation from government</i>	1	Irish Climate Change Advisory Council	Ireland (1/2)
1b	Independent Scientific Environmental/Sustainable Development Council	<i>Independent and scientific advisory body with climate relevant work but focused more broadly on the environment and/or sustainable development</i>	7	German Advisory Council on the Environment	Estonia (1/2), Finland (1/4), Germany (2/7), Netherlands (1/3), Norway (1/2), Sweden (1/4)
Type 2: In-house scientific advisory bodies					
2a	In-house Scientific Climate Advisory Body	<i>Government-led scientific advisory body (or subsidiary) dedicated to climate analysis and policy (additional to a national environment agency)</i>	1	Hungarian Scientific Advisory Panel on Climate Change (APCC)	Hungary (1/4)
2b	In-house Scientific Environmental/Sustainable Development Advisory Body	<i>Government-led scientific advisory body (or subsidiary) for environment or sustainable development (additional to a national environment agency)</i>	3	Czech Hydrometeorological Institute	Czechia (1/3), Poland (1/2), Sweden (1/4)
Type 3: Stakeholder engagement platforms					
3a	Stakeholder Engagement Platform for Climate Policy	<i>Stakeholder engagement and advisory body dedicated to climate policy</i>	8	Icelandic Climate Council	Bulgaria, Croatia (1/2), Czechia (1/3), Germany (1/7), Hungary (1/4), Iceland, Ireland (1/2), Sweden (1/4)
3b	Stakeholder Engagement Platform for Environmental Policy/Sustainable Development	<i>Stakeholder engagement and advisory body for environment and sustainable development broadly</i>	10	Latvian Environmental Advisory Council	Denmark (1/2), Estonia (1/2), Finland (1/4), Germany (1/7), Hungary (1/4), Latvia, Netherlands (1/3), Portugal, Spain (1/3), Switzerland (1/2)
Type 4: Stakeholder and inter-ministerial roundtables					
4a	Stakeholder and Inter-ministerial Roundtable on Climate	<i>Mixed climate roundtable for exchange between public officials, stakeholders and scientific experts, often includes some degree of inter-ministerial coordination</i>	8	Austrian National Climate Protection Committee (NKK)	Austria, Finland (1/4), Lithuania, Malta, Netherlands (1/3), Norway (1/2), Poland (1/2), Spain (1/3)
4b	Stakeholder and Inter-ministerial Roundtable on Environmental/Sustainable Development	<i>Mixed environment/sustainable development roundtable for exchange between public officials, stakeholders and scientific experts, often includes some degree of inter-ministerial coordination</i>	8	Belgian Federal Council for Sustainable Development Belgium (FRDO-CFDD)	Belgium, Croatia (1/2), Czechia (1/3), France (1/2), Hungary (1/4), Italy, Luxembourg (1/2), United Kingdom (1/2)
Still unspecified		<i>Planned - not yet fully specified</i>	3	Spanish Committee of Experts on Climate Change and Energy Transition	Slovakia, Spain (1/3), Turkey
no body identified		<i>No climate change advisory body identified at national level</i>	Cyprus, Liechtenstein, Romania, Slovenia		

Source: Ecologic Institute

Note: Status as of January 2021; * Indicates variation from overarching type. ** For the purposes of the in-depth analysis of Type 1a bodies in section 4.2 only one example from Germany was chosen so as to limit the analysis to one body per country. At the time of data collection, three of the total 12 1a bodies were new and thus also omitted from further analysis—in Germany, the Council of Experts on Climate Change and the Scientific Platform for Climate Protection (Wissenschaftsplattform Klimaschutz) and in Luxembourg, the Climate Policy Observatory. This left nine Type 1a bodies for the assessment discussed in section 4.2.

⁴² See PBL website at <https://www.pbl.nl/en/about-pbl> (accessed 28 October 2020).

Figure 2: Landscape of dedicated climate change advisory bodies in Europe (map)



Source: design by EEA; based on data compiled by Ecologic Institute

Note: Status as of January 2021.

Type 2: In-House Scientific Advisory Body

Four institutions can be characterised as formal governmental bodies that engage or employ scientific experts to advise on climate, energy policy and environmental or sustainability issues (Type 2a and 2b). Importantly, these examples operate in addition to well-established environmental agencies (e.g., an Environment Agency or EPA) and therefore either have a more narrow thematic focus or are designed with a specific role in mind, such as environmental or spatial planning assessment. Their connection to governmental institutions does not necessarily compromise the validity of their results (after all, all ‘independent’ councils in the Type 1 category are paid for by public funding)—but their work is nevertheless likely to be more ‘in the service of’ a national government.

Type 3: Stakeholder Engagement Platform

Eighteen national advisory bodies are essentially independent stakeholder engagement and advisory forums aimed either at climate policy or environmental issues and sustainable development more generally (Types 3a and 3b). The key difference between these bodies and their independent scientific counterparts (Type 1a and 1b) is the inclusion of other stakeholders, such as representatives of business or trade organisations, civil society organisations, local officials and even the general public. The key objective of these platforms is to open up the discussion to relevant actors outside of government and provide an opportunity for exchange and input from civil society, the private sector and local government. On occasion, Type 3a and 3b bodies also function as independent monitors, publishing reports on the policy impact and (projected) effectiveness of governmental plans and strategies (e.g., the Icelandic Climate Council and the Commission for Intersectoral Coordination for Policies and Measures for Climate Change Mitigation and Adaptation in Croatia). In practice, the Icelandic Climate Council functions similarly to a Type 1a body by drawing up annual reports on national emissions reduction progress even though this task is not mandated.

A Czech stakeholder body called the Commission for Climate Action under the Research, Development and Innovation Council is unique in this category. The members of Commission are chosen specifically for their area of expertise but need not necessarily have an academic or research background (resulting in a broad range of constituencies represented, with experts from both business and civil society included). The body is tasked specifically with advising policy-makers on how to prioritise climate related R&D funding to spur and foster innovation.

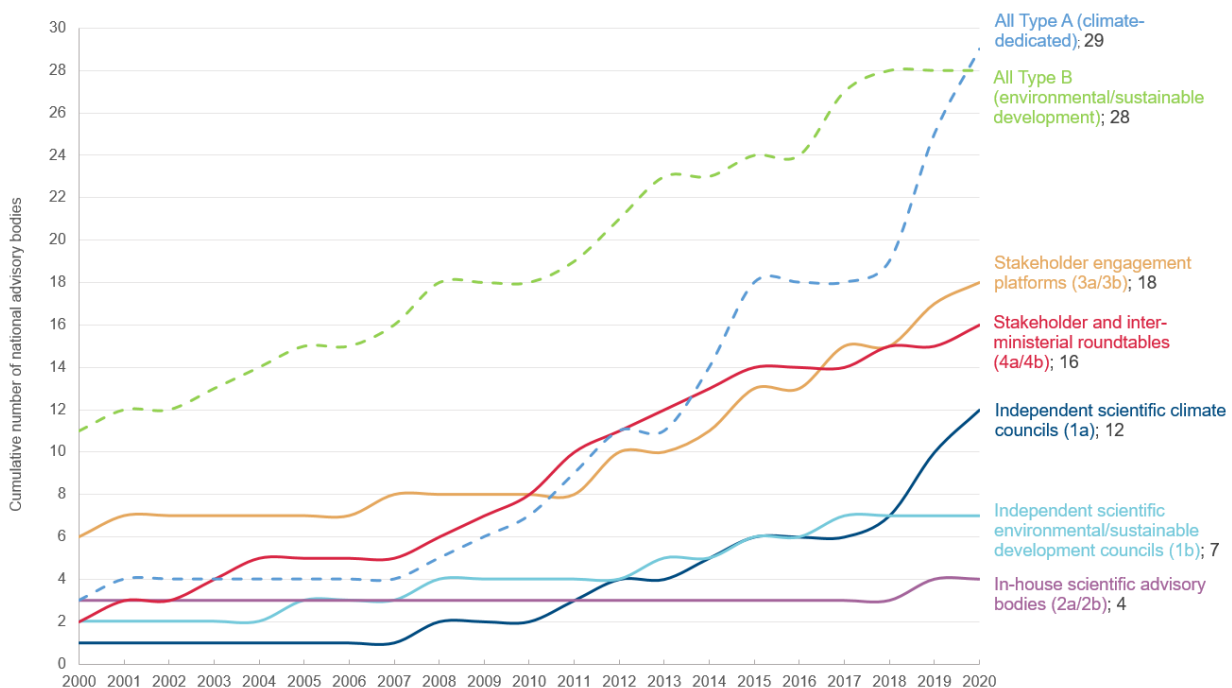
Type 4: Stakeholder and Inter-ministerial Roundtable

The final group is comprised of sixteen advisory bodies that are best described as ‘stakeholder and inter-ministerial roundtables’ on climate or environmental issues (Type 4a and 4b). Like the Type 2 ‘in-house scientific advisory bodies’ these panels are positioned within or connected to the government and therefore do not have a fully independent or autonomous advisory/monitoring function. Often, Type 4 bodies function as stakeholder engagement platforms—and essentially are by design—but with the addition of governmental officials from a range of ministries and agencies. The Austrian National Climate Protection Committee, for example, established in 2011 by the country’s climate law and renewed in 2017 serves multiple roles as a policy advisory body, an inter-ministerial coordinating mechanism and stakeholder dialogue forum, with members spanning all relevant ministries and private sectors albeit with only one representative of the scientific community. Malta’s Climate Action Board is similar in composition to the Austrian Committee but also prepares an annual progress report for *I-Parlament ta’ Malta* (Parliament). Importantly, Type 4 advisory bodies are distinguished from purely governmental inter-ministerial coordination bodies by the inclusion of external, non-governmental members (see footnote 32).

Legal nature and growth of climate advisory bodies

The typology provides a systematic overview of the different kinds of climate advisory bodies operational in European countries (listed in full in Annex III), with the four main categories implying some of the different roles that these bodies can play in a climate governance system. Yet, the exact function of an advisory body depends on its mandate, i.e., the tasks and responsibilities it is assigned, either formally in a national law or in a government document or ministry ordinance. The legal nature of advisory bodies differs substantially—only 13 of the 57 existing bodies are enshrined in a dedicated climate law (e.g., Danish Climate Council, Finnish Climate Panel, Austrian National Climate Change Committee), while the majority were established by a separate ordinance or regulation (e.g., Hungarian National Environmental Council, Latvian Environmental Advisory Council, Swedish Climate Policy Council). As depicted in Figure 3, much of the growth in European advisory bodies for environment or climate in the past two decades can be attributed to those dedicated specifically to climate policy, in particular in the period 2018-2020, overtaking the number of bodies with a broader, environmental or sustainable development focus for the first time in 2020. Type 1a independent scientific councils are undoubtedly spreading the fastest, with a notable uptake in the period since the adoption of the Paris Agreement. The establishment of such an independent and dedicated advisory body at EU level under the EU Climate Law is further evidence of this dynamic.

Figure 3: Development of national climate advisory bodies in Europe 2000-2020



Source: Ecologic Institute

Note: Status as of January 2021; this time series only includes data on national advisory bodies still in operation at the time of writing.

Notably, of the 12 Type 1a bodies, eight were established as an integral part of a climate framework law or overarching governance framework (in the case of Sweden). As such, more often than not, these ‘independent scientific climate councils’ have a clear mandate and were designed with a specific task or tasks in mind. Nevertheless, as we discuss in the following section, there is substantial

variation even among the expert climate councils, especially pertaining to their capacities and resources, concrete responsibilities and function.

4.2 A closer look at ‘independent scientific climate councils’ (Type 1a)

In this section we investigate nine selected Type 1a or ‘independent scientific climate councils’ in more depth based primarily on a comparison of: *mandate* (i.e., formal role or function as enshrined in regulation or law); *composition* (i.e., types of members, how they are appointed and for how long) and *capacity* (i.e., the resources the body can draw on to do its work).⁴³

The mandate specifies the tasks and responsibilities of the body and is dictated by the formal piece of legislation or policy document that oftentimes also serves to establish the body. Table 4 details the main tasks for each of the nine councils analysed as well as how this role is formally established. The resulting main functions that these councils play are analysed subsequently in section 4.2.3 in more detail.

Table 4: Mandates of European ‘independent scientific climate councils’ (Type 1a)

Country/full name of body	Mandate (specific tasks)
Denmark Council on Climate Change (<i>Klimarådet</i>)	Enshrined in the Climate Act (2020): Annual recommendations/assessment of the Climate Programme (including projection of policy impacts). Additional analyses in an ad hoc manner on own initiative. Called on to pursue public engagement through a dedicated ‘Climate Dialogue Forum’
Finland Climate Panel (<i>Suomen Ilmastopaneeli</i>)	Enshrined in the Climate Change Act (2015): Provides opinion on climate strategies and plans but otherwise works in an ad hoc fashion at the behest of the Governmental working group and ministries (usually on a weekly basis); can ‘perform other tasks related to the climate change knowledge base’.
France High Council on Climate (<i>Haut Conseil pour le Climat</i>)	Enshrined in the Energy and Climate Law (2019): Annual progress reports on emissions and climate policy sufficiency, evaluating each long-term strategy and ad hoc analysis of French climate policy.
Germany Energy Transition Monitoring Commission (<i>Energiewende Monitoring Kommission</i>)	Enshrined in a government cabinet decision (2011): Statements on the government’s annual monitoring report and a more in-depth climate policy progress report every three years. Additional analyses on own initiative.
Greece Special Scientific Committee for Climate Change	Enshrined in separate regulation (Law 4638, 2019): Ad hoc recommendations for policy formulation at the request of the government as well as the promotion of synergies and collaboration between stakeholder groups.
Ireland Climate Change Advisory Council	Enshrined in the Irish Climate Action and Low Carbon Development Act (2015): Annual review of climate policy, periodic review of plans plus ad hoc reviews or working papers, on own initiative or at the request of the government.
Sweden Climate Policy Council (<i>Klimatpolitiska Rådet</i>)	Enshrined in separate regulation (Ordinance 2017:1268) as part of Sweden’s overarching Climate Policy Framework (2018): Annual progress report on emissions and climate policy sufficiency, plus evaluation of each government climate plan three months after its publication.
Switzerland Advisory Body on Climate Change (<i>L’Organe consultatif sur les changements climatiques, OcCC</i>)	Enshrined in separate regulation (est. 1996; mandate renewed in 2013): Annual progress reports on emissions and climate policy sufficiency and ad-hoc analysis of climate policy on own initiative or at the request of the government.
United Kingdom Committee on Climate Change (CCC)	Enshrined in the Climate Change Act (2008): Annual progress reports on emissions and climate policy sufficiency, evaluating each long term strategy + ad-hoc analysis of climate policy on own initiative or at government request.

⁴³ Three Type 1a were left out of the further analysis. Two bodies from Germany—the Council of Experts on Climate Change (Klimaexpertenrat) and the Scientific Platform for Climate Protection (Wissenschaftsplattform Klimaschutz)—were operational as of 2020 but at the time of writing there was little information on the nature of their work. (We already include one Type 1a body from Germany: the Energy Transition Monitoring Commission (Energiewende Monitoring Kommission). Likewise, the Climate Observatory in Luxembourg was established by the country’s climate law in December 2020 and was therefore left out of further evaluation.

The oldest independent scientific climate council assessed is found in Switzerland; the original mandate for the OcCC from the Swiss Academy of Natural Sciences dates back to 1996, but this has since been renewed after an institutional restructuring.⁴⁴ Similarly, the Danish Climate Council's mandate was also renewed with the passage of the Climate Act in 2020. The bodies in Greece and France represent the newest bodies among the nine—both established in 2019.

Box 5: Independent climate councils and adaptation

The nine climate councils assessed in this section focus primarily on climate mitigation. Still, advice and monitoring of national adaptation to climate change is explicitly mentioned in five of the bodies' mandates even though it does not always form an integral part of their underlying work. In Finland, the Climate Panel has published at least three reports on adaptation-related issues and is called on for ad hoc consultations regarding the country's adaptation strategy. The case is similar for the Swiss OcCC, where there is occasional research done on climate impacts and risks but no formal work strand. In two of the countries adaptation is given a more focus. The Irish Climate Change Advisory Council has a special subcommittee devoted to adaptation that was established in 2016. The UK CCC also has an adaptation committee, which works in cooperation with the mitigation group and shares members. Nevertheless, unlike for emission reductions, little work is done to evaluate governmental action regarding adaptation measures. Both the UK and Irish climate advisory bodies plan to enhance these committees in the coming years, but representatives point out that the lack of clearly defined national objectives makes monitoring progress on adaptation more challenging than for mitigation.⁴⁵

4.2.1 Different capacities

With regard to overall size and available resources, the councils display significant diversity. See Table 5 for detailed information.

The **size** (number of Council members) varies from 4 scientific council members (Germany) to 15 (Finland), but the majority of bodies (6 out of 9) have between 8 and 11 members. Most councils have an odd number of members, supposedly to avoid deadlock on opinions (exceptions Germany (4) and Greece (10)). All councils have a dedicated chairperson; some feature also dedicated deputies. Appointments generally are made by the government, often for time-limited terms, but in individual cases other council members (Finland) or another scientific institution (Switzerland) are involved in the selection process (see section 4.2.2 below on self-determination).

With regard to available resources, independent scientific climate councils show even greater diversity. Annual **budgets** vary significantly.⁴⁶ On one end of the spectrum, the Greek council is not provided with a dedicated annual budget—and the German Commission only receives a limited amount to compensate for research needs. For the remaining councils, annual budgets range from between EUR 200.000 and EUR 500.000 for the Irish, Swiss and French bodies to EUR 3-4 million for the United Kingdom CCC and Danish Council on Climate Change. No direct correlation could be identified between the size of the council or their secretariats and the funding provided.⁴⁷ The research did

⁴⁴ See http://www.occc.ch/about_f.html (accessed October 28, 2020).

⁴⁵ Source: dialogue workshop with advisory body representatives on 12 and 19 November 2020

⁴⁶ Detailed budget data was not available for all the bodies under evaluation, and thus this comparison is limited. Moreover, budget totals are expressed as ranges as some of this information was considered sensitive.

⁴⁷ E.g., the Danish council has twice the budget of the Swedish one, but four times the secretariat staff. However, staff counts found may also be inaccurate (i.e., not coherently include or exclude administrative staff).

reveal that council members are compensated financially for their time spent on council work in almost all cases usually in the form of an annual honorarium ranging from EUR 5.000 to EUR 16.000 or a predetermined payment per meeting attended. In some cases, members are only compensated for travel. The Danish council has seen a large increase in its budget since inception, which greatly expanded the number of staff and existing research support.⁴⁸

Table 5: Size and capacity of European ‘independent scientific climate councils’ (Type 1a)

Country/body	Size	Resources
DK: Council on Climate Change	9 members (1 chair and 2 vice-chairs) Appointed by government after selection by Council.	Budget: 3-4 million € p.a. Large secretariat (> 20 members) with scientific and communications support staff.
FI: Climate Panel	15 members (1 chair and 2 deputy-chairs) Appointed for four-year terms by government after selection by broader scientific community and Panel itself	Budget: 500 000€ - 1 million € p.a. Secretariat (5 members), including one communications and two scientific support staff.
FR: High Council on Climate	13 members (1 chair) Appointed for four-year terms by government after selection by the Chair	Budget: 500 000€ - 1 million € p.a. Secretariat (6 members), including an executive director and five scientific staff. Housed in France Stratégie ⁴⁹ in the office of the Prime Minister for communications and administrative support.
DE: Energy Transition Monitoring Commission	4 members (1 chair) Appointed by government	Limited annual budget formally made available. Secretariat with very limited admin role only. Small scientific staff (one researcher per Council member) but no dedicated communications capacity.
EL: Special Scientific Committee for Climate Change	10 members (1 chair) Appointed by government	No dedicated annual budget Designated secretariat (facilitated by the ministry) Small support staff of three technical/ scientific employees and additional communications staff.
IE: Climate Change Advisory Council	11 members (1 chair); 4 members are government officials, 7 scientists Appointed by government for five-year terms may be reappointed once	Budget: < 500 000€ p.a. formally made available through the Environmental Protection Agency Designated secretariat. A small support staff of three technical /scientific employees and two admin
SE: Climate Policy Council	8 members (1 chair and vice-chair) Appointed for three-year terms by government after selection by the Council (government has little say in selection)	Budget: 500 000€ - 1 million € p.a. Designated secretariat consisting of 4 members including a chief executive and three senior scientific staff. Council is housed in FORMAS (Swedish research organisation for sustainable development) and pays for communications and administrative support staff
CH: Advisory Body on Climate Change	9 members (1 chair) Appointed/selected by the Swiss academy scientific committee	Budget: < 500 000€ p.a. Designated secretariat but no scientific staff. Hosted by the Swiss Academy of Sciences (SCNAT).
UK: Committee on Climate Change	9 members (1 chair) Appointed for five-years terms (renewable once) by the government	Budget: 3-4 million € p.a. Designated secretariat consisting of 30 members

Apart from member compensation and commissioned research, the lion’s share of this funding goes in most cases to finance the work of a support staff in a dedicated **secretariat**. However, the number of staff available to individual councils varies significantly. The Swiss council has a secretariat but no dedicated research support to draw on. Most councils have a small secretariat staff (of 3-6 people) that includes researchers or analysts. When council secretariats are housed inside other institutions (e.g., France, Germany, Greece, Ireland, Sweden and to some extent, Switzerland), they can draw on their existing administrative and other infrastructure, potentially lowering the need for dedicated staff and budget for some tasks. In Sweden, this comes with a financial burden as the council pays FORMAS, its host institution, for administrative support. The Danish Council on Climate Change and the CCC in the United Kingdom stand out with over 20 and 30 staff respectively, giving them higher capacity for analysis and communications.

⁴⁸ Source: Interview

⁴⁹ France Stratégie, formally General Commission for Strategy and Foresight (commissariat général à la Stratégie et à la Prospective, CGSP), is a governmental institution housed under the office of the French Prime Minister.

The differences in budget and support staff demonstrate that the nine independent scientific climate councils analysed have been given starkly varying power to carry out their respective duties. A large research team generally means more expertise, more issues covered, more detailed analyses as well as increased stakeholder outreach—and gives the body more weight in the overall governance system, which in turn can influence its impact on policy-making. Even if the allocation of funding is not directly proportional to impact, capacity can still make a significant difference. An external evaluation of the initial years of the Finnish Climate Panel lauded the extent to which its members had been able to contribute to the national climate policy debate, but remarked also that they had largely done so at the cost of their home institutions (i.e., universities and research organisations) and thus needed to be given a larger secretariat and research support.⁵⁰

4.2.2 Degree of self-determination

The degree of self-determination, in regard to a body's mandate and thus function and/or composition, determines the extent to which an independent climate council can act on its own volition and pursue separate analyses or reviews, in addition to those requested by the government. Likewise, the ability of a body to nominate and select its own future members can further increase its autonomy.

Eight of nine independent councils have the capacity to initiate their own analyses and are thus not required to stick solely to the tasks outlined in their respective mandates. The Greek Special Scientific Committee for Climate Change, as an exemption, appears to act only at the bequest of the government, providing recommendations and scientific justification for the design of specific policies and measures. Still, a more specific mandate as long as it is not too narrow can be good, especially when it provides regular opportunities for input into a country's policy-making cycle. As discussed in more detail in the following section, the Finnish Climate Panel enjoys a high level of self-determination when it comes to its assessments and independent research but is not required to produce an annual monitoring report. This could be seen as a weakness, because apart from statements in *reaction* to government plans or strategies, the panel is given no formally recurring *proactive* role in the Finnish climate governance system. This is a position that seven of the other committees benefit from.⁵¹

The appointment of council or panel members often comes with some self-determination. Five of the nine bodies self-select their members, who are then officially appointed with varying degrees of governmental or ministerial oversight (i.e., in Denmark, Finland, France, Sweden and Switzerland). In Finland and Switzerland, in particular, the wider research community as represented by an academy of sciences or similar institution also has a say in who sits on the council. The members of the remaining four bodies are primarily government-appointed, albeit sometimes based on consultation with the existing council.

4.2.3 Different functions: 'watchdog', 'advisor' and 'convenor'

The existing literature on scientific advisory councils often pinpoints three main governance functions: improving policy through a dedicated advisory role, monitoring policy impacts and pursuing stakeholder engagement. For instance, in their report on the effectiveness of the CCC in the United Kingdom, Averchenkova, Fankhauser and Finnegan (2018) focus in on the CCC's role in tracking climate preparedness of governmental action as well as providing an informed, scientific basis upon which to base national target setting. Weaver, Lötjönen and Ollikainen (2019) also discuss the policy advice and monitoring dimensions but emphasise the role that external advisory bodies have in engaging

⁵⁰ Weaver, Lötjönen & Ollikainen (2019)

⁵¹ The Greek Special Scientific Committee for Climate Change also works in a more ad hoc fashion, providing inputs at the request of the government.

the public and other stakeholders, acting as a bridge between government and the perspectives of civil society organisation and other private constituencies.

Here, we employ a terminology developed in our past work on independent climate councils in the context of climate framework laws and distinguish between: (1) the ‘*watchdog*’ function or independent check on governmental climate action, (2) the ‘*advisor*’ function or scientific consultant and evaluator of climate policy development and (3) the ‘*convenor*’ function or facilitator of stakeholder input into the climate governance system.⁵² Table 6 illustrates which independent councils in our analysis play which role(s) in their respective national contexts, and in the following we discuss each function in turn.

Two aspects relevant to the overview in Table 6 must be highlighted at the onset. First, our investigation of advisory body work suggests that the ‘advisor’ function is actually composed of numerous sub-tasks, including quality control, information provision and a crucial distinction between policy advice and evaluation. Second, the ‘watchdog’ and ‘advisor’ functions overlap somewhat in their underlying tasks (i.e., policy evaluation and fact-checking being two clear responsibilities of an independent monitor) and thus distinctions are not always clear cut. This overlap is due to differences in how independent councils implement their policy evaluation and quality check roles; as will become clear, in some cases these are performed more visibly in an effort to enhance transparency.

Table 6: Three functions of European ‘independent scientific climate councils’ (Type 1a)

Country/body	(1) Watch-dog	(2) Advisor				(3) Con-venor	Governance system tier
		Policy eval-uation	Quality control	Policy recom-mendation	Information provision		
DK: Council on Climate Change	X	X	X	X	(X)	X	3. Formal, strong
FI: Climate Panel	X	(X)		X	X		2. Formal, lacking some detail and transparency
FR: High Council on Climate	X	X		X	X	(X)	3. Formal, strong
DE: Energy Transition Monitoring Commission	X	(X)	X	X	(X)		3. Formal, lacking some transparency
EL: Special Scientific Committee for Climate Change				X	X	(X)	1. EU/UN baseline
IE: Climate Change Advisory Council	X	X		X	X	(X)	3. Formal, lacking some detail
SE: Climate Policy Council	X	X	X	X	X	(X)	3. Formal, lacking some detail
CH: Advisory Body on Climate Change	X	X	X	X	X		2. Informal, lacking some detail or transparency
UK: Committee on Climate Change	X	X	X	X	X	(X)	3. Formal, strong

Source: Ecologic Institute

‘Watchdogs’

In our assessment, to qualify as a ‘watchdog’ an advisory body must regularly produce an independent assessment of governmental action (or inaction) on climate change. This assessment must then be made public so that any governmental or non-governmental stakeholders can make use of the information to demand (directly or via hearings and the media) and devise improvements. Such assessments can increase transparency on climate policy and thus hold the government accountable for its progress or lack thereof. In some cases, the body is further encouraged to criticize the policy-making process and overall institutional structure in addition to specific policies or measures. Eight out of the nine independent scientific councils assessed perform a ‘watchdog’ function; only the Greek Special Scientific Committee for Climate Change does not.

⁵² See Duwe & Evans (2020).

The strength of a body's 'watchdog' status can be tempered by the specifications of its mandate—such as the frequency and depth of its evaluations or whether a formal response from government is required—as well as its access to resources and overall visibility for its work. For instance, the website of the Finnish Climate Panel states unequivocally that it is responsible for 'assessing the coherence of climate policy and the sufficiency of the implemented measures'.⁵³ However, the panel does not produce a regular monitoring report nor engage in extensive policy evaluation due in part to a lack of resources and dedicated personnel. Instead, the body works at the bequest of the government on specific issues and relies on general, more qualitative assessments in place of a comprehensive analysis when providing its opinions on governmental strategies and plans.⁵⁴ Moreover, while the Finnish Climate Panel has published on its website an average of four reports per year since 2017, the majority of these are not monitoring reports but instead related to the Panel's policy advisory function.⁵⁵ Nevertheless, in its written statements and opinions, which are also circulated online, the Panel serves as a continuous check on climate policy processes.

The Germany Energy Transition Monitoring Commission also serves as a 'watchdog'; this being the main purpose of its creation. On an annual basis the Commission provides an opinion on the government's progress report and produces its *own* monitoring report on the state of Germany's transition to renewable energy every three years. Any policy evaluation it conducts as part of this work is generally targeted at a specific measure or instrument. However, there is little media attention to the work of the Germany advisory body and it does not have a dedicated web presence.⁵⁶

Barking, not biting: watchdog role through independent annual review reports

The remaining six bodies in Denmark, France, Ireland, Sweden, Switzerland and the United Kingdom have a more robust 'watchdog' function, each publishing **an annual review of climate action** that includes an evaluation of either projected policy impacts or actual policy effectiveness, or both. The Swedish Climate Policy Council, in particular, focuses not only on the sufficiency of the country's climate action in light of its 2045 climate neutrality goal but has also developed a framework through which to check whether the Swedish *governance system* is functioning, i.e., the level of coordination and organisation, under the 2018 climate law.⁵⁷

As mentioned above, one key indicator of a strong 'watchdog' is whether **the government is legally obliged to respond in some form**. In Denmark, France and the United Kingdom, the government is formally required to provide feedback on recommendations by each country's respective independent climate council. Indeed, the independent climate councils in these three countries appear to have the strongest 'watchdog' mandates, also in regard to concrete and frequent input into the climate governance system as well as high capacities (e.g., large secretariats or supporting infrastructures and annual budgets). In Denmark, the council has an especially powerful role as per the mandate spelled out in the country's 2020 climate law. The reporting done by the Danish council informs the debate in parliament which could in turn demand supplemental measures if existing ones are deemed insufficient. This is the only instance we found where an advisory body is formally positioned to instigate additional action on the part of the government. Although not enshrined as a formal mechanism, feedback also occurs in practice in Finland, Sweden and Germany due to regular exchange between council members and public officials.

⁵³ See <https://www.ilmastopaneeli.fi/en/> (accessed 10 November 2020).

⁵⁴ Source: Interview

⁵⁵ See <https://www.ilmastopaneeli.fi/> (accessed 30 October 2020).

⁵⁶ Source: Interview

⁵⁷ See <https://www.klimatpolitiskaradet.se/klimatpolitiska-radets-uppdrag-och-behovet-av-ett-nytt-analytiskt-ramverk/> (accessed 30 October 2020).

‘Advisors’

The ‘advisor’ role is concerned with improving climate policy formulation and/or performance based on the most up-to-date scientific knowledge and information and includes one or more of the following tasks:

- ▶ *policy evaluation* – tracks progress towards climate targets, including the actual (*ex post*) or potential (*ex ante*) impact of the policy mix and/or individual instruments;
- ▶ *quality control* – verifies or fact-checks government scenarios, evaluations and projections;
- ▶ *policy recommendation* – gives regular or *ad hoc* opinions and guidance on policies, plans and preparation, especially in a forward-looking fashion;
- ▶ *information provision* – collects or synthesises data for use by government officials in policy formulation (e.g., on technical potential of individual emission reduction options).

As shown in Table 6, not all four sub-tasks of the ‘advisor’ function are performed by all nine climate councils. For one, not all are equally responsible for **policy evaluation**—i.e., the *ex post* and/or *ex ante* assessment of climate policy effectiveness. To a large extent, we also cover policy evaluation as integral to independent monitoring in the section on the ‘watchdog’ function above, however, there are a few additional insights worth mentioning within the context of the ‘advisor’ function.

As mentioned above, the German and Finnish councils do not conduct comprehensive policy evaluation; in the former case policy impact assessment is only occasionally completed for individual instruments as part of research for the body’s statements.⁵⁸ Both the Swedish Climate Policy Council and Irish Climate Change Advisory Council focus primarily on *ex ante* evaluation of projected impact of plans and strategies in their review of government actions, while the Swiss OcCC does solely *ex post* analyses of the effectiveness of current measures.⁵⁹ In Denmark and France, the mandate is clear and requires each country’s respective council to evaluate the overall effectiveness of the climate governance system in light of European and international commitments as well as domestic targets (i.e., in each case climate neutrality by 2050). In Denmark, specifically, the Council on Climate Change looks at the overall effectiveness of the plan and also at individual instruments and measures in order to judge whether they account for efficiency, leakage and climate justice concerns etc.

Unlike policy evaluation, the task of producing **policy recommendations** and guidance is found across all bodies. However, even here there is clear variation as to the form that proposals take and how these enter into discussions on policy formulation. In Denmark, France, Sweden and the United Kingdom, policy recommendations are clearly mandated and integrated into either the dedicated annual reporting cycle or obligatory statements on government plans. More specifically, the CCC in the United Kingdom *must* be consulted specifically whenever there is a proposed change to long-term targets, and thus played a key advisory role in the country’s adoption of climate neutrality by 2050.⁶⁰ Furthermore, the CCC plays a central role in setting the limits for future five-year carbon budgets, and its proposals have been implemented without modification by the British government. Indeed, there has been generally ‘little appetite to second-guess the CCC [when it comes to setting the carbon budget], as long as its advice was evidence-based and analytically sound’.⁶¹

⁵⁸ Source: Interview

⁵⁹ Source: Interview

⁶⁰ Rüdinger & Vallejo (2018)

⁶¹ Averchenkova, Fankhauser & Finnegan (2018), p. 12

The Danish council is uniquely tasked with preparing a ‘catalogue of possible instruments’ for implementation in the Danish climate policy cycle.⁶² The French High Council on Climate makes recommendations and proposals to improve climate action in various sectors with respect to the country’s carbon budgets and GHG emissions linked to international aviation and maritime transport.⁶³ The German Commission integrates policy guidance and specific proposals into each opinion of the government’s annual monitoring report but this element is not mandated.⁶⁴

With the exception of Swedish Climate Policy Council, which has a somewhat narrower mandate compared to the others, **each body listed above also completes additional analyses** on a more ongoing basis. In addition to an annual report, this more *ad hoc* approach appears to be the primary delivery of policy proposals by the Irish Climate Change Advisory Council. For instance, the Council has developed several working papers on various topics of pressing scientific and policy relevance, such as carbon pricing and agriculture (in response to the IPCC’s Special Report on Climate Change and Land).⁶⁵ The situation is similar in Switzerland, where the OcCC is tasked with conducting its own assessments in the spirit of an independent think tank on new thematic issues relevant to the design of future climate policies. In Finland and Greece, the council is consulted by the government regularly but without any formally established frequency on specific matters, especially concerning the drafting of climate plans.

When it comes to **quality control**, of the ones analysed, the Swedish Climate Policy Council is the only body explicitly mandated to ‘evaluate the data and models on which the government bases its policy’.⁶⁶ Still, other bodies may perform a quality check in practice due to the nature of their other tasks or working relationship with the government (i.e., Denmark, Germany, Switzerland, United Kingdom). For instance, the Danish council is encouraged to check the underlying assumptions of the government’s annual climate status report and projections in addition to doing its own evaluation.⁶⁷ Similarly, the German Energy Transition Monitoring Commission occasionally fact checks governmental reports by the overarching institutions to which it answers, i.e., the Ministry for Economics or the Federal Network Agency (*Bundesnetzagentur*), before their publication.⁶⁸ The climate councils in Finland, France, Greece and Ireland do not have the internal quality check of governmental reports or documents as a specific task.

All nine bodies have some form of **information provision** role, which as we define above, consists of the gathering and synthesis of data on climate-related issues for use by the government in policy formulation. In the Danish and German cases, information provision naturally is a major part of the background research that goes into each body’s role in policy recommendation and evaluation, but compared to other bodies it is not incorporated as an integral part of either body’s mandate. In other countries, the council is explicitly charged with tasks related to expanding the knowledge base or collecting data on climate-related topics (i.e., Finland, France, Ireland, Greece, Switzerland, United Kingdom). The Finnish Climate Panel, in particular, is mandated by the country’s Climate Change

⁶² Lov om klima, No. 965 of 26/06/2020, §5

⁶³ LOI n° 2019-1147 du 8 novembre 2019 relative à l’énergie et au climat, Article 10: <https://www.legifrance.gouv.fr/loda/id/JORFTEXT000039355955/2020-10-12/> (accessed 20 October 2020)

⁶⁴ Source: Interview

⁶⁵ See <http://www.climatecouncil.ie/councilpublications/councilworkingpaperseries/> (accessed 31 October 2020).

⁶⁶ Ordinance (2017: 1268) with instructions for the Climate Policy Council, section 2

⁶⁷ Source: Interview

⁶⁸ Interestingly, as mandated by the German Climate Change Act (2020) the newly established Council of Experts on Climate Change (Klimaexpertenrat) has as one of its primary tasks to verify the underlying assumptions of the emission projection reports published by the Federal Environment Agency (Umweltbundesamt). Although this body is a Type 1a ‘independent scientific climate council’ (see Annex III) it was adopted in late 2019 and thus at the time of writing there was little information available on its operation to allow for detailed analysis.

Act to ‘collect and itemise research data on the mitigation of climate change and adaptation to it for the planning and monitoring of climate change policy’.⁶⁹ In a broad mandate, the tasks of the Irish Climate Change Advisory Council, include independent analyses of specific topics, especially regarding ‘any significant developments relating to scientific knowledge in relation to climate change’.⁷⁰ The Swedish Climate Council occasionally conducts its own research even though, like the German body, information provision is not a concretely established task in its mandate.⁷¹ This is due to the narrow, and largely self-determined nature of its role in the Swedish climate governance framework.⁷² Considering a government’s rationale for establishing an independent body for scientific advice on climate policy it is no surprise that information provision plays a key role for *all* bodies, regardless of whether it is explicitly or implicitly mandated.

‘Convenors’

In our research we found that six of nine independent climate councils could be considered ‘convenors’ for regularly occurring stakeholder outreach. However, only the Danish Council on Climate Change is tasked with managing a dedicated mechanism for public and stakeholder dialogue called the ‘Climate Dialogue Forum’, which includes representatives from business organisations, think tanks, green organisations, worker’s organisations and ministries.⁷³

Other climate councils—i.e., in Greece, Sweden and United Kingdom—incorporate **stakeholder outreach** as a part of each body’s legal mandate. For instance, in Greece the Special Scientific Committee for Climate Change is tasked with ‘the promotion of synergies and collaborations with stakeholders at national, European and international level’,⁷⁴ and in Sweden the Climate Policy Council is generally responsible for contributing to an increased discussion in society about climate policy.⁷⁵ Nevertheless, as is the case in Sweden, outreach may still occur informally on a one-off basis depending on the policy process.⁷⁶ Similarly, in practice, the French and Irish bodies engage in stakeholder outreach as a central part of their work in advising the government even though this does not factor in largely to their individual mandates. The independent climate councils in Finland, Germany and Switzerland place no clear focus on stakeholder outreach unless it is determined necessary for a specific task or project (i.e., the Finnish Climate Panel’s working paper on social acceptability of climate policies).⁷⁷

In a sense, independent scientific climate councils are themselves stakeholder bodies, albeit composed of members of a single group, namely the scientific community. As outlined above, we found that these bodies oftentimes serve to increase overall public and civil society discourse on climate policy, and as in the case of Denmark, can even foster dedicated avenues for stakeholder input into a national climate governance system. Citizen and stakeholder outreach is one of numerous ways independent scientific councils can enhance transparency through visibility.

⁶⁹ Finnish Climate Change Act (2015), Art. 16.1

⁷⁰ Irish Climate Act (2015), Art. 13.2

⁷¹ Ordinance (2017: 1268) with instructions for the Climate Policy Council, section 2

⁷² Source: Interview

⁷³ Lov om klima, No. 965 of 26/06/2020, Art. 12

⁷⁴ Law 4638, Art. 3.5b

⁷⁵ Ordinance (2017: 1268) with instructions for the Climate Policy Council, section 2

⁷⁶ Source: Interview

⁷⁷ See <https://www.ilmastopaneeli.fi/aineistot-ja-raportit/#ilmastotoimien-sosiaalinen-hyvaksyttavyys-2020> (accessed 30 October 2020).

4.2.4 Impact through visibility?

The nine independent councils exhibit slightly different levels of outward visibility as indicated by the existence of an up-to-date website, public availability of publications, activity on social media and anecdotal insights gained from interviews with council representatives.

Table 7 depicts the online presence and other signs of visibility of the nine councils assessed. Seven of nine bodies manage a **dedicated domain and website** that includes information on composition (a list of current members), mandate and tasks as well as a repository for downloading publications. A single page overview of the German Energy Transition Monitoring Commission can be found on both the website of the Federal Ministry of Economics and the Federal Network Agency, but the advisory body has no dedicated domain itself. At the time of writing, the Greek council website is in development. The independent councils in five countries (i.e., Denmark, Finland, France, Sweden, United Kingdom) are **active on social media**, with Twitter appearing to be the platform of choice. Activity and potential reach on Twitter ranges from 2000 followers and an average of one post per week for the Swedish Climate Policy Council to 12000 followers and at least daily posts (French High Council) and 41000 followers and daily posts (United Kingdom CCC).

Table 7: Visibility of European ‘independent scientific climate councils’ (Type 1a)

Country/body	Website	Online publications	Social media	Events	Comms staff
DK: Council on Climate Change	http://www.klimaraadet.dk	Annual reports and analyses, as well as ‘statuses’ (only 2019 and 2020) available for download - many only available in Danish	<u>Twitter</u> : ~3.000 followers, avg. 1 post per week <u>LinkedIn</u> : ~2.000 followers	Annual event for stakeholders, some informal or closed meetings for project work	Yes
FI: Climate Panel	http://www.ilmastopaneeli.fi	Working papers and project descriptions available for download - many only available in Finnish	<u>Twitter</u> : ~4.500 followers, avg. 1 post per week	No regular public events, some informal or closed meetings for project work	Yes
FR: High Council on Climate	http://www.hautconseilclimat.fr	Annual reports and other analyses available for download - mostly in French	<u>Twitter</u> : ~12.000, daily posts <u>Facebook</u> : 78 followers, 2-3 posts per week	No regular public events	Yes*
DE: Energy Transition Monitoring Commission	-	Annual report as well as two-page briefs available for download through ministry website	-	Annual report launch	
EL: Special Scientific Committee for Climate Change	-	Some reporting made available online through government website	-	No regular public events	Yes*
IE: Climate Change Advisory Council	http://www.climatecouncil.ie	Annual and periodic reviews, working papers and presentations available for download	-	No regular public events, some informal or closed meetings for project work	
SE: Climate Policy Council	http://www.klimatpolitiskaradet.se	Annual publications 2018-2020 are available on its website - in Swedish and English	<u>Twitter</u> : ~2.000 followers, avg. 1 post per week	Frequent press conferences, some informal or closed meetings for project work	Yes*
CH: Advisory Body on Climate Change	http://www.occc.ch	Annual reports and policy briefs available for download	-	No regular public events	
UK: Committee on Climate Change	http://www.theccc.org.uk	Annual reports, numerous analyses and working papers available for download	<u>Twitter</u> : ~41.000, daily posts <u>LinkedIn</u> : ~4.000 followers	No regular public events	Yes

* Support drawn from separate institution or government ministry: France: France Strategie; Greece: Ministry of Environment and Energy; Sweden: Research Council for Sustainable Development (FORMAS)

Importantly, all bodies make **publications available for download** online although the CCC in the United Kingdom stands out for having a longer history and therefore significantly more material published. The Swedish Climate Policy Council, in particular, has further developed a public-facing awareness-raising tool called ‘Panorama’, which is targeted at the general public for widespread information dissemination on climate change science and policy.⁷⁸ We were able to find evidence of available **communications support and staffing** for five out of the nine bodies (in Denmark, Finland, France, Greece Sweden and the United Kingdom). In Finland and France, this was limited to a single member of the secretariat and for the French, the Irish as well as Swedish and Greek councils, communications support was drawn generally from a governmental institution or ministry. In Germany, despite some institutional support (e.g., the use of conference space), much of the communications support comes from the four members’ different home organisations.⁷⁹

Public events do not appear to be a principal focus of the nine independent Type 1a bodies. With the creation of the Climate Dialogue Forum, the Danish body will likely increase the frequency with which it does public-facing events, but currently it organises a single stakeholder dialogue per year. The German Commission also has an annual event to coincide with the publication of each statement. The Finnish Climate Panel and Swedish Climate Council both hold irregular and informal workshops, often connected to project work, but these are generally not considered public events. The remaining five bodies do not hold events with enough frequency for this to be considered a key aspect of their operations.

Independent analysis by Gaia Consulting on the operations of the Finnish Climate Panel in its first term found that the panel has played **an increasingly impactful role** in the country’s climate policy **due in large part to visibility in the media**.⁸⁰ These results were based on expansive survey data. Similarly, as climate has become a priority topic for Danish citizens, the chair and other members of the Danish Council on Climate Change are frequently sought out by the media outlets for public comment on government climate action.⁸¹

Perhaps more so than any of its other European counterparts the CCC has played a highly visible role in its national climate governance system due to the reputation of its members and chair, Lord Deben, previous Secretary of State for the Environment, in particular. The documented influence of CCC analyses and monitoring on parliamentary debate also suggests a high level of visibility even though its policy advice is not always implemented.⁸²

4.3 Conclusion: The added-value of independent, scientific climate councils

The full typology of national advisory bodies in Table 3 (and Annex III) is not based on function, and therefore, we are limited in our ability to draw inferences on the exact role each body plays in its country’s climate policy-making. However, our closer look at Type 1a independent councils suggests that there are concrete advantages to establishing a body composed solely of researchers and scientific experts in relevant fields and not to include other types of stakeholders (representing common or private interests) or government officials.

⁷⁸ See <https://www.klimatpolitiskaradet.se/en/panorama/> (accessed 05 November 2020).

⁷⁹ Source: Interview

⁸⁰ Laine, A., Hjelt, M., Halonen, M. & Mikkola, J. (2019): ‘Evaluation of the first term of the Finnish Climate Panel under the Climate Act’. Helsinki: Ministry of the Environment, Gaia Consulting, p. 34

⁸¹ Source: Interview

⁸² Averchenkova, Fankhauser & Finnegan (2018)

For instance, all four advisory body types in our overview typology could theoretically engage in progress monitoring, but the involvement of stakeholders with private interests and/or governmental officials may undermine the perceived objectivity of any assessment of policy sufficiency. Further, Type 2 bodies that operate inside of government, or otherwise ‘behind the scenes’ in service of public agencies, may suffer a lack of outward visibility, which in the end weakens their ability to enhance public transparency. Finally, Type 3 stakeholder bodies will invariably have to juggle the vested interests of their members, each representing a different private interest or sector of the economy, and thus will not always be well-positioned to make recommendations informed solely by science.

Stakeholder engagement platforms, stakeholder and inter-ministerial roundtables and in-house advisory bodies provide valuable input and have their own justifications. Participatory processes and intra-governmental coordination are crucial to a well-functioning and transparent national climate policy, and in-house council can keep government abreast of the latest scientific developments or provide targeted analysis under close guidance. Thus, **the establishment of a Type 1a climate council does not make existing stakeholder platforms or roundtables obsolete**, especially when outreach is not a clear element of its mandate. Indeed, some countries have taken an all-of-the-above approach, installing numerous advisory bodies with overlapping competencies (e.g., Finland, Germany, Hungary), while Austria has taken the opposite approach with a single Type 4a body that pursues all three functions of ‘watchdog’, ‘convener’ and ‘advisor’ in addition to facilitating inter-ministerial cooperation.⁸³ Still, our in-depth look above reveals that independent scientific oversight in the form of a Type 1a **advisory body provides unique added-value for evidence-based policy-making and accountability**.

⁸³ Source: Interview

5 Discussion and outlook: National climate advisory bodies in a governance context

In June 2019, the government of the United Kingdom amended its flagship Climate Act for the first time since it was first passed in 2008. The only change was to a *single number* in Article 1.1—updating the country’s 2050 target from 80% to 100% GHG emission reductions compared to 1990. The adoption of a net-zero target for 2050 came at the recommendation of the country’s longstanding independent, expert Committee on Climate Change (CCC)⁸⁴ and serves as a strong example of how national advisory bodies can play a central role in pushing timely policy changes based on scientific consensus. The CCC is in good company in Europe—as our research shows, nearly all EEA member countries have a national climate advisory body in place, and twelve of these resemble the British model (i.e., our Type 1a category)—with similar one being established for the EU level. The role of government-mandated advisory bodies in promoting progress on climate action will likely increase in the coming years given the pressing urgency of the climate crisis and its prominence in EU policy. Below we discuss the key insights derived from our research.

Having an impact: Success factors and barriers

The influence that a national advisory council has on policy decisions depends on a myriad of factors, including its mandate, capacity, visibility and the governance context in which it operates. In practice, these elements likely have an additive effect. One could consider the effectiveness of an advisory body in the form of an equation: *composition + strength of the mandate + capacity*, all of which influence the *level of visibility*, multiplied by an *enabling (or disabling) governance context*. Our purpose is not to suggest a quantitative method for measuring potential impact and instead a frame by which to conceptualize the enabling factors and barriers that lead to policy impact. The significance of each element was reinforced by expert interviews and insights gathered from a two-part virtual dialogue workshop, with over 40 representatives of national climate councils.⁸⁵ As expected, many expressed that their organization’s impact is attenuated by, among other things, resource availability, structural support and visibility—all descriptive factors we touch on in section 4.2. Moreover, some representatives highlighted that the **specific (or unspecific) nature of their mandate co-determines the degree of influence** they have in policy formulation as well as their overall effectiveness in keeping governments on track and holding them accountable. A specific mandate was widely perceived as facilitating an impactful role in policy by providing a concrete channel for input.

For others, the strength of the body’s ‘watchdog’ role is dependent not only on the nature of the mandate (i.e., frequency and form of reporting etc.) and the resources it can draw on but also the body’s **visibility and strength, i.e., ‘soft power’** in the broader climate governance system. This is often bolstered by the reputation of council members, especially when they have a longer tenure in the public eye or in government (e.g., as is the case for Lord Deben, chairman of the UK CCC). Not all climate councils have the political clout or resources of the CCC. The lack of resources especially can be a challenge for councils in fulfilling their mandates—a key finding of our analysis. Some bodies have been forced by resource constraints to find their niche in the governance landscape. For one, the Swedish Climate Policy Council has been strategically selective about when and how it makes recommendations, which combined with the academic reputations of its members, has allowed for

⁸⁴ The Climate Change Act 2008 (2050 Target Amendment) Order 2019, No. 1056.

⁸⁵ The virtual workshop for representatives of national climate advisory bodies in Europe took place over two sessions on 12 and 19 of November 2020. It was organized by Ecologic Institute and IDDRI and hosted by the EEA. The chief aim was to foster a dialogue between members of advisory bodies (and scientific climate councils in particular) for the exchange of practices and experiences. Preliminary findings from this report served as input.

inroads into specific policy-making processes.⁸⁶ In Germany, the Energy Transition Monitoring Commission is one of numerous advisory bodies (see Annex III), many of which have informal (and overlapping) monitoring functions.⁸⁷ While Germany may at present lack a scientific body with the mandate to implement a ‘watchdog’ function with the teeth of the United Kingdom’s CCC, the built-in redundancy may enhance the overall accountability of the governance system.

A robust governance framework is a prerequisite for an effective advisory body

One point that came up repeatedly in interviews and during the workshop was **the importance of governance context**. For this reason, in our ‘equation’ above we consider governance context to act as a multiplier—enhancing the impact of all other factors. Sometimes the laws or institutions in place are explicitly enabling. For instance, workshop participants underscored that the uniquely strong position of the Danish and British councils is partly due to the legal requirement for government to heed their advice and respond. The situation is similar in France, where the government must respond to the High Council but unlike in the United Kingdom, the French council can only *react* to the emissions budget set by the government.

In our overview of European climate governance systems at the start of this report, we distinguished between three tiers based on the existence (or lack of) elements that determine three essential qualities of a governance system: *formality*, *accountability* and *specificity*. Considering the landscape of advisory bodies within this context, one observation is that **countries with independent scientific climate councils** (Type 1a) tend also to **have more robust climate governance systems**, often enshrined in overarching framework laws. While this may be unsurprising—such bodies are often established as part of climate laws—a robust system for managing climate action should be seen as a prerequisite for the work of an advisory body. An iterative process for setting targets and adopting measures opens up recurring windows of opportunity for independent climate councils to influence climate policy. Without recurring and regular cycles, inputs from any type of advisory body lack a clear channel to inform policy—and cannot effectively support the achievement of climate targets.

This key message cannot be stressed enough: **A climate advisory body, regardless of type, is only as effective as its governance context allows**. As such, Tier 2 and 3 governance systems, i.e., those countries that exhibit higher degrees of formality, accountability and specificity, are best positioned to take advantage of the value that a national advisory body on climate change can add. As an example, compared to its Danish or French peers, the Greek Special Scientific Committee for Climate Change is not as well positioned to create real impact due to its country’s lack of a clear-cut policy cycle apart from the drafting of NECPs. This plays out in practice as the body is consulted only in an ad hoc manner on a variety of issues but has no formal regular input. Notably, the development of a climate law is being discussed in Greece, which has the potential to enhance not only its governance structures but also the strength of the Special Committee.

The same lesson can be applied by all countries, especially those currently in the midst of updating its approach to climate policy-making, including Spain, Austria and others. An enabling policy framework composed of *inter alia* concrete national targets, planning and monitoring cycles and a package of measures provides a starting point for an advisory body to fulfil its mandate. **Effective and actionable scientific policy advice and a robust governance framework must go hand in hand**.

The establishment of the new European Scientific Advisory Board on Climate Change through the European Climate Law is arguably proof of the recognition that dedicated independent scientific expert councils can improve climate policy-making and target achievement. This new institution will be

⁸⁶ Source: Interview

⁸⁷ The German Advisory Council on Global Change (WBGU) has published numerous special reports on climate; the Advisory Council on the Environment (SRU) submits an environmental report to the government every four years.

inserted into a system with a range of existing governance procedures and may be positioned to help shape new ones (e.g., climate neutrality progress measurement under the Climate Law). It has been given free rein to decide its work program independently—but it also has a vague overall mandate (i.e., “providing scientific advice and issuing reports” on EU climate policy) and at present almost no mandatory connections to the many processes it could contribute to.⁸⁸ As we discuss at the national level, his lack of a formal role could turn out to be a weakness in practice, as other EU institutions are not obliged to respond to or consider its outputs.

An appetite for enhanced exchange and coordination

A final point to consider is the benefit of cross-border synergies between national advisory bodies, especially pertaining to common concerns under EU climate governance. With pending developments at the EU level, such as changes to national 2030 targets and key policy instruments (e.g. extension of carbon pricing to new sectors at the EU level), **there is much potential for bilateral and multilateral cooperation between national advisory bodies** (and with the new EU level body). EU policy changes have a strong impact on national climate policy-making and thus affect the realm in which national advisory bodies operate and the space for the recommendations they can provide. Moreover, the challenge of going climate neutral and even net negative is not one that can be efficiently achieved in each Member State through its own solutions, but requires at the very least regional coordination if not EU-wide collaboration and common policies and infrastructure. The establishment of the European Scientific Advisory Board on Climate Change may provide an opportunity to make some of these connections between national advisory bodies on EU level policies.

Furthermore, the workshop indicated that **there is a large appetite for continued good practice exchange as advisory bodies begin to take on additional responsibilities and roles**. For instance, like the CCC, the Irish council will soon be tasked with drafting carbon budgets in its new mandate proposed in a revision to the country’s climate law and thus stands to learn from the British council’s experience. In support of the United Kingdom’s presidency at the 26th Conference of the Parties to the UNFCCC in 2021, the CCC has already started pursuing international outreach via the publication of a series of eight ‘insights briefings’. These short policy papers outline the British approach to climate change mitigation and adaptation as well as the CCC’s unique role as a central actor.⁸⁹ The European Environmental Advisory Councils (EEAC) serves as an example of a network fostering exchange between national environmental councils.⁹⁰ Twelve of the bodies included in our analysis are active members (including the Danish and Irish Type 1a councils).

Final word

An autonomous group of experts to help guide mitigation and adaptation planning is one of two crucial (and relatively new) policy innovations to combat the climate crisis—the other being framework climate legislation. There is a diverse landscape of such advisory bodies operating in European countries. Each type serves a unique and valuable role—be it scientific guidance (Type 1 and 2) or stakeholder engagement (Type 3 and 4)—and there is often overlap between the types in regard to their actual tasks and purposes. Nevertheless, **independent, scientific climate councils add unique value to national governance of climate action**. Despite the many barriers we discuss above, European climate councils have already proven their worth in enhancing the transparency and accountability of existing governance structures. Moving forward, **governments would do best to provide climate councils with sufficient resources, a formally established and clear mandate and concrete windows of opportunity for input into a long-term policy cycle**.

⁸⁸ The notable exception being the calculation of the indicative carbon budget for the period 2030-2050.

⁸⁹ UK CCC (2020). CCC Insights Briefing 2. London: UK Climate Change Committee

⁹⁰ See EEAC network’s mission and composition on their website <https://eeac.eu/> (accessed 26 January 2021).

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Annex I: Note on methodology

Analytical framework: National climate governance systems

Information about the governance system in each country was collected and organised along three essential qualities using a systematic analytical framework (see Table A1). Due to the diversity of European climate governance systems, especially considering that not all countries have adopted climate laws, we adopted a broad perspective to assess the current landscape.

Table A1: Three essential qualities of climate governance systems and their underlying criteria

Essential quality	Underlying criteria
Formality	<ul style="list-style-type: none"> • Frequent and regular planning, policy-making and progress monitoring cycles • Division and delegation of responsibility among relevant ministries and governmental agencies • Inter-ministerial coordination mechanism inside government • Adoption of a national framework law
Accountability	<ul style="list-style-type: none"> • Dedicated mechanism for public/stakeholder outreach • Level of public/stakeholder engagement • Involvement of Parliament • Dedicated national progress monitoring and reporting (beyond EU/UN obligations)
Specificity	<ul style="list-style-type: none"> • National interim, short- and long-term economy-wide emission reduction targets (= beyond EU obligations) • Processes for setting targets • Concrete and comprehensive policy packages • Trigger mechanism • Projected impact of policies is evaluated using climate scenarios • Long-term vision and cohesion

Importantly, certain characteristics of governance systems do not map perfectly onto a single essential quality. For instance, monitoring can be used to enhance *accountability* by outlining the effectiveness of current measures but can also increase the actionability of climate action if it includes reporting on projected or ex ante impacts of proposed measures. In our view, the latter function of monitoring feeds into the *specificity* of the governance system, insofar that the monitoring is based on the best available scientific evidence obtained from robust scenario-building exercises. Additionally, to streamline the task, we did not include every element of climate governance systems one could potentially investigate. Therefore, Table A1 is not meant to be an exhaustive take on what assessment criteria could be included. Instead, we selected descriptive assessment criteria to ensure a broad overview of all angles of national climate governance systems.

Countries were assigned a 'score' of high, medium or low for each essential quality based on the level of complexity of their climate governance systems, the robustness of interlocking institutions and the presence or absence of certain elements. Table A2 shows the standardised rubric used for this assessment, and Table A3 shows how countries were assessed along each essential quality. In many cases the lack or insufficiency of information collected made it difficult to assign a score; instances of missing data are indicated in each summary in Annex II.

Table A2: Standardised approach to assigning high/medium/low assessment to countries

FORMALITY	ACCOUNTABILITY	SPECIFICITY
<p>HIGH = should have climate law; should have coordination mechanism; should have both short- and long-term policy/planning cycles.</p> <p>MEDIUM = likely to have climate law, OR at least governance system outlined in other document; may have a coordination mechanism; should ideally have short- OR long-term policy/planning cycles</p> <p>LOW = does not have climate law or governance system outlined in other document; no coordination mechanism; may have short- OR long-term policy/planning cycles</p>	<p>HIGH = high to medium public engagement; ideally dedicated forum for stakeholder outreach; proactive OR dedicated and active role for Parliament; must have dedicated national progress monitoring; should have independent assessment by advisory body</p> <p>MEDIUM = high to medium public engagement; may have dedicated forum for stakeholder engagement; at least dedicated but passive role for Parliament; should have dedicated national progress monitoring</p> <p>LOW = low public engagement; no dedicated forum for stakeholder engagement; not more than dedicated but passive role for Parliament; no dedicated national progress monitoring process</p>	<p>HIGH = must have quantitative short- and long-term targets; should have process for setting at least short- and interim OR long-term targets; must have policy package in place or under discussion for 2030; may have trigger mechanism; must have 2050 coherence at least as guiding principle</p> <p>MEDIUM = should have quantitative short-term targets and at least qualitative long-term targets; should have process for setting at least short-term targets; should have national policy package in place or under discussion for 2030; should have 2050 coherence at least as guiding principle</p> <p>LOW = may have quantitative short-term and/or long-term targets; unlikely to have process for setting/revising targets; may have policy package (e.g. NECP); unlikely to have trigger mechanism for additional action; may have 2050 coherence mention</p>

*missing information counts for the purposes of scoring as 'element missing'

Table A3: Climate governance systems in EEA member countries and how they fall along three qualities: formality, accountability and specificity

Country	Formality	Accountability	Specificity	Climate Law
Belgium	LOW	LOW	LOW	no
Turkey	LOW	LOW	LOW	no
Poland	LOW	LOW	LOW	no
Greece	LOW	LOW	MEDIUM	planned
Slovenia	LOW	MEDIUM	LOW	no
Cyprus	LOW	MEDIUM	LOW	no
Romania	LOW	MEDIUM	LOW	no
Italy	MEDIUM	LOW	LOW	no
Slovakia	MEDIUM	LOW	LOW	no
Czechia	MEDIUM	LOW	LOW	no
Bulgaria	MEDIUM	MEDIUM	LOW	yes
Spain	MEDIUM	MEDIUM	LOW	draft
Hungary	HIGH	LOW	MEDIUM	yes
Latvia	MEDIUM	MEDIUM	MEDIUM	planned
Portugal	MEDIUM	MEDIUM	MEDIUM	draft
Liechtenstein	MEDIUM	MEDIUM	MEDIUM	yes
Malta	HIGH	MEDIUM	LOW	yes
Luxembourg	HIGH	MEDIUM	LOW	yes
Estonia	MEDIUM	MEDIUM	HIGH	no
Norway	MEDIUM	HIGH	MEDIUM	yes
Switzerland	MEDIUM	HIGH	MEDIUM	yes
Austria	HIGH	MEDIUM	MEDIUM	yes
Croatia	HIGH	MEDIUM	MEDIUM	yes
Finland	HIGH	MEDIUM	MEDIUM	yes
Lithuania	MEDIUM	HIGH	HIGH	no
Netherlands	MEDIUM	HIGH	HIGH	yes
Germany	HIGH	MEDIUM	HIGH	yes
Iceland	HIGH	HIGH	MEDIUM	yes
Ireland	HIGH	HIGH	MEDIUM	yes
Sweden	HIGH	HIGH	MEDIUM	yes
Denmark	HIGH	HIGH	HIGH	yes
France	HIGH	HIGH	HIGH	yes
United Kingdom	HIGH	HIGH	HIGH	yes

Analytical framework: National climate advisory bodies

The analysis of national climate advisory bodies was conducted in two distinct steps. In an initial scoping step, all existing bodies were identified and evaluated broadly along four broad but fundamental criteria (listed in Table A4). These criteria were determined in consultation with the EEA with the objective of obtaining a base understanding of the landscape of these bodies in EEA member countries plus the United Kingdom.

Table A4: Scoping criteria for national climate advisory bodies (criteria 1-3 factor into typology)

Criteria	Description
(1) Is the body DEDICATED ?	= established for the purpose of advising on climate policy = states in its mission statement that it serves to advise the government on climate policy
(2) Is the body INDEPENDENT ?	= the majority of members are NOT primarily government employees
(3) Is the body SCIENTIFIC or MIXED ?	= composed primarily of climate experts or a mix of stakeholders, scientists and/or public officials
(4) Is the body LEGALLY ENSHRINED ?	= formally established and/or mandated by a national climate law or similar regulation

Table A5: Common elements of climate change advisory bodies

Core element	Description
Mandate	<i>What is the role or function of the body...</i> <ul style="list-style-type: none"> • Mandate enshrined in law, separate regulation • Mandate vague, specific, broad • Mandate constrained, not constrained • Clear responsibilities and tasks • Function(s): watchdog, advisor, evaluator, convenor, quality control, information provision, researcher, regulator • Regular and frequent and/or <i>ad hoc</i> engagement in the national policy-making process • Self-determined tasks
Composition	<i>Who are the members...</i> <ul style="list-style-type: none"> • Number of members • Leadership • Types of members • How are members appointed • How long are appointments • Are members self-selected
Capacity	<i>What can it draw on to do its work...</i> <ul style="list-style-type: none"> • Resources (e.g., dedicated budget) • Secretariat • Supporting staff (e.g., communications, data analysts, scientific support staff) • Institutional arrangement (e.g. housed in a ministry or other governmental agency)
Visibility	<i>Does it have a public-facing side...</i> <ul style="list-style-type: none"> • Web/social media presence • Public engagement • Availability of publications
Enabling (or disabling) environment	<i>Is its political and societal context a help or hindrance...</i> <ul style="list-style-type: none"> • Political culture • Level of political buy-in • Reputation of members • Extent and frequency of government engagement/response

In a second step, informed by the typological comparison in the first step, a more detailed investigation of select advisory bodies was conducted aimed at an in-depth comparison of role and function. For this purpose, we identified five common elements to frame our analysis (see Table A5).

Data collection and sources

Data collection was completed generally in three phases, each stage building from and informed by the previous one. In the first step, we conducted a survey of each EU Member State's NECP and LTS as posted on the European Commission online repository. Annexes I and IV of the EU Governance Regulation provide general templates for both the NECP and LTS, respectively. In the case of the NECPs we focused on sections 1.1 through 1.4; and the entirety of section 1 for the LTSs, which is supposed to offer an overview of the development of the strategy. The level and quality of information differed significantly by country, especially considering that the EU templates only serve as a rough guide. Naturally, this step could only be completed for EU Member States (i.e., 27 of 33 countries).

Secondly, we conducted desk research to begin to fill in remaining information gaps using the websites of national agencies as well as ministerial and other government documents and publications. For countries with climate laws or similar overarching legislative instruments, we first considered the legislative text before turning to secondary academic sources and grey literature. National communications (i.e., the fourth Biennial Reports, BR4 and seventh National Communications, NC7) submitted under the UNFCCC formed another key source of information. These documents often include a description of national circumstances relevant to GHG reporting as well as policy-making processes and institutional arrangements.

To facilitate consistency in data collection, detailed information, including inter alia references, excerpts from primary sources and transcribed interview answers, were collected and organised in country datasheets. The data collection sheets employed predetermined answer scales to translate qualitative information into more easily combinable data points. This approach helped create a comprehensive summary matrix for all countries (found in Annex II), aid in the actual report writing and facilitate a comparative analysis between countries. Scales took the following forms:

- ▶ *Dichotomous* - e.g., yes/no existence of national targets beyond those set by EU
- ▶ *Range* - e.g., low/medium/high level of public/stakeholder engagement
- ▶ *Descriptive* - e.g., passive, active or proactive role of parliament
- ▶ *Open-ended* - e.g., short description of policy-making cycle

Even though researchers were prompted to answer on standardised scales, they were required to provide supporting or justifying information as well as sources in an open text field.

Semi-structured interviews

The research team conducted at least one semi-structured interview with national experts for more than 30 countries, focusing on those elements of the governance system with significant information gaps or where it was deemed necessary to verify information already obtained through desk research. The interviews as well as the accompanying workshop were conducted under the Chatham House Rule given the sensitivity of some policy-related issues and pending developments. As such, we have refrained from publishing the names and contacts of expert interviewees. We can, however, reach out to interviewees at the request of the reader.

Annex II: Overview of climate governance systems

COUNTRY	GOV SYS TYPE	FORMALITY	ACCOUNTABILITY	SPECIFICITY	FORMALITY	ACCOUNTABILITY	SPECIFICITY
Austria	2. Formal, without <i>some</i> detail <i>and</i> transparency	HIGH	MEDIUM	MEDIUM	HIGH: Climate law (first adopted 2011; revised 2017); Ministry for Climate Action is overall responsible; internal coordination mechanism enshrined in law ('National Climate Protection Committee, NKK'); 'action programmes' for periods of 2-4 years for sectoral emission limits enshrined in law	MEDIUM: Medium level of public engagement; dedicated forum for stakeholder outreach ('National Climate Protection Committee, NKK'); dedicated but passive and active roles of parliament enshrined in law; annual progress reporting and biennial review of Climate Act enshrined in law	MEDIUM: Quantitative long-term target (short-term targets are EU minimums broken out by sector); clear process for setting short-term targets (sectoral); policy package in development for 2030 ('Climate and Energy Strategy'); trigger mechanism enshrined in law; long- and short-term coherence a general guiding principle in climate law
Belgium	1. EU/UN baseline	LOW	LOW	LOW	LOW: Semi-coherent governance system outlined across numerous government documents; regions are responsible for various sectors relevant to climate policy-making, National Climate Commission has some overarching responsibility, ad hoc steering group est. for NECP development, LTS was developed in a composite manner with input from regions; internal coordination mechanism(s); no policy-making/planning system at the national level aside from NECP/LTS	LOW: Medium level of public engagement; semi-dedicated forum for stakeholder outreach; dedicated but passive role of parliament; no national progress monitoring beyond EU/UN obligations	LOW: Quantitative short-term targets (regional long-term targets); no clear process for target; policy package in place for 2030 established only in NECP
Bulgaria	2. Formal, weak spot	MEDIUM	MEDIUM	LOW	MEDIUM: Climate law (first adopted 2014 and amended several times since); clear overall responsibility for Ministry of Environment enshrined in climate law; internal coordination mechanism; a National Action Plan on Climate Change is defined in the climate law and updated, but no regular frequency is defined	MEDIUM: High level of public engagement; dedicated forum for stakeholder engagement enshrined in law ('National Expert Council on Climate Change'); dedicated but passive role of parliament; biennial progress check for National Action Plan by inter-ministerial coordination working group	LOW: No economy-wide targets; no clear process for setting targets; policy package in place for 2030; long- and short-term coherence manifests in practice due to internal requirements to build on NECP measures
Croatia	2. Formal, without <i>some</i> detail <i>and</i> transparency	HIGH	MEDIUM	MEDIUM	HIGH: Climate law (first adopted 2019); Ministry of Environment responsible overall enshrined in law; internal coordination mechanism enshrined in law; five-year action plans for climate mitigation and long-term strategy updated every 5 years as necessary enshrined in law	MEDIUM: Medium level of public engagement; semi-dedicated forum for stakeholder outreach ('Economic and Social Council'); dedicated and active role of parliament enshrined in law; stakeholder platform ('Commission for Intersectoral Coordination for Policies and Measures for Climate Change Mitigation and Adaptation') reports on progress, but no defined frequency, Ministry of Environment does biennial review	MEDIUM: Quantitative long-term targets (non-ETS short-term targets), no clear process for setting targets; policy package in place ('Action Plan for the Low Carbon Strategy'); long- and short-term cohesion enshrined in climate law

COUNTRY	GOV SYS TYPE	FORM-ALITY	ACCOUNT-ABILITY	SPEC-IFICITY	FORMALITY	ACCOUNTABILITY	SPECIFICITY
Cyprus	1. EU/UN baseline plus	LOW	MEDIUM	LOW	LOW: No overall system other than standard responsibility for the policy field by a ministry/related agencies; Ministry of Agriculture, Rural Development and Environment is overall responsible; internal coordination mechanism ('National Governance System for Climate and Energy'); policy-making cycle defined by NECP process <i>Inadequate or no information on cycles of long-term climate planning</i>	MEDIUM: Medium level of public engagement; dedicated but passive role of parliament; biennial report on climate change policy progress is produced by the environment ministry	LOW: Quantitative long-term target; policy package in place for 2030 established only in NECP; long- and short-term coherence vaguely implied in various policy documents <i>Inadequate or no information on process for setting targets</i>
Czech Republic	1. EU/UN baseline plus	MEDIUM	LOW	LOW	MEDIUM: No overall system other than standard responsibility for the policy field by a ministry/related agencies; Ministry of Environment is responsible for overall climate policy and prepares LTS, Ministry of Industry and Trade prepares NECP; internal coordination mechanism (doubles as stakeholders forum); short-term policy-making based on NECP cycle and LTS to be revised every 5-7 years	LOW: Medium level of public engagement; two dedicated fora for stakeholder engagement ('Commission for Climate Action' and 'MPS Klima'); standard legislative role of parliament; specific monitoring cycles for specific documents, e.g., LTS review but most activities do not go beyond EU/UN obligation	LOW: Quantitative short- and long-term plus interim targets (2040 and 2050 are indicative); no clear process for setting targets; policy package in place for year 2030 (NECP, which includes numerous national sectoral plans as well as a 'National Emissions Reduction Programme'); long- and short-term coherence a general guiding principle laid forth in a policy document
Denmark	3. Formal, strong	HIGH	HIGH	HIGH	HIGH: Climate law (first adopted 2014, replaced 2020); Ministry of Climate, Energy and Utilities responsible for overall climate policy and NECP/LTS development; annual 'climate action plans' and five-year 'climate program' with a ten-year perspective and milestone targets, enshrined in law	HIGH: High level of public engagement enshrined in law; dedicated forum for stakeholder outreach ('Climate Dialogue Forum'); proactive role of parliament enshrined in law; national progress monitoring as part of annual climate program enshrined in law; Climate Council publishes independent evaluation of annual Climate Programme including impact projections, enshrined in law	HIGH: Quantitative short and long-term targets plus interim targets; clear process for setting short-term and interim targets; policy package in development for 2030 ('Climate Program'); trigger mechanism enshrined in law; long- and short-term coherence enshrined in climate law
Estonia	2. Informal, without some detail or transparency	MEDIUM	MEDIUM	HIGH	MEDIUM: Coherent governance system outlined concretely in some other form (binding document 'GPCP2050'); Ministry of Environment has overall responsibility; Ministry of Economy responsible for NECP; internal coordination mechanism (est. 2019); no policy-making/planning system at the national level aside from NECP/LTS: NECP to be drawn up every 5 years and LTS reviewed/updated every 4 years if necessary, system enshrined in binding document	MEDIUM: High to medium level of public engagement, enshrined in various laws; dedicated and active and proactive roles of parliament; progress monitoring every four years on climate plans but also annual performance reports by ministries	HIGH: Quantitative short, interim and long-term targets; no clear process for setting short-term or interim targets; long-term target updated if needed every 4 years; current package in place for 2030 (includes 71 PAMs); trigger mechanism in practice not formally enshrined; short- and long-term cohesion a general principle in a policy document

COUNTRY	GOV SYS TYPE	FORMALITY	ACCOUNTABILITY	SPECIFICITY	FORMALITY	ACCOUNTABILITY	SPECIFICITY
Finland	2. Formal, without some detail and transparency	HIGH	MEDIUM	MEDIUM	HIGH: Climate law (first adopted 2015) pending revision; Ministry of Economic Affairs responsible for long-term and Ministry of the Environment responsible for medium-term climate policy; internal coordination mechanism; climate plan every four years; long-term strategy every ten years enshrined in law	MEDIUM: High level of public engagement, enshrined in law; dedicated but passive role of parliament enshrined in law; annual progress reporting and biennial policy evaluation enshrined in law; Climate Panel gives it opinion on plans and strategies	MEDIUM: Quantitative short- and long-term targets; no clear process for target setting; policy package for 2030 ('National Energy and Climate Strategy'); long- and short-term cohesion enshrined in climate law
France	3. Formal, strong	HIGH	HIGH	HIGH	HIGH: Climate law (first adopted in 2015, revised 2019); government holds lead responsibility; internal coordination mechanism, (inter-ministerial high level coordination); carbon budgets every five years with ten year horizons enshrined in law; long-term plan set out in 'Stratégie Nationale Bas Carbone' regularly updated every five years	HIGH: High level of public engagement; dedicated forum for stakeholder engagement; dedicated but passive role of parliament enshrined in law (somewhat active - parliament does have a say in carbon budgets); annual progress reporting by the HCC with obligation to respond from the government, enshrined in law	HIGH: Quantitative short-, interim and long-term targets; clear process for setting short and interim targets (carbon budget system); policy package in place for 2030 ('Programmation pluri-annuelle de l'énergie'); long- and short-term coherence referred to in plans
Germany	3. Formal, without some transparency	HIGH	MEDIUM	HIGH	HIGH: Climate law (first adopted 2019); responsibility split between Economics and Energy Ministry (for NECPs) and Environment Ministry (LTS); internal coordination mechanism; policy packages and updates to long-term strategy every five years enshrined in law	MEDIUM: Medium level of public engagement enshrined in law; dedicated forum for stakeholder outreach ('Aktionsbündnis Klimaschutz'); dedicated and active role of parliament; regular progress reporting cycle, makes data public, but no debate mandatory; no independent assessment by expert council under climate law but monitoring of progress of energy transformation.	HIGH: Quantitative short- and long-term plus interim targets; clear process for setting targets enshrined in climate law; policy package in place for 2030; trigger mechanism enshrined in law; long- and short-term coherence is implied in climate law
Greece	1. EU/UN baseline	LOW	LOW	MEDIUM	LOW: Climate law in discussion; the Ministry of the Environment and Energy is primarily responsible for climate policy creation; internal coordination mechanism ('Government Committee for Energy and Climate'); no policy-making/planning system at the national level aside from NECP/LTS	LOW: Medium level of public engagement; dedicated but passive role of parliament; no national progress monitoring currently as such a system is in development; advisory body ('Special Scientific Committee for Climate Change') provides recommendations in an ad hoc manner but does not play a watchdog role	MEDIUM: Quantitative short- and long-term targets; no clear process for setting targets; policy package in place for 2030 established only in NECP; long- and short-term coherence a general guiding principle laid forth in a policy document
Hungary	2. Formal, weak	HIGH	LOW	MEDIUM	HIGH: Climate law (first adopted 2020); Ministry of Innovation and Technology responsible overall; internal coordination mechanism; Climate Change Action Plans (first approved for one-year period, next to be approved for three-year periods), mandated by Parliamentary decree; LTS to be revised every five-years	LOW: Medium level of public engagement; standard legislative role of parliament; monitoring primarily within EU and UN obligations	MEDIUM: Quantitative short- and long-term targets; clear process for setting short- and long-term targets; policy package in place for 2020; long- and short-term coherence implied in climate law

COUNTRY	GOV SYS TYPE	FORMALITY	ACCOUNTABILITY	SPECIFICITY	FORMALITY	ACCOUNTABILITY	SPECIFICITY
Iceland	3. Formal, without some detail	HIGH	HIGH	MEDIUM	HIGH: Climate law (first adopted 2012, last revised 2019); Ministry of Environment holds overall responsibility; internal coordination mechanism enshrined in law (inter-ministerial project committee in charge of proposing and implementing actions and submitting a yearly progress report to Environment Minister); action plan every four years enshrined in law	HIGH: High level of public engagement enshrined in law; dedicated forum for stakeholder outreach ('Icelandic Climate Council,' additional outreach to business community through the 'Green Platform'); standard legislative role of parliament; yearly progress reports from Government (inter-ministerial project committee), enshrined in law, Icelandic Climate Council draws up annual reports as well but this is not mandated	MEDIUM: Quantitative short- and long-term targets established in governmental agreement but not yet reflected in national legislation; no clear process for setting targets; policy package in place for 2030 ('Climate Action Plan'); trigger mechanism enshrined in law
Ireland	3. Formal, without some detail	HIGH	HIGH	MEDIUM	HIGH: Climate law (first adopted 2015) pending revision; Department of Communications, Climate Action and Environment and its Minister overall responsible for climate policy-making enshrined in law; internal coordination mechanism enshrined in law ('Climate Action Delivery Board'); five-year national mitigation plans enshrined in law (law revision to include long-term planning cycle)	HIGH: Medium level of public engagement, enshrined in law; temporary forum for stakeholder engagement ('Citizens Assembly'); dedicated but passive (plus some proactive) roles of parliament; annual progress reporting enshrined in law; annual and ad hoc review by Advisory Council, enshrined in law	MEDIUM: Quantitative long-term targets (short-term targets not economy-wide); no clear process for target setting; policy package in place for 2030 ('Climate Action Plan'); long- and short-term coherence enshrined in climate law
Italy	1. EU/UN baseline	MEDIUM	LOW	LOW	MEDIUM: No overall system other than standard responsibility for the policy field by a ministry/related agencies, 'Climate Decree' in October 2019 establishes funding programs and a working group on climate; Ministry of Environment and Protection of the Territory and the Sea is mainly responsible for climate policy (NECP was developed jointly with Economic Ministry); internal coordination mechanism; short-term policy-making based on NECP cycle, currently no LTS	LOW: Medium level of public engagement; dedicated but passive role of parliament; no formal system for national progress reporting beyond EU/UN obligations	LOW: No economy-wide targets (separate non-ETS and ETS targets established); no clear process for target setting; policy package in place for 2030 established only in NECP; short- and long-term policy coherence implied vaguely in policy document (NECP)
Latvia	1. EU/UN baseline plus	MEDIUM	MEDIUM	MEDIUM	MEDIUM: Climate law in discussion; Ministry for Environmental Protection is responsible overall; Ministry of Economics coordinates NECP; internal coordination mechanism enacted by Cabinet order; short-term climate plan made every six years; long-term strategy reviewed every ten years	MEDIUM: High to medium level of public engagement; dedicated forum for stakeholder outreach ('Environmental Advisory Council'); dedicated but passive role of parliament; annual progress reporting enshrined in law	MEDIUM: Quantitative short-, interim and long-term targets; no clear process for setting targets; current package in place for 2030 includes of 6 PAMs and 16 activities; trigger mechanism in practice not formally enshrined; long- and short-term coherence is guiding principle laid forth in a policy document
Liechtenstein	2. Formal, weak spot	MEDIUM	MEDIUM	MEDIUM	MEDIUM: Two climate laws (covering ETS/2020 target adopted in, 2012, and a CO2 emissions reduction law, 2013), laws and targets under revision; Office of the Environment holds clear responsibility on climate policy; informal coordination happens in practice due to the size of the government; cycles of policy-making are not clear	MEDIUM: High level of public engagement (unique 'open door' policy with NGOs/businesses etc.); proactive role of parliament; no clear system of national progress monitoring	MEDIUM: Quantitative short- and long-term targets; no clear process for setting targets; policy package in place (included in the national CO2 law and ordinance)

COUNTRY	GOV SYS TYPE	FORMALITY	ACCOUNTABILITY	SPECIFICITY	FORMALITY	ACCOUNTABILITY	SPECIFICITY
Lithuania	3. Informal, strong	MEDIUM	HIGH	HIGH	MEDIUM: Coherent governance system outlined concretely in multiple policy documents, including the Law on Financial Instruments for Climate Change Management (2009); responsibilities are assigned across different regulations, including on the LTS which has a legal form and is approved by the parliament, Ministry of Environment responsible overall; NECP prepared jointly by Ministry of Energy and Ministry of Environment, responsibilities enshrined in law; internal coordination mechanism enshrined in law; national climate plan is prepared for the three years and is updated annually by adding one more year; LTS ('National Climate Change Management Policy Strategy') is updated every 10 years (every 5 years if necessary)	HIGH: High level of public engagement enshrined in law; dedicated forum for stakeholder outreach ('National Climate Change Committee'); dedicated and active role of parliament enshrined in law; annual monitoring cycle binding for state and municipal institutions involved in implementing the LTS enshrined in law.	HIGH: Quantitative short- and long-term plus interim targets; clear process for setting short- and long-term plus interim targets; policy package in place for year 2030 ('National Climate Plan') and 2050, 2050 ('National Climate Change Management Policy Strategy') being revised (new LTS); trigger mechanism in practice but not formally enshrined; long- and short-term coherence enshrined in regulation (LTS)
Luxembourg	2. Formal, weak spot	HIGH	MEDIUM	LOW	HIGH: Climate law (first adopted 2020); Ministry for Environment, Climate and Sustainable Development responsible for climate policy overall with LTS and NECP development split formally between environment and energy ministries (enshrined in law); internal coordination mechanism (not enshrined in law); formal cycle for iterative climate policy-making and planning that follows EU NECP/LTS cycles enshrined in law (for both short and long term)	MEDIUM: Medium level of public engagement; dedicated forum for stakeholder dialogue ('Climate Action Platform'); dedicated but passive role for parliament; national progress monitoring system at a sectoral level and Climate Observatory has annual reporting obligations	LOW: Quantitative long-term targets (enshrined in law); no clear process for setting targets; NECP forms policy package in place for 2030 but only lists some policies; long- and short-term coherence implied in climate law
Malta	2. Formal, weak spot	HIGH	MEDIUM	LOW	HIGH: Climate law (first adopted 2015, amended 2020); Ministry for the Environment, Climate Change and Planning is overall responsible for climate change and for LTS development; internal coordination mechanism est. for NECP development and remained in place afterwards; short-term policy-making follows NECP cycle; low-carbon development strategy is reviewed and updated periodically at least every five years, enshrined in law	MEDIUM: High level of stakeholder engagement, enshrined in law; dedicated forum for stakeholder engagement ('Climate Action Board'); dedicated but passive role of parliament; annual reporting by ministry and Climate Action Board to parliament, enshrined in law.	LOW: No national economy-wide targets (but: non-ETS target covers effectively most emissions); no clear process for setting targets; policy package in place for 2030 established only in NECP <i>Inadequate or no information on a trigger mechanism and long- and short-term coherence</i>

COUNTRY	GOV SYS TYPE	FORM-ALITY	ACCOUNT-ABILITY	SPEC-IFICITY	FORMALITY	ACCOUNTABILITY	SPECIFICITY
Netherlands	3. Informal, strong	MEDIUM	HIGH	HIGH	MEDIUM: Climate law (first adopted 2019); Ministry for Economic Affairs and Climate overall responsible enshrined in law; five-year planning cycle ('Climate Plan') with ten-year horizon aimed at 2030 and 2050	HIGH: High level of public engagement enshrined in law; temporary forum for stakeholder outreach through the 'National Climate Agreement' process; dedicated and active role of parliament; biennial progress reporting on Climate Plan, enshrined in law; annual reporting by in-house advisory body ('PBL') on emissions projections and policy impacts	HIGH: Quantitative short- and long-term targets; clear process for setting short-term targets; policy package in place for 2030 ('Climate Plan'); trigger mechanism enshrined in law; long- and short-term coherence a general guiding principle laid forth in a policy document (NECP)
Norway	2. Informal, without some detail or transparency	MEDIUM	HIGH	MEDIUM	MEDIUM: Climate law (first adopted 2017); Ministry for Climate and Environment overall responsible for climate policy and coordination; additional responsibilities fall to Parliament and Environmental Agency; no clear policy or planning system other than target revision/review in five-year cycles	HIGH: Medium level of public engagement guiding principle enshrined in law; dedicated forum for stakeholder outreach ('Climate Council'); dedicated but passive and active roles of parliament; annual progress and GHG projections reporting connected to budget proposal enshrined in law	MEDIUM: Quantitative short- and long-term targets; clear process for setting short-term targets; policy package for 2030 in development; long- and short-term cohesion enshrined in climate law
Poland	1. EU/UN baseline	LOW	LOW	LOW	LOW: No overall system other than standard responsibility for the policy field by a ministry/related agency; dedicated Climate Ministry responsible overall and for NECP, Ministry of Economic Development responsible for LTS; internal coordination mechanism (Climate Ministry); policy-making cycles are reactive, and based on EU targets	LOW: Medium level of public engagement; planned dedicated forum for stakeholder outreach ('Youth Climate Council'); standard legislative role of parliament; no national progress monitoring beyond EU/UN obligations.	LOW: No national economy-wide targets, no clear process for setting targets; policy package in place for 2030 established only in NECP, which is composed of existing sectoral policies
Portugal	1. EU/UN baseline plus	MEDIUM	MEDIUM	MEDIUM	MEDIUM: Draft climate law is under discussion; semi-coherent governance system outlined in NECP; Ministry of Environment and Climate Action responsible overall, with the support of Portuguese Environmental Agency, who prepare the LTS, NECP was developed by DG for Energy and Geology under the Ministry of Economy; internal coordination mechanism exists and is enshrined in government regulation; NECP represents the policy-making cycle to meet short-term targets and LTS is to be updated every ten years	MEDIUM: High level of public engagement; proactive role of parliament; National System for Policies and Measures which includes monitoring of policies, measures and forecasts that impact on energy transition, enshrined in separate regulation	MEDIUM: Quantitative short- and long-term plus interim targets; no clear process for target setting; policy package in place for 2030 established only in NECP; long- and short-term coherence a general guiding principle laid forth in a policy document

COUNTRY	GOV SYS TYPE	FORM-ALITY	ACCOUNT-ABILITY	SPEC-IFICITY	FORMALITY	ACCOUNTABILITY	SPECIFICITY
Romania	1. EU/UN baseline plus	LOW	MEDIUM	LOW	LOW: No overall system other than standard responsibility for the policy field by a ministry/related agencies; Ministry of Environment, Water and Forest overall responsible, prepares the LTS, NECP is developed jointly with the Ministry of Energy; short-term targets are to be met with National Action Plans, initially developed for four-year period, the new ones will be developed for five- or ten-year period but the process is not yet defined	MEDIUM: Medium level of public engagement; dedicated and active, dedicated but passive and proactive roles of parliament, depending on type of document; quarterly reports on progress in implementing policies and measures for each institution involved	LOW: No national economy-wide targets; no clear process for setting targets; policy package in place for 2020 ('National Action Plan'), NECP prepared for 2030, other plans in development
Slovakia	1. EU/UN baseline	MEDIUM	LOW	LOW	MEDIUM: Climate law in discussion, semi-coherent governance system outlined across numerous government documents; responsibilities clearly assigned and split between Ministry of Economy (short-term) and Environment (long-term); internal coordination mechanism (established for the preparation of the Low Carbon Strategy 2050); recurring five-year cycles of long-term planning through separate processes for energy and climate policy <i>Inadequate or no information on short-term policy cycle</i>	LOW: Medium level of public engagement; standard legislative role of parliament; no national progress monitoring progress beyond EU/UN obligations (although proposed Council of the Government of the Slovak Republic for the European Green Deal and Low-Carbon Transformation with advisory and coordination role could potentially improve accountability)	LOW: Quantitative long-term target; no clear process for setting targets; policy package in place for 2030 established only in NECP <i>Inadequate or no information short- and long-term policy cohesion</i>
Slovenia	1. EU/UN baseline	LOW	MEDIUM	LOW	LOW: No overall system (the LTS, now in draft form, will outline a comprehensive governance system); Ministry of Environment and Spatial Planning is responsible overall and for the preparation of the LTS, Ministry of Infrastructure led an intergovernmental working group that prepared the NECP; no policy-making/planning system at the national level aside from NECP/LTS	MEDIUM: High level of public engagement; temporary forum for stakeholder outreach ('Multi-level Climate and Energy Dialogue') existed for the purpose of consulting on the NECP; dedicated and active (for LTS), dedicated but passive roles (for NECP) of parliament; Climate and Energy Council monitors the implementation and strategic decision-making in the transition to a climate-neutral society, but in this role does not go beyond EU/UN obligations	LOW: Quantitative long-term target; no clear process for setting targets; policy package in place for 2030 established only in NECP; long- and short-term coherence a general guiding principle laid forth in a policy document
Spain	1. EU/UN baseline plus	MEDIUM	MEDIUM	LOW	MEDIUM: Draft climate law in development; Climate Change Office under Ministry for Ecological Transition and Demographic Challenge is overall responsible, Secretary of Energy focuses on NECP/LTS development, enshrined in law; internal coordination system ('Commission for the Coordination of Climate Change Policies, CCPCC'), enshrined in law; no additional policy-making cycle beyond EU obligations (NECP, LTS)	MEDIUM: Medium level of public engagement; dedicated stakeholder outreach body ('National Climate Council, CNC'); planned dedicated but passive role of Parliament; no progress reporting currently, beyond EU/UNFCCC obligations.	LOW: Quantitative short- and long-term targets; no clear process for setting targets; current policy package in development for 2030 with pending law (currently policies outlined in NECP); short- and long-term cohesion implied in a policy document (draft LTS mentions in its preamble that LTS, NECP and the Adaptation strategy need to be harmonised)

COUNTRY	GOV SYS TYPE	FORMALITY	ACCOUNTABILITY	SPECIFICITY	FORMALITY	ACCOUNTABILITY	SPECIFICITY
Sweden	3. Formal, without some detail	HIGH	HIGH	MEDIUM	HIGH: Climate law (enacted 2018); government is responsible, Ministry of Environment holds overall competencies for climate; internal coordination mechanism; climate action plan every four years	HIGH: Medium level of public engagement; proactive, dedicated and active roles of parliament enshrined in law; annual climate statement (incl. progress report, policy impact assessment and policy evaluation) with budget proposal enshrined in law; Climate Policy Council provides annual reporting as well as evaluation of government plan at least three months after its publication	MEDIUM: Quantitative short- and long-term plus interim targets; no process for setting targets; policy package in place for 2030 ('Climate Action Plan'); long- and short-term cohesion enshrined in climate law
Switzerland	2. Informal, without some detail or transparency	MEDIUM	HIGH	MEDIUM	MEDIUM: Climate law (first adopted 2011) pending revision; Federal Department of the Environment, Transport, Energy and Communications (DETEC) holds overall responsibility for long- and short-term policy-making; no formal cycle of policy-making to meet either short- or long-term targets, done in an ad hoc fashion that is linked to a tradition of direct democracy and thus revised usually to account for UN obligations	HIGH: High level of public engagement (tradition of direct democracy); dedicated and active role of parliament; regular monitoring by DETEC and via OCCO (advisory body's) annual reporting	MEDIUM: Quantitative short- and long-term targets; long- and short-term targets setting responds to Swiss participation in UN regime; policy package in place ('Strategie Energetique 2050' and 'Long-term climate strategy to 2050'); long- and short-term coherence implied in various policy documents
Turkey	1. EU/UN baseline	LOW	LOW	LOW	LOW: Draft climate law in development; clear responsibility of overall climate policy (Ministry of Environment and Urbanization); internal coordination mechanism; no frequent and recurring cycles for strategic planning or short-term policy-making	LOW: Medium level of stakeholder engagement; semi-dedicated forum for stakeholder outreach ('Climate Change and Air Management Coordination Board'); dedicated but passive role of parliament; no national progress monitoring beyond UN obligations	LOW: Quantitative short-term target; no clear process for setting targets; no meaningful and effective police packages to meet targets
UK	3. Formal, strong	HIGH	HIGH	HIGH	HIGH: Climate law (first adopted 2008, revised in 2019); government holds lead responsibility with the State Secretariat for Business, Energy and Industrial Strategy as coordinator enshrined in law; sector-specific 'proposals and policies' designed for each successive emission budget and towards 2050 every five years with ten year horizons enshrined in law; long-term plan set out in 'Clean Growth Strategy' but no regular cycle	HIGH: High level of public engagement; dedicated and active role of parliament enshrined in law; annual progress reporting by Climate Change Committee and government (to parliament) enshrined in law	HIGH: Quantitative short-, interim and long-term targets; clear process for setting short and interim targets (carbon budget system); policy package in place for 2030 ('Clean Growth Strategy'); trigger mechanism in practice (as function of carbon budget system); long- and short-term coherence enshrined in climate law

Annex III: Full typology of national climate change advisory bodies

COUNTRY	NAME	EST. (RE-NEWED)	DEDICATED?	INDEPENDENT?	SCIENTIFIC or MIXED?	COMPOSITION	LEGALLY ENSHRINED?	TYPE	
Austria	National Climate Protection Committee (<i>Nationaler Klimaschutzkomitee, NKK</i>)	2011 (2017)	YES	NO	MIXED	Scientists, government officials and stakeholders (trade associations, NGOs and research institutions)	YES, BY CLIMATE LAW	4a	Stakeholder and Inter-ministerial Roundtable on Climate
Belgium	Federal Council for Sustainable Development Belgium (FRDO-CFDD)	1997	NO	YES	MIXED	Scientists, CSO representatives, one representative of each ministry, and a representative from each region.	YES, BY SEPARATE REGULATION OR RESOLUTION	4b	Stakeholder and Inter-ministerial Roundtable on Environment/Sustainable Development
Bulgaria	National Expert Council on Climate Change	2014	YES	YES	MIXED	Scientists, government officials and stakeholders (environmental NGOs, businesses and local municipal agencies) <i>Composition varies by topic under discussion.</i>	YES, BY CLIMATE LAW	3a	Stakeholder Engagement Platform on Climate
Croatia	Commission for Intersectoral Coordination for Policies and Measures for Climate Change Mitigation and Adaptation	2019	YES	YES	MIXED	Scientists, government officials and stakeholders (trade associations, NGOs, Chamber of Commerce and research institutions)	YES, BY CLIMATE LAW	3a	Stakeholder Engagement Platform on Climate
Croatia	National Council for Sustainable Development	2018	NO	NO	MIXED	Primarily governmental officials but can call on stakeholder members to take part in platform	YES, BY SEPARATE REGULATION OR RESOLUTION	4b	Stakeholder and Inter-ministerial Roundtable on Environment/Sustainable Development
Cyprus	no body identified	-	-	-	-	-	-	-	no body identified
Czechia	Government Council for Sustainable Development	2003 (2010)	NO	NO	MIXED	Representatives of all ministries, both chambers of the Parliament, municipalities, NGOs, trade unions, academia, industry, agriculture and research.	YES, BY SEPARATE REGULATION OR RESOLUTION	4b	Stakeholder and Inter-ministerial Roundtable on Environment/Sustainable Development
Czechia	Commission for Climate Action under the Research, Development and Innovation Council	2019	YES	YES	MIXED	Scientists, representatives of industry and NGOs (2 Industry, 5 NGO, 4 Czech Academy, 3 Universities, 1 NMHS)	YES, BY SEPARATE REGULATION OR RESOLUTION	3a	"Stakeholder Engagement Platform for Climate Research"
Czechia	Czech Hydrometeorological Institute	1953	NO	NO	SCIENTIFIC	Scientists only	YES, BY SEPARATE REGULATION OR RESOLUTION	2b	In-house Scientific Environmental/Sustainable Development Advisory Body
Denmark	Council on Climate Change (<i>Klimarådet</i>)	2014 (2020)	YES	YES	SCIENTIFIC	Scientists only	YES, BY CLIMATE LAW	1a	Independent Scientific Climate Council
Denmark	2030 Panel (<i>2030-Panelet</i>)	2017	NO	YES	MIXED	Scientists, business and trade association representatives, NGOs	EST. BY PARLIAMEN-TARY NETWORK	3b	Stakeholder Engagement Platform on the Environment/Sustainable Development
Estonia	National Commission for Sustainable Development	1996	NO	YES	MIXED	Primarily representatives from NGOs	YES, BY SEPARATE REGULATION OR RESOLUTION	3b	Stakeholder Engagement Platform on the Environment/Sustainable Development

COUNTRY	NAME	EST. (RE-NEWED)	DEDICATED?	INDEPENDENT?	SCIENTIFIC or MIXED?	COMPOSITION	LEGALLY ENSHRINED?	TYPE	
Estonia	Estonian Environmental Research Centre (EERC)	2005	NO	YES	SCIENTIFIC	Scientists only, but work is overseen by governmental officials who sit on the board	NO	1b	Independent Scientific Environment/Sustainable Development Council
Finland	Climate Panel (<i>Suomen Ilmasto-paneeli</i>)	2012	YES	YES	SCIENTIFIC	Scientists only	YES, BY CLIMATE LAW	1a	Independent Scientific Climate Council
Finland	Climate Policy Roundtable (<i>Ilmasto-politiikan pyöreä pöytä</i>)	2020	YES	NO	MIXED	Government officials and stakeholders, including representatives of trade associations and NGOs	EST. UNDER THE NATIONAL COMMISSION FOR SUSTAINABLE DEVELOPMENT	4a	Stakeholder and Inter-ministerial Roundtable on Climate
Finland	National Commission for Sustainable Development (<i>Kestävän kehityksen toimikunta</i>)	1993	NO	YES	MIXED	Scientists and representatives of NGOs and private sector	YES, BY SEPARATE REGULATION OR RESOLUTION	3b	Stakeholder Engagement Platform on the Environment/Sustainable Development
Finland	Expert Panel for Sustainable Development (<i>Kestävyyspaneeli</i>)	2013	NO	YES	SCIENTIFIC	Scientists only	EST. UNDER THE NATIONAL COMMISSION FOR SUSTAINABLE DEVELOPMENT	1b	Independent Scientific Environment/Sustainable Development Council
France	High Council on Climate (<i>Haut Conseil pour le Climat</i>)	2019	YES	YES	SCIENTIFIC	Scientists only	YES, BY CLIMATE LAW	1a	Independent Scientific Climate Council
France	National Council for Ecological Transition (<i>Conseil national de la transition écologique</i>)	2013	NO	NO	MIXED	Local authorities, businesses, trade union organisations, environmental associations, NGOs, experts, and members of parliament.	YES, BY SEPARATE REGULATION OR RESOLUTION	4b	Stakeholder and Inter-ministerial Roundtable on Environment/Sustainable Development
Germany	Council of Experts on Climate Change (<i>Klimaexpertenrat</i>)	2020	YES	YES	SCIENTIFIC	Scientists only	YES, BY CLIMATE LAW	1a	Independent Scientific Climate Council
Germany	Scientific Platform for Climate Protection (<i>Wissenschaftsplattform Klimaschutz</i>)	2019	YES	YES	SCIENTIFIC	Scientists only	YES, BY SEPARATE REGULATION OR RESOLUTION	1a	Independent Scientific Climate Council
Germany	Expert Commission of the Monitoring Process "Energy of the Future" (Short: Energy Transition Monitoring Commission) (<i>Energiewende Monitoring Kommission</i>)	2011	YES	YES	SCIENTIFIC	Scientists only	YES, BY SEPARATE REGULATION OR RESOLUTION	1a	Independent Scientific Climate Council
Germany	Aktionsbündnis Klimaschutz	2015	YES	YES	MIXED	Civil society organizations, business and trade associations, youth organizations, research institutions,	YES, BY SEPARATE REGULATION OR RESOLUTION	3a	Stakeholder Engagement Platform on Climate
Germany	German Council for Sustainable Development (RNE)	2001	NO	YES	MIXED	Scientists and stakeholders (NGOs, businesses, trade and municipal associations)	YES, BY SEPARATE REGULATION OR RESOLUTION	3b	Stakeholder Engagement Platform on the Environment/Sustainable Development
Germany	German Advisory Council on Global Change (<i>WBGU</i>)	1992	NO	YES	SCIENTIFIC	Scientists only	YES, BY SEPARATE REGULATION OR RESOLUTION	1b	Independent Scientific Environment/Sustainable Development Council
Germany	German Advisory Council on the Environment (<i>SRU</i>)	1971	NO	YES	SCIENTIFIC	Scientists only	YES, BY SEPARATE REGULATION OR RESOLUTION	1b	Independent Scientific Environment/Sustainable Development Council
Greece	Special Scientific Committee for Climate Change	2019	YES	YES	SCIENTIFIC	Scientists only	YES, BY SEPARATE REGULATION OR RESOLUTION	1a	Independent Scientific Climate Council

COUNTRY	NAME	EST. (RE-NEWED)	DEDICATED?	INDEPENDENT?	SCIENTIFIC or MIXED?	COMPOSITION	LEGALLY ENSHRINED?	TYPE	
Hungary	Hungarian Panel on Climate Change (HPCC)	2020	YES	YES	MIXED	Scientists, stakeholders, government, trade associations, representatives of private companies	YES, BY SEPARATE REGULATION OR RESOLUTION	3a	Stakeholder Engagement Platform on Climate
Hungary	Scientific Advisory Panel on Climate Change (APCC)	2019	YES	NO	SCIENTIFIC	Scientists and government officials	NO	2a	In-house Scientific Climate Advisory Body
Hungary	National Council for Sustainable Development (Nemzeti Fenntartható Fejlesztési Tanács, NFFT)	2008	NO	NO	MIXED	Politicians, representatives of economic and scientific life, churches, trade unions and civil society. The chairperson of the Council is the current Speaker of Parliament	YES, BY SEPARATE REGULATION OR RESOLUTION	4b	Stakeholder and Inter-ministerial Roundtable on Environment/Sustainable Development
Hungary	National Environmental Council (NEC)	1995	NO	YES	MIXED	Scientists, government officials and stakeholders (NGOs, unions, associations and organisations as well as members of the Hungarian Academy of Sciences)	YES, BY SEPARATE REGULATION OR RESOLUTION	3b	Stakeholder Engagement Platform on the Environment/Sustainable Development
Iceland	Icelandic Climate Council (<i>Loftslagsráð</i>)	2012	YES	YES	MIXED	Scientists and stakeholders (business, municipalities and NGOs)	YES, BY CLIMATE LAW	3a	Stakeholder Engagement Platform on Climate
Ireland	National Economic and Social Council (NESC)	1973	NO	YES	MIXED	Scientists, government officials and stakeholders (business, trade unions, agricultural and farming organisations, community groups and NGOs)	YES, BY SEPARATE REGULATION OR RESOLUTION	3a	Stakeholder Engagement Platform on Climate
Ireland	Climate Change Advisory Council	2015	YES	YES	MIXED	Scientists and government officials	YES, BY CLIMATE LAW	1a *	Independent Scientific Climate Council - w/public officials
Italy	National Council of the Green Economy	2012	NO	NO	MIXED	Made up of 69 business organizations, in collaboration with the Ministry of the Environment	YES, BY SEPARATE REGULATION OR RESOLUTION	4b	Stakeholder and Inter-ministerial Roundtable on Environment/Sustainable Development
Latvia	Environmental Advisory Council	2007	NO	YES	MIXED	Primarily stakeholders (environmental NGOs)	YES, BY SEPARATE REGULATION OR RESOLUTION	3b	Stakeholder Engagement Platform on the Environment/Sustainable Development
Liechtenstein	no body identified	-	-	-	-	-	-	-	no body identified
Lithuania	National Climate Change Committee	2001	YES	NO	MIXED	Scientists, government officials and stakeholders (trade associations, research institutes)	YES, BY SEPARATE REGULATION OR RESOLUTION	4a	Stakeholder and Inter-ministerial Roundtable on Climate
Luxembourg	Climate Observatory (<i>Observatoire du climat</i>)	2020	YES	YES	SCIENTIFIC	Scientists only	YES, BY CLIMATE LAW	1a	Independent Scientific Climate Council
Luxembourg	High Council for Sustainable Development (<i>le Conseil supérieur pour le développement durable, CSDD</i>)	2004	NO	NO	MIXED	Various private and civil society sectors, secretariat is led by the Conseillère de direction 1er classe of the ministry for the environment, climate and sustainable development	NOT ENOUGH INFO	4b	Stakeholder and Inter-ministerial Roundtable on Environment/Sustainable Development
Malta	Climate Action Board	2015	YES	NO	MIXED	Primarily representatives from a wide array of governmental ministries but also external experts and stakeholders	YES, BY CLIMATE LAW	4a	Stakeholder and Inter-ministerial Roundtable on Climate

COUNTRY	NAME	EST. (RE-NEWED)	DEDICATED?	INDEPENDENT?	SCIENTIFIC or MIXED?	COMPOSITION	LEGALLY ENSHRINED?	TYPE	
Netherlands	Council of State	(2010)	NO	NO	MIXED	Government officials, stakeholders and external legal experts some members from academia	YES, BY SEPARATE REGULATION OR RESOLUTION	4a	Stakeholder and Inter-ministerial Roundtable on Climate
Netherlands	Council for Environment and Infrastructure	2012	NO	YES	MIXED	Academia, civil society, business	YES, BY SEPARATE REGULATION OR RESOLUTION	3b	Stakeholder Engagement Platform on the Environment/Sustainable Development
Netherlands	Netherlands Environmental Assessment Agency (PBL)	2008	NO	YES	SCIENTIFIC	Scientists who are employed by the government	YES, BY SEPARATE REGULATION OR RESOLUTION	1b	Independent Scientific Environment/Sustainable Development Council
Norway	Climate Council (<i>Klimarådet</i>)	2014	YES	NO	MIXED	Scientists, government officials and stakeholders (business, trade organisations, environmental NGOs, local government)	NOT ENOUGH INFO	4a	Stakeholder and Inter-ministerial Roundtable on Climate
Norway	Expert Council for Ecological Condition (<i>Ekspertråd for økologisk tilstand</i>)	2017	NO	YES	SCIENTIFIC	Scientific and research experts	YES, BY SEPARATE REGULATION OR RESOLUTION	1b	Independent Scientific Environment/Sustainable Development Council
Poland	National Centre for Emissions Management (KOBIZE) (part of IOŚ-PIB)	2009	YES	NO	MIXED	Scientists, scientists who are employed by the government and government officials	YES, BY SEPARATE REGULATION OR RESOLUTION	4a	Stakeholder and Inter-ministerial Roundtable on Climate
Poland	Institute of Environmental Protection (IOŚ-PIB)	1986	NO	NO	SCIENTIFIC	Scientists, scientists who are employed by the government and government officials	YES, BY SEPARATE REGULATION OR RESOLUTION	2b	In-house Scientific Environmental/Sustainable Development Advisory Body
Portugal	National Council on Environment and Sustainable Development (Conselhos Nacionais de Desenvolvimento Sustentável, CNADS)	1997	NO	YES	MIXED	Scientists and stakeholders (business, trade organisations, environmental NGOs, local government)	YES, BY SEPARATE REGULATION OR RESOLUTION	3b	Stakeholder Engagement Platform on the Environment/Sustainable Development
Romania	no body identified	-	-	-	-	-	-	-	no body identified
Slovakia	Council of the Government of the Slovak Republic for the European Green Deal and Low-Carbon Transformation (<i>Rada vlády Slovenskej republiky pre Európsku zelenú dohodu a nízkouhlíkovú transformáciu</i>)	PLANNED	YES	NOT ENOUGH INFO	NOT ENOUGH INFO	Not enough info	NOT ENOUGH INFO	TBD	Planned body - not yet fully specified
Slovenia	no body identified	-	-	-	-	-	-	-	no body identified
Spain	Committee of Experts on Climate Change and Energy Transition	PLANNED	YES	YES	NOT ENOUGH INFO	Not enough info	YES, BY CLIMATE LAW	TBD	Planned body - not yet fully specified
Spain	Naitonal Council on Climate Change (<i>El Consejo Nacional del Clima, CNC</i>)	1998 (2014)	YES	NO	MIXED	Representatives of governmental departments, the Autonomous Communities, the Federation Spanish of Municipalities and Provinces, from the field of research, social agents and NGOs	YES, BY SEPARATE REGULATION OR RESOLUTION	4a	Stakeholder and Inter-ministerial Roundtable on Climate

COUNTRY	NAME	EST. (RE-NEWED)	DEDICATED?	INDEPENDENT?	SCIENTIFIC or MIXED?	COMPOSITION	LEGALLY ENSHRINED?	TYPE	
Spain	Environmental Advisory Council (<i>Consejo Asesor de Medio Ambiente</i>)	1994	NO	YES	MIXED	Representatives of NGOs, trade associations, unions, minor governmental involvement in meetings	YES, BY SEPARATE REGULATION OR RESOLUTION	3b	Stakeholder Engagement Platform on the Environment/Sustainable Development
Sweden	Climate Policy Council (<i>Klimatpolitiska Rådet</i>)	2018	YES	YES	SCIENTIFIC	Scientists only	YES, BY SEPARATE REGULATION OR RESOLUTION	1a	Independent Scientific Climate Council
Sweden	Fossil Free Sweden (<i>Fossilfritt Sverige</i>)	2015	YES	YES	MIXED	Representatives of companies, industries, municipalities and regions	YES, BY SEPARATE REGULATION OR RESOLUTION	3a	Stakeholder Engagement Platform on Climate
Sweden	Scientific Council for Sustainable Development (<i>Vetenskapliga Rådet för Hållbar Utveckling</i>)	2015	NO	YES	YES	Scientists only	YES, BY SEPARATE REGULATION OR RESOLUTION	1b	Independent Scientific Environment/Sustainable Development Council
Sweden	FORMAS (<i>Forskningsråd för hållbar utveckling</i>)	2000	NO	NO	SCIENTIFIC	Scientists, civil servants	YES, BY SEPARATE REGULATION OR RESOLUTION	2b	In-house Scientific Environmental/Sustainable Development Advisory Body
Switzerland	Advisory Body on Climate Change (<i>L'Organe consultatif sur les changements climatiques/Das Beratende Organ für Fragen der Klimaänderung, OcCC</i>)	1996 (2013)	YES	YES	SCIENTIFIC	Scientists only	YES, BY SEPARATE REGULATION OR RESOLUTION	1a	Independent Scientific Climate Council
Switzerland	2030 Agenda Advisory Group (<i>Begleitgruppe Agenda 2030</i>)	2017	NO	YES	MIXED	Academia, civil society, business, youth	NOT ENOUGH INFO	3b	Stakeholder Engagement Platform on the Environment/Sustainable Development
Turkey	[Advisory body under discussion in the drafting of a national climate change law]	PLANNED	YES	NOT ENOUGH INFO	NOT ENOUGH INFO	Not enough info	NOT ENOUGH INFO	TBD	Planned body - not yet fully specified
United Kingdom	Committee on Climate Change	2008	YES	YES	SCIENTIFIC	Scientists only	YES, BY CLIMATE LAW	1a	Independent Scientific Climate Council
United Kingdom	Office of Gas and Electricity Markets Sustainable Development Advisory Group	2011	NO	NO	MIXED	Policy experts from government, industry and interest groups	NOT ENOUGH INFO	4b	Stakeholder and Inter-ministerial Roundtable on Environment/Sustainable Development

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