

The European Scientific Advisory Board on Climate Change

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Abstract

The role of expert advice in climate policymaking is growing across jurisdictions. Climate laws often include specific provisions on scientific advice on climate change issues, whether in the form of an independent body, internal research service or other forms providing expert advice for policymaking. The main task of such advice is to ensure coherent policy advice that ensures that climate objectives are considered throughout the policy process and across sectors. The European Scientific Advisory Board on Climate Change (ESAB-CC) was established with the European Climate Law (ECL) in 2021 and has already shown its value in providing scientific advice. This report assesses the role of the ESAB-CC and its procedural governance function of giving expert advice against three criteria: overall effectiveness, policy resilience and quality of implementation. Some key factors influencing the effectiveness of scientific advisory bodies, such as legal mandate and composition, were identified based on previous literature and used to assess overall effectiveness. The assessment suggests that the flexibility of its mandate enables the ESAB-CC to pick up important tasks beyond its directly specified duties and we have already witnessed the benefits of such flexibility. However, some procedural aspects of the ESAB-CC's work remain unspecified and may undermine the effectiveness of the scientific advice provided by the body. By clarifying the formal role of the board in the policymaking process, the timely and effective use of the advice could be ensured.

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Abbreviations

CCC	UK Committee on Climate Change
ECL	European Climate Law
EEA	European Environment Agency
ESAB-CC	European Scientific Advisory Board on Climate Change
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
UN	United Nations
UNEP	United Nations Environment Programme
WMO	World Meteorological Organization

Executive summary

Procedural climate governance has a key role to play in reaching climate neutrality by 2050 by providing support for the creation, strengthening, and implementation of EU substantive climate policy. It consists of frameworks, instruments, and institutions shaping the decision-making process and has gone through extensive changes over the past years. The EU framework climate law (European Climate Law) introduced a new institution to ensure that Union measures are in line with the climate neutrality target. The European Scientific Advisory Board on Climate Change (ESAB-CC) is an independent institution responsible for providing scientific advice in climate policymaking.

The role of expert advice in climate policymaking is growing and climate framework laws often include provisions on scientific advice on climate change related issues. The design of these institutions vary in terms of scope, size, and procedural aspects, but their main task focuses on ensuring coherent scientific advice that ensures climate objectives are considered throughout the policy process and across sectors.

Because the ESAB-CC has only been operational for a short period of time, the effectiveness of its work in shaping policies across sectors in the transition towards net-zero remains to be seen. However, the design of the advisory board indicates that its structure and work is on the right path. The effectiveness of a scientific advisory board depends partly on the specified mandate enshrined preferably in law. The ESAB-CC has a broad legal mandate that is enshrined in the ECL alongside the legally binding objective of climate neutrality. The board is explicitly intended to help policymakers generate policies that are in line with the climate neutrality target and its independence and long-term orientation help strengthen the resilience of its work.

The general nature of its legal mandate allows the ESAB-CC a wide margin of discretion to specify its tasks. The flexibility of the mandate enables the ESAB-CC to pick up important tasks beyond its directly specified duties and the benefits of such flexibility can already be seen. However, there are some ambiguities in the procedural aspects, which might undermine the effectiveness of the scientific advice provided by the body. By clarifying the formal role of the board in the policymaking process, the timely and effective use of scientific advice could be ensured.

1. Introduction

1.1 Transformative procedural climate governance

Procedural climate governance plays a crucial role in reaching climate neutrality by 2050 due to the long-term, dynamic and cross-cutting nature of the climate challenge.¹ Procedural governance is a key requirement for successfully reaching the hallmarks of transformative climate policy.² In the 4i-TRACTION project, procedural governance is understood as governance facilitating the EU's transformation toward climate neutrality and negative emissions by providing support for the creation, strengthening, and implementation of its substantive climate policy.³ It consists of the frameworks, instruments, and institutions shaping decision-making processes in climate-related issues and supporting the EU in designing and implementing its climate policy.⁴ In this context, institutions are organisations that coordinate the processes and activities of a governance system.⁵ An example of this kind of institution is the recently established European Scientific Advisory Board on Climate Change (ESAB-CC), which plays an important role in the EU climate governance system.

In this project, several procedural governance functions have been identified: target-setting, expert advice, planning, decision-making, implementation/enforcement, monitoring/evaluation, access to justice and stakeholder participation. These functions are used to assess whether the governance mechanisms are successfully reaching their objectives.⁶ This report focuses on **evaluating the function of the ESAB-CC in providing expert advice on climate science, public policy options, and other topics**. In addition to the essential role on providing expert advice, the ESAB-CC contributes to monitoring the implementation of policies and related environmental data.

¹ Sebastian Oberthür, Brendan Moore, Ingmar von Homeyer and Ólöf Söebeck, with contribution by Elin Lerum Boasson, Claire Dupont, Alison Hough, Kati Kulovesi, Louisa Parks, Marjan Peeters, Annalisa Savaresi and Diarmuid Torney (2023): Towards an EU Climate Governance Framework to Deliver on the European Green Deal, Policy Options Paper, available at https://www.greendealnet.eu/sites/default/files/2023-02/Policy%20options%20paper%20EU%20Climate%20Governance%20Framework%202023_0.pdf.

² Brendan Moore, Sebastian Oberthür, Matthias Duwe, Nora Kögel, Nick Evans, Ingmar von Homeyer, Kati Kulovesi, Bettina Kampman, Anuschka Hilke, Maiju Mähönen, and Katri Varis (2023): Transformative procedural climate governance: Mechanisms, functions, and assessment criteria. 4i-TRACTION Deliverable 5.1. Vrije Universiteit Brussel; Brussels, p. 10. The hallmarks of transformative climate policy are presented in Görlach, Benjamin, Anuschka Hilke, Bettina Kampmann, Kati Kulovesi, Brendan Moore and Tomas Wyns (2022): Transformative climate policies: a conceptual framing of the 4i's. 4i-TRACTION Deliverable D 1.1. Ecologic Institute; Berlin.

³ Ibid. p. 11.

⁴ Ibid. p. 9. An inventory of key procedural governance mechanisms has been created and is available at <https://www.4i-traction.eu/outputs/inventory-key-eu-governance-frameworks>.

⁵ Ibid p. 13.

⁶ Ibid. pp. 14 – 15.

1.2 Expert advice and scientific advisory bodies

The role of expert advice in climate policymaking is growing, and governments are increasingly relying on it to design climate targets and objectives.⁷ This expert advice is contributed by a variety of actors and sources, but the role of scientific advisory bodies is limited to providing scientific advice for the use of policymakers. Thus, science and scientific advice is only one of many sources of knowledge informing policy.⁸ The role of scientific advice is to support effective policymaking by providing the best available knowledge. The relationship between scientists and policymakers relies on mutual trust, where both are honest about their values and goals.⁹

The concept of policy advisory systems focuses on the country-specific organisation and institutionalisation of policy advice.¹⁰ The influence and effectiveness of external policy advice in different contexts seems to be linked to how a policy advice system is structured and operated in a specific sector.¹¹ Expert advice mechanisms integrate relevant information of often complex issues into the policymaking process at various points.¹² In the EU, scientific advice is provided within the institutions by e.g. internal research services or by external sources such as the ESAB-CC.¹³ The ESAB-CC is a scientific advisory body established in 2021 with the European Climate Law (ECL) to provide EU policymakers advice and support on climate issues and ensure coherence of EU measures with the climate neutrality objective.¹⁴

International scientific advisory bodies represent a mechanism through which the advice of scientists has been institutionalised and formalised for decision-makers.¹⁵ The role of an

⁷ Harriet Dudley, Andrew Jordan and Irene Lorenzoni, Advising national climate policy makers: A longitudinal analysis of the UK Climate Change Committee, 76 *Global Environmental Change* (2022), <https://doi.org/10.1016/j.gloenvcha.2022.102589>, p. 1.

⁸ With complex issues, such as climate change, policymakers often welcome multidisciplinary expertise but especially the EU's intricate decision-making process may mean that scientific expertise is not perceived as the most relevant information in all stages of the policy process. Claire Dupont, Jeffrey Rosamond and Bishoy L. Zaki, Investigating the scientific knowledge-policy interface in EU climate policy, 52 *Policy & Politics* (2024), <https://doi.org/10.1332/030557321X16861511996074>, p. 94.

⁹ European Commission, Group of Chief Scientific Advisors, Scientific Advice to European Policy in a Complex World, Scientific Opinion No. 7, September 2019, available at <https://op.europa.eu/en/GB/publication-detail/-/publication/5cb9ca21-0500-11ea-8c1f-01aa75ed71a1/language-en>.

¹⁰ Thuriid Hustedt and Sylvia Veit, Policy advisory systems: change dynamics and sources of variation, 50 *Policy Science* (2017), DOI: 10.1007/s11077-016-9272-y, p. 41 – 42.

¹¹ Michael Howlett and Andrea Migone, Policy advice through the market: The role of external consultants in contemporary policy advisory systems, 32 *Policy and Society* (2013), <https://doi.org/10.1016/j.polsoc.2013.07.005>, p. 242.

¹² Jonathan Craft and John Halligan, Assessing 30 years of Westminster policy advisory system experience, 50 *Policy Sciences* (2017), DOI 10.1007/s11077-016-9256-y, p. 49.

¹³ Brendan Moore et al. p. 17.

¹⁴ Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 (European Climate Law), OJ L 243, 9.7.2021, p. 1 – 17.

¹⁵ J.P. Evans (2012): *Environmental governance*, Routledge, p. 71. Scientific advisory bodies provide advice related to different elements of the planetary system, presenting the cutting-edge scientific knowledge about the environment.

independent scientific advisory board has been emphasised previously in studies focusing of framework climate laws in Europe.¹⁶ The advisory organisations vary due to historical contexts in which they were established and the functions they are supposed to perform, but often the informal and formal rules and mechanisms guiding their internal processes function quite similarly across sectors and national styles of scientific advice.¹⁷ The role of scientific advisory bodies is not limited to providing scientific advice on climate policies, but has a significant function also in monitoring climate action and in facilitating dialogue on national climate policy between stakeholders and civil society.¹⁸

Main models or at least sources of inspiration in designing scientific advisory bodies have been the UK Committee on Climate Change (CCC) and the Intergovernmental Panel on Climate Change (IPCC).¹⁹ The IPCC is an organisation mandated by the world's governments to assess and synthesise scientific knowledge about climate change.²⁰ There is no doubt that the IPCC has significantly contributed to informing the public about how severe and complex problem we are facing and has provided solid scientific information and options for action to policy-makers.²¹ The UK CCC also appears to have been successful in informing political debate and creating a shared

¹⁶ See e.g. Matthias Duwe and Nicholas Evans (2020): *Climate Laws in Europe: Good Practices in Net-Zero Management*, Ecologic Institute. A growing trend of establishing climate change commissions as part of climate governance frameworks is also visible globally, available at <https://www.ecologic.eu/17233>, see also e.g. Magnus C. Abraham-Dukuma, Mchael O. Dioha, Natalia Bogado, Hemen Mark Butu, Francis N. Okpaleke, Qaraman M. Hasan, Shari Babajide Epe and Nnaemeka Vincent Emodi, *Multidisciplinary Composition of Climate Change Commissions: Transnational Trends and Expert Perspectives*, 12 *Sustainability* (2020), <https://doi.org/10.3390/su122410280>.

¹⁷ Justus Lentsch and Peter Weingart (Eds.)(2011): *The Politics of Scientific Advice: Institutional Design for Quality Assurance*, Cambridge University Press, p. 10.

¹⁸ Nicholas Evans and Matthias Duwe (2021): *Climate governance systems in Europe: the role of national advisory bodies*; Ecologic Institute, Berlin; IDDRI, Paris, p. 13, available at <https://www.ecologic.eu/sites/default/files/publication/2021/Evans-Duwe-Climate-governance-in-Europe-the-role-of-national-advisory-bodies-2021-Ecologic-Institute.pdf>. It has been shown that independent scientific advisory bodies may to some extent have an influence on issues beyond their strict statutory remit, which indicates some spillover effects, see Alina Averchenkova, Sam Fankhauser and Jared J. Finnegan, *The influence of climate change advisory bodies on political debates: evidence from the UK Committee on Climate Change*, 21 *Climate Policy* (2021), <https://doi.org/10.1080/14693062.2021.1878008>, p. 1218 – 1233.

¹⁹ Göran Sundqvist, Ingemar Bohlin, Erlend A.T. Hermansen and Steven Yearley, *Formalization and separation: A systemic basis for interpreting approaches to summarizing science for climate policy*, 45 *Social Studies of Science* (2015), <https://doi.org/10.1177/03063127155837>, p. 417 – 418.

²⁰ Kari De Pryck and Mike Hulme (Eds.)(2022): *A Critical Assessment of the Intergovernmental Panel on Climate Change*, Cambridge University Press, p. 1. The IPCC was created by the UN Environment Programme (UNEP) and World Meteorological Organization (WMO) and endorsed by a Special Resolution of the 70th Plenary Meeting on the UN General Assembly in December 1988, UN General Assembly, A/RES/43/53.

²¹ Steinar Andresen, Prativa Baral, Steven J. Hoffman and Patrick Fafard, *What can be learned from experience with scientific advisory committees in the field of international environmental politics?*, 2 *Global Challenges* (2018), <https://doi.org/10.1002/gch2.201800055>.

evidence base.²² The success and established role of these institutions have undoubtedly inspired the creation of further scientific advisory bodies, such as the ESAB-CC.

1.3 Aim of the report and assessment criteria

The expert advice function and the role of scientific advisory bodies has grown rapidly, and the establishment of the European Scientific Advisory Board on Climate Change is a natural attempt to strengthen the EU climate governance system. The aim of this report is to **explain the key functions of the ESAB-CC as an independent expert advisory board**. The assessment focuses on its legal mandate and the role the ESAB-CC plays in the EU policymaking process. Relevant legislation and the annual work programme of the ESAB form the basis for evaluation but are complemented by other official sources and literature. Previous studies on independent scientific advisory bodies have identified certain factors of an effective scientific advisory body, and in this report the ESAB is assessed against some of these key criteria. These criteria contribute to the assessment of overall effectiveness of the ESAB-CC in providing expert advice.

Assessing EU climate-related procedural governance is not straightforward and a flexible assessment framework focusing on the effectiveness of procedural governance has been adopted.²³ The first aspect of the assessment is **overall effectiveness**, referring to the mechanism's ability to carry out its procedural governance function. The overall effectiveness assessment is based on the key factors derived from previous research and literature on the effectiveness of scientific advisory bodies, and include the legal mandate, governance context, composition and leadership, and resources.²⁴ In addition, it will be assessed to what extent the mechanism has a transformative orientation. The transformative orientation refers to the design of the ESAB-CC, i.e. is it designed with transformative, long-term orientation towards climate neutrality and does it include features promoting long-term effectiveness.²⁵

The second aspect of the assessment is **policy resilience**. This refers to the ESAB-CC's ability to maintain coherence and adapt to changing internal and external factors, such as changing political conditions.²⁶ Climate governance faces a complex and constantly evolving social, economic, and political context, which makes policy resilience essential.²⁷

The last aspect of this assessment is **the quality of implementation**. This refers to the need to examine whether the chosen mechanism is implemented in a way that effectively moves

²² Alina Averchenkova et al, p. 1225.

²³ Brendan Moore et al. p. 20.

²⁴ The focus of this assessment is on the legal mandate and role in policymaking process, and some factors identified in previous studies, such as independency and transparency, are only briefly discussed in this context.

²⁵ Brendan Moore et al. p. 20.

²⁶ Ibid.

²⁷ Ibid.

towards climate neutrality, and if it is adequately resourced.²⁸ On implementation effectiveness, due to the novelty of the ESAB-CC, only limited data is available on how the scientific advice provided by the board is considered by EU institutions. However, there are some indications about how the recommendations of the ESAB-CC on the 2040 climate target are perceived and assessed by the Commission.

2. The European Scientific Advisory Board on Climate Change

2.1 Establishing the ESAB-CC

Before the establishment of the ESAB-CC, the European Environment Agency (EEA) was mainly responsible for supporting sustainable development and improving Europe's environment through "the provision of timely, targeted, relevant, and reliable information on the environment".²⁹ The main institutions using the data and information provided by the EEA are the European Commission, the European Parliament, and the Council of the European Union. The EEA is entrusted with the task of providing information necessary for the framing of policy issues and the identification and evaluation of environmental measures and legislation.³⁰ To ensure the credibility of the EEA's outputs, the Scientific Committee's advice has been regarded as significant, and it is responsible for assuring that the EEA's work complies with criteria and concerns of the scientific community.³¹

Most climate framework laws include some provisions on policy advice, often in the form of scientific advisory bodies.³² With the preparation of the European Climate Law, the establishment of a European scientific advisory body became topical. The proposal for the European Climate Law from 2020 did not include a provision for the establishment of a scientific advisory body, and the use of scientific knowledge was mainly associated with the Commission's role in ensuring that assessing the Union and Member States' progress was implemented against the best available scientific knowledge.³³ The Commission was required to base its assessment on the most up to date scientific, technical and socio-economic findings, reports of the EEA, and "best available

²⁸ The question of resources has been identified as a key factor of a successful scientific advisory board and is already discussed under the overall effectiveness criterion.

²⁹ Art. 1 of the Regulation (EC) No 401/2009 of the European Parliament and of the Council of 23 April 2009 on the European Environment Agency and the European Environment Information and Observation Network, OJ L 126, 21.5.2009, p. 13 – 22, (EEA Regulation).

³⁰ Art. 2b EEA Regulation.

³¹ Sven Damman and David Gee, Science into policy: The European Environment Agency, in Justus Lentsch and Peter Weingart (Eds.)(2011): *The Politics of Scientific Advice: Institutional Design for Quality Assurance*, Cambridge University Press, p. 241.

³² Matthias Duwe and Nicholas Evans, p. 15.

³³ COM(2020)80 final.

scientific knowledge, including the reports of the IPCC".³⁴ The EEA's role was to assist the Commission. The Commission's role in considering scientific knowledge and findings seemed to be mainly tied in the monitoring function. Nevertheless, the Commission was empowered to set a trajectory for achieving the climate neutrality objective, and when preparing this trajectory, it was required to consider "the best available and most recent scientific evidence, including the latest reports of the IPCC".³⁵ However, there was no reference to an independent scientific advisory body.

As described above, independent scientific advisory bodies are considered an essential part of climate governance and the lack of such a body at EU level was highlighted by scholars.³⁶ The European Parliament proposed that a European Climate Change Council should be established, and recommended that member states establish similar independent bodies at the national level.³⁷ The Committee on the Environment, Public Health and Food Safety noted that scientific expertise needed to underpin the Union's climate action and efforts to reach climate neutrality by 2050, and proposed the establishment of an independent European Panel on Climate Change.³⁸ The purpose was to annually monitor the GHG emission reductions in the Union and all member states. Its task was also to assist the Commission in the assessment of the consistency of Union and national measures and progress made.³⁹ Finally, the interinstitutional negotiations resulted in the introduction of the European Scientific Advisory Board on Climate Change.⁴⁰

³⁴ COM(2020)80 final, recital 19.

³⁵ COM(2020)80 final, Article 3.

³⁶ See e.g. Alina Averchenkova and Lara Lazaro (2020): The design of an independent expert advisory mechanism under the European Climate Law: What are the options?, Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science, p. 8, available at https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2020/09/GRI_The-design-of-an-expert-advisory-mechanism-under-the-European-Climate-Law-What-are-the-options.pdf.

³⁷ Amendment adopted by the European Parliament on 8 October 2020 on the 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), A9-0162/2020. In the report of 22.9.2020, it was for the Commission to set up an independent scientific advisory panel, the European Climate Change Council (ECCC), [https://www.europarl.europa.eu/RegData/seance_pleniere/textes_deposes/rapports/2020/0162/P9_A\(2020\)0162_EN.pdf](https://www.europarl.europa.eu/RegData/seance_pleniere/textes_deposes/rapports/2020/0162/P9_A(2020)0162_EN.pdf). The ECCC was meant to be composed of a scientific committee of selected senior experts and its purpose was to provide Union institutions annually with assessments of the consistency of the Union measures with the climate objectives and international climate commitments. It would also assess actions and pathways to reduce greenhouse gas emissions, Amendment 57.

³⁸ Draft Report of the European Parliament, Committee on the Environment, Public Health and Food Safety on the 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), 29.4.2020, https://www.europarl.europa.eu/doceo/document/ENVI-PR-648563_EN.pdf, Amendment 15.

³⁹ The main goal of the independent reviews should be to ensure the alignment of the proposals with the latest scientific findings and agreed targets, enhancing their credibility and political buy-in, Alina Averchenkova and Lara Lazaro, p. 5.

⁴⁰ Provisional Agreement resulting from the interinstitutional negotiations, 5.5.2021. [https://www.europarl.europa.eu/RegData/commissions/envi/inag/2021/05-06/ENVI_AG\(2021\)692729_EN.pdf](https://www.europarl.europa.eu/RegData/commissions/envi/inag/2021/05-06/ENVI_AG(2021)692729_EN.pdf).

2.2 Legal mandate

The ESAB-CC was established under the amending Art. 10a of the EEA Regulation.⁴¹ The Board consists of 15 senior scientific experts covering a broad range of relevant disciplines and their term is four years, renewable once.⁴² When appointing the members, a varied disciplinary and sectoral expertise is sought, as well as gender and geographical balance.⁴³ Selection of the members should be based on scientific excellence, experience in carrying out scientific assessments and providing scientific advice, expertise in climate and environmental sciences or other relevant fields, and on professional experience in an inter-disciplinary environment in an international context.⁴⁴ Members must be completely independent from member states and the EU institutions.⁴⁵

The ESAB-CC complements the work of the EEA and acts independently in discharging its tasks.⁴⁶ The European Climate Law refers to the ESAB-CC as “a point of reference for the Union on scientific knowledge relating to climate change”.⁴⁷ Its main tasks are listed in Art. 3(2) and include:

- considering the findings of the IPCC reports and scientific climate data, with regard to information relevant to the EU,
- providing scientific advice and issuing reports on existing and proposed Union measures, climate targets and indicative greenhouse gas budgets and their coherence with stated objectives,
- contributing to the exchange of independent scientific knowledge in reducing emissions or increasing removals,
- identifying actions and opportunities needed to achieve the Union climate targets,
- raising awareness on climate change and its impacts, stimulating dialogue and cooperation between scientific bodies within the EU.

The ESAB-CC’s tasks described in the ECL are relatively general in nature. One of the few clearly defined obligations of the ESAB-CC relates to the Commission and its requirement to consider the

⁴¹ Regulation (EC) No 401/2009 of the European Parliament and of the Council of 23 April 2009 on the European Environment Agency and the European Environment Information and Observation Network (EEA Regulation), OJ L 126, 21.5.2009, p. 13 – 22 amended by the European Climate Law.

⁴² Art. 10a(2-3) EEA Regulation.

⁴³ Art. 10a(3) EEA Regulation.

⁴⁴ Ibid.

⁴⁵ Art. 10a(4) EEA Regulation.

⁴⁶ Art. 10a(5) EEA Regulation.

⁴⁷ Art. 3(1) ECL.

reports of the ESAB-CC when it proposes the Union 2040 climate target.⁴⁸ The ESAB-CC published its scientific advice for the determination of the EU's 2040 climate target in June 2023.⁴⁹

Otherwise, the board is given a relatively high degree of freedom to establish its own tasks and internal processes. In its work programme for 2023, the ESAB-CC recognises the role of framework climate laws and national advisory bodies.⁵⁰ It notes that climate laws formalise government processes, planning and progress monitoring, but also assign responsibilities to new or existing institutions. Advisory bodies add new perspective to consultations and present evidence-based inputs that can be utilised in policy formulation. Further, the ESAB-CC notes that it was established “to underpin the EU’s climate action and efforts with independent scientific expertise and the best available, up-to-date and transparent evidence on possible pathways, targets and policy measures” and is guided “by the best available and most recent scientific evidence, including the latest reports of the IPCC, IPBES and other international bodies”.⁵¹ Its work builds on data and knowledge produced by European research, technology and innovation networks, and where available, the Board considers also the work of national climate advisory bodies. The ESAB-CC commits to a fully transparent process and making its reports publicly available. In addition, the ESAB-CC acts independently in discharging its tasks.⁵²

In June 2022, the ESAB-CC adopted its work programme for the second half of the 2022 and included in it six tasks: support the EU’s input to the 2023 global stocktake, support the determination of the 2040 objective and the 2030–2050 greenhouse gas budget, address policy responses to the current energy and food situation in Europe, explore sectoral mitigation solutions in the agriculture and forestry sectors, and their links with adaptation, pursue the strategic and operational development of the ESAB and engage with experts and stakeholders.⁵³ After the establishment of the board, it has drafted and adjusted its Work Programme and tasks according to the needs and challenges that have subsequently arisen. The flexible nature of its mandate allows the ESAB-CC to pick-up tasks not presented in the Work Programme and is discussed in more detail below.

⁴⁸ Art. 4(5)a ECL.

⁴⁹ European Scientific Advisory Board on Climate Change (2023): Scientific advice for the determination of an EU-wide 2040 climate target and a greenhouse gas budget for 2030 – 2050, June 2023, available at <https://climate-advisory-board.europa.eu/reports-and-publications/scientific-advice-for-the-determination-of-an-eu-wide-2040>.

⁵⁰ European Scientific Advisory Board, Work programme 2023, Point 1.1 Establishment of the Advisory Board, <https://climate-advisory-board.europa.eu/about/description-of-the-ecl-and-the-legal-mandate/2023-work-programme-of-the.pdf/@@display-file/file>.

⁵¹ Ibid. Point 1.3.

⁵² Ibid. Point 1.5.

⁵³ European Scientific Advisory Board, Work programme 2022, Point 3.3, available at <https://climate-advisory-board.europa.eu/about/description-of-the-ecl-and-the-legal-mandate/2022-work-programme-of-the.pdf/@@display-file/file>.

3. Assessment

3.1 Advisory function

Literature on scientific advisory bodies is growing rapidly. Many jurisdictions in Europe have provisions concerning expert advice related to climate policy issues included in their climate laws or established expert advisory bodies otherwise.⁵⁴ However, there are major differences in certain organisational aspects such as, in the level of expertise, financial means and the mandate, which has led to varied levels of contribution in policymaking processes.⁵⁵

Independent expert advisory mechanisms are considered essential for enhancing the legitimacy and accountability of policymaking.⁵⁶ One of the primary objectives of an independent advisory body is to ensure consistency of climate change policy with the latest scientific findings.⁵⁷ This task is at the core of the ESAB-CC's responsibilities; it should ensure that Union measures are coherent with climate neutrality objective and acts as a point of reference for the Union on scientific knowledge relating to climate change.⁵⁸

In general, the advisory function refers to the advisory body's role in providing policymakers and authorities the most relevant independent expert advice when planning policies.⁵⁹ Scientific advice is given "through independent evaluation and guidance on the options for targets and policies".⁶⁰ Providing scientific advice and issuing reports on proposed Union measures is explicitly mentioned in the ECL as one of ESAB-CC's core tasks.⁶¹ The independence of the ESAB-CC is also emphasised.⁶²

In addition to the advisory function, scientific advisory bodies are often involved in monitoring and evaluating as well, but the role may vary significantly in terms of composition and resources, as well as in how detailed their roles are.⁶³ The monitoring function relates to the role of advisory bodies in assessing the country's progress towards the set goals. The ESAB-CC's tasks include contribution to the exchange of knowledge in the field of monitoring, and the Commission should base its assessments on Union progress and national measures on, inter alia, reports of the EEA

⁵⁴ Matthias Duwe and Nicholas Evans, p. 32.

⁵⁵ Alina Averchenkova and Lara Lazaro, p. 8.

⁵⁶ Ibid. p. 3.

⁵⁷ Ibid. p. 8.

⁵⁸ Art. 3(1) ECL.

⁵⁹ Sally Weaver, Sanna Lötjönen and Markku Ollikainen (2019): Overview of national climate change advisory councils, The Finnish Climate Change Panel, Report 3/2019, p. 3, available at <https://www.ilmastopaneeli.fi/wp-content/uploads/2019/05/Overview-of-national-CCCs.pdf>.

⁶⁰ Alina Averchenkova and Lara Lazaro, p. 10.

⁶¹ Art. 3(2)b ECL.

⁶² Art. 3(1) ECL.

⁶³ Matthias Duwe and Nicholas Evans, p. 32.

and ESAB-CC.⁶⁴ Usually, the monitoring function is undertaken through independent reviews of greenhouse gas emissions data, pathways, and the effectiveness of the policies; key tasks of the ESAB-CC.⁶⁵

In addition to the key role in providing scientific advice and supporting monitoring, scientific advisory bodies also bring together stakeholders to discuss policy direction and social acceptability, and facilitate public engagement with the policymaking process.⁶⁶ The ESAB-CC's mandate also covers a general duty to raise awareness on climate change and its impacts, and to stimulate dialogue between scientific bodies and the EU.⁶⁷

3.2 Overall effectiveness

Assessment of the ability of the ESAB-CC to carry out its procedural governance functions is based on the factors identified in previous research. A literature review was undertaken and focused on the role of scientific advisory bodies in the policymaking process and key factors of an effective scientific advisory body. Based on this review, key factors were chosen and these form the assessment criteria in this report. These factors are the legal mandate, governance context in which the ESAB-CC operates, composition, and resources. The other aspect to discuss under the overall effectiveness is the ESAB-CC's role in supporting alignment with the move to climate neutrality.

3.2.1 Legal mandate

One of the key factors influencing the effectiveness of a climate advisory body is the mandate established in legislation.⁶⁸ The scientific advisory body's clear and specific legal mandate determines the degree of influence it has on policy formulation.⁶⁹ It seems that it is more difficult for governments to dismiss an advisory body when it has a clear mandate.⁷⁰ Similarly, having a mandate enshrined in law provides authority and stability to the advisory body's work.⁷¹ The mandate should specify the advisory body's obligations "in relation to the independent scientific assessments of targets, emission trajectories or carbon budgets".⁷² However, it has been found

⁶⁴ Art. 8 ECL.

⁶⁵ Alina Averchenkova and Lara Lazaro, p. 10. Art. 3 ECL and the ESAB-CC Work Programme also refer to such reviews.

⁶⁶ Ibid. See also Matthias Duwe and Nicholas Evans, p. 32.

⁶⁷ Art. 3(2)e ECL.

⁶⁸ Cynthia Elliott, Clea Schumer, Katherine Ross, Juan Carlos Altamirano, Kelly Levin, Rebecca Gasper and Kati Kulovesi (2021): *Climate Advisory Bodies: Experiences and Approaches for Effective Climate Change Policy*, WRI Discussion Paper, p. 11, available at <https://climatecouncilsnetwork.org/wp-content/uploads/2022/05/WRI-Climate-Advisory-Bodies-Report-Final-May-2022.pdf>.

⁶⁹ Nicholas Evans and Matthias Duwe, p.43.

⁷⁰ Alina Averchenkova and Lara Lazaro, p. 16.

⁷¹ Cynthia Elliott et al, p. 11.

⁷² Alina Averchenkova and Lara Lazaro, p. 16 – 17.

that an advisory body should retain some freedom to identify priorities.⁷³ In addition, the legal mandate should explain the role of the scientific advisory body in the independent assessment of progress made, the frequency of these assessments and its role in engaging stakeholders and facilitating public debate and interaction with other institutions.⁷⁴ The mandate should also include details of how the body operates.⁷⁵

As described above, the legal mandate of a scientific advisory body should specify the advisory body's duties and obligations in relation to the independent scientific assessments of targets, emission trajectories or carbon budgets. At the same time, it has been suggested that certain flexibility should be allowed for the ESAB-CC to pick up topical issues.

The ESAB-CC was established with the adoption of the European Climate Law (ECL) in 2021 as an amendment to the founding regulation of the EEA, and its main tasks are listed in Art. 3 of the ECL. The tasks include a general task of "providing scientific advice and issuing reports on existing and proposed Union measures, climate targets and indicative greenhouse gas budgets" and an ever more unspecified task of "considering the findings of the IPCC reports and scientific climate data", where the information is relevant to the EU. The ESAB-CC seems to play a crucial role in preparing climate targets, especially when the Commission is specifically required to consider the scientific evidence and reports by the ESAB-CC when proposing the Union 2040 climate target.⁷⁶

However, the preparation of scientific evidence and report on the 2040 climate target seems to be one of the few clearly specified tasks at the level of legislation. Overall, **the legal mandate is general in nature and gives the ESAB-CC a wide margin of discretion to specify its tasks**. Indeed, the ESAB-CC's main tasks and operations are determined by the body itself in its Work Programme. When preparing the Work Programme, the ESAB-CC should consult the EEA Management Board.⁷⁷ From the point of view of credibility and legitimacy of the body's work, the duties of the ESAB-CC should be defined clearly enough, while maintaining some flexibility as suggested in previous research.

The margin of discretion of the ESAB-CC to define its mandate has enabled it to adjust its work. After the adoption of the 2022 Work programme, the ESAB-CC decided to take on an additional task. The adoption of the revised TEN-E Regulation in May 2022 invited the ESAB-CC to provide guidance and recommendations on certain issues, and the ESAB-CC decided to take on this task, even though it was not specified in either the ECL or the board's 2022 Work Programme.⁷⁸ The

⁷³ Cynthia Elliott et al, p. 11.

⁷⁴ Alina Averchenkova and Lara Lazaro, p. 16 – 17.

⁷⁵ Cynthia Elliott et al, p. 11.

⁷⁶ Art. 4(5) ECL.

⁷⁷ Art. 10a(5) of the EEA Regulation.

⁷⁸ Regulation (EU) 2022/869 of the European Parliament and of the Council of 30 May 2022 on guidelines for trans-European energy infrastructure, amending Regulations (EC) No 715/2009, (EU) 2019/942 and (EU) 2019/943 and Directives 2009/73/EC and (EU) 2019/944, and repealing Regulation (EU) No 347/2013, OJ L 152, 3.6.2022, p. 45 – 102. Regarding cross-sectoral infrastructure planning, the ESAB-CC was invited to provide opinion on the draft methodologies (Art. 11) and scenarios for the ten-year network development plans (Art. 12).

ESAB-CC provided its recommendation in November 2022.⁷⁹ This illustrates how **the flexibility of its mandate enables the ESAB-CC to pick up important tasks beyond its directly specified duties.**

Previous research suggested that the legal mandate of a successful scientific advisory body should specify the role of the body in independent assessment of progress made. The ECL calls for the Commission to base its assessments of Union progress and national measures on, inter alia, reports of the EEA, the ESAB-CC, and the Commission's Joint Research Centre.⁸⁰ Nevertheless, the legal mandate does not specify the advisory body's obligations in relation to the assessments. Provisions relating to monitoring and evaluation of progress in the Governance Regulation also lack any reference to the role of the ESAB-CC.⁸¹ However, the upcoming review of the Governance Regulation can be expected to refer to the ESAB-CC's possible role in monitoring progress.⁸²

The ESAB-CC's tasks listed in the ECL also include its general role in "raising awareness on climate change and its impacts, as well as in stimulating dialogue and cooperation between scientific bodies". The 2023 Work Programme of the ESAB-CC reflects the body's aim to continue active outreach to experts and stakeholders. It pursues regular dialogue with EU institutions to monitor and improve understanding of the relevant policy processes and questions potentially benefiting from scientific advice. The ESAB-CC also continues to engage with national advisory bodies to identify areas of cooperation and coordination.⁸³ In addition, the advisory body aims to reach out to the scientific community to identify ways of collaborating.

There are also intentions to create a network of experts having in-depth expertise on topics covered by the work programme, especially focusing on regions that are currently underrepresented in the ESAB-CC, namely Central and East European member states.⁸⁴ During 2022, the ESAB-CC had regular interaction with EU institutions and representatives of national climate change advisory bodies.⁸⁵ Interaction with civil society representatives, e.g. environment, consumer and climate NGOs, and private sector representatives, is mentioned in the work programme, but no specific plans on how to organise engagement and dialogue are presented.

⁷⁹ Towards a climate-neutral and climate-resilient EU energy infrastructure: recommendations to ACER, available at <https://climate-advisory-board.europa.eu/reports-and-publications/towards-a-climate-neutral-and-climate-resilient-eu-energy-infrastructure-recommendations-to-acer/advice-on-scenario-guidelines-for.pdf/@@display-file/file>.

⁸⁰ Art. 8(3) ECL.

⁸¹ 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, OJ L 328, 21.12.2018, p. 1 – 77.

⁸² The Commission is expected to adopt a review report on Governance Regulation during the first quarter of 2024.

⁸³ European Scientific Advisory Board on Climate Change, Work programme 2023, Point 4.2.8.

⁸⁴ Ibid.

⁸⁵ Implementation of the 2022 Work Programme in Point 2 of the 2023 Work Programme.

It has been suggested that the ESAB-CC should establish itself within both the EU policymaking process and civil society.⁸⁶ Timely information and impact on EU decisions is critical, and therefore the ESAB-CC cannot limit its actions to producing scientific research. In addition, the interaction with other institutions and civil society is important, and ESAB-CC members should actively participate in public events.⁸⁷ Thus, the ESAB-CC should **establish clear ways of promoting dialogue and engaging stakeholders**. The Work Programme for 2023 recognises the need to further define and develop several aspects of the organisation and work, including procedures related to stakeholder engagement.⁸⁸ Attempts to clarify the process of engaging stakeholders have occurred, but it remains to be seen how the interaction evolves.

3.2.2 Governance context

The exact function of a climate change advisory body depends largely on its legal mandate, composition, and capacity, but also significantly on the surrounding political culture.⁸⁹ The governance context, the laws and institutions in place, also plays a crucial role.⁹⁰ There therefore needs to be a governance framework enabling effective function of the advisory body. For example, if the existing climate governance framework laws include explicit requirements for the government to take into account and respond to the advice or recommendations provided by the advisory body, it is considered more effective.⁹¹ The governance context should enable a recurring and regular cycle in setting targets and adopting measures to maximise the possibilities of advisory bodies' input.⁹² In addition, attention should be paid to the stage of the policy-making process where scientific advice is given; it is best for advice to be provided in the very beginning of the process to help set the agenda and add transparency to the process.⁹³ Identifying these entry points in the EU climate policy process for the ESAB-CC's input and requiring it to be properly

⁸⁶ Till Eichler, Elisa Giannelli, Simon Skilling, Taube van Melbeke (2022): Putting scientific advice at the heart of the EU's climate transition – Moving the ESABCC from set-up to delivery planning, E3G Briefing paper, December 2022, available at <https://www.e3g.org/wp-content/uploads/E3G-Briefing-Putting-scientific-advice-at-the-heart-of-the-EUs-climate-transition.pdf>.

⁸⁷ Ibid.

⁸⁸ European Scientific Advisory Board, Work Programme 2023, Point 4.1, "more detailed implementation procedures need to be elaborated and finalised in the course of 2023". The 2024 Work Programme states that the ESAB-CC has developed and adopted a set of internal policies and procedures, referring to procedures related to stakeholder engagement, project management and conflict of interest, Point 2.2.9, <https://climate-advisory-board.europa.eu/about/work-programme>.

⁸⁹ Nicholas Evans and Matthias Duwe, p. 13.

⁹⁰ Ibid. p. 44.

⁹¹ Ibid. This often goes hand-in-hand with an independent scientific advisory board, i.e. in countries where an independent scientific advisory body has been established, a more robust governance framework enshrined in climate framework law seems to exist.

⁹² Ibid.

⁹³ Ibid. See also e.g. David C. Rose, Nibedita Mukherjee, Benno I. Simmons, Eleanor R. Tew, Rebecca J. Robertson, Alice B.M. Vadrot, Robert Doubleday and William J. Sutherland, Policy windows for the environment: Tips for improving the uptake of scientific knowledge, 113 *Environmental Science and Policy* (2020), p. 47 – 54, <http://dx.doi.org/10.1016/j.envsci.2017.07.013>.

considered would strengthen the role of the ESAB-CC and scientific advice in climate policymaking.⁹⁴

The governance context should also include provisions for a formal response by the executive branch. The lack of a legal requirement for the executive branch to respond to the advisory body's recommendations or reviews seems to significantly undermine their effectiveness.⁹⁵ At the time of the negotiations on the ECL, it was suggested that the European Parliament and Council should consider introducing parliamentary oversight into the ECL.⁹⁶ This would have entailed a requirement to set any progress report or other key piece of advice before Parliament and the Council to consider the recommendations and the Commission's response to them.⁹⁷

Laws and institutions are determinant in establishing the governance context. Climate governance frameworks should include laws defining explicit requirements for the government to consider and respond to scientific advice provided by the advisory body. These specific requirements enable effective use of scientific advice in policymaking.⁹⁸ However, **the ECL does not include any provisions establishing a formal role in the policymaking process for the ESAB-CC.** The Commission is legally obliged to consider only the recommendations of the ESAB-CC when preparing the 2040 climate target.⁹⁹ The lack of any formal role in policymaking has been estimated to be problematic in practice and it has been suggested that a requirement for the Commission to formally respond to the ESAB's advice should be included in the ECL.¹⁰⁰ Consequently, it seems that there is a **need to further define the role of the ESAB-CC in the policymaking process**, enabling its advice to be effectively considered.

3.2.3 Composition

In addition to the specific scope of responsibilities and work of the advisory body, its success depends on its composition. Involving the right experts is critical for the quality and legitimacy of any scientific advisory process.¹⁰¹ In addition, if the body is visible and strong, often illustrated by

⁹⁴ Kati Kulovesi, Sebastian Oberthür, Harro van Asselt and Annalisa Savaresi, *The European Climate Law: Strengthening EU Procedural Climate Governance?*, *XX Journal of Environmental Law* (2024), <https://doi.org/10.1093/jel/eqad034>, p. 15.

⁹⁵ Alina Averchenkova and Lara Lazaro, p. 28.

⁹⁶ Ibid.

⁹⁷ Ibid.

⁹⁸ Ibid.

⁹⁹ Art. 4(4 – 5) ECL.

¹⁰⁰ Nicholas Evans and Matthias Duwe, p. 45 and Alina Averchenkova and Lara Lazaro, p. 28. It has also been suggested that the ESAB-CC members and secretariat should ensure a clear framework to maximise the political response to its advice and invite the Commission to publicly explain how it considers the ESAB-CC's advice, Till Eichler et al.

¹⁰¹ OECD (2015): *Scientific Advice for Policy Making: The Role and Responsibility of Expert Bodies and Individual Scientists*, OECD Science, Technology and Industry Policy Papers, No. 21, Paris, available at <https://www.oecd-ilibrary.org/docserver/5js3311jcpwb-en.pdf?expires=1703166525&id=id&accname=quest&checksum=C4084EA170CF414421E0804CE9DD8D1>, p. 6.

the reputation of the members, it seems to have a better ability to succeed in its advisory function.¹⁰² The members should represent a variety of disciplines to adequately reflect the topics.¹⁰³ However, it has been held even more important that the advisory body has access to the necessary expertise, may it be through consulting with wider groups or advisory bodies, or through short term appointments.¹⁰⁴ The members should have a high-level of expertise and their selection process should be based on a call.¹⁰⁵ The selection criteria for ESAB-CC members include scientific excellence, experience in carrying out scientific assessments and providing scientific advice, expertise in climate and environment sciences or other relevant fields, and professional experience in working in an inter-disciplinary environment in an international context.¹⁰⁶

In theory, members of the ESAB-CC are designated by the EEA Management Board following an open, fair, and transparent selection procedure.¹⁰⁷ The EEA Management Board consists of representatives from each member country, the European Commission, and scientific experts designated by the European Parliament. It has been stated that in the EU context, it is vital that most interested parties, the European Commission, the Parliament, the Council, but also civil society, business, and decision-makers in the member states, all trust the members of the ESAB-CC.¹⁰⁸ Member states and EU institutions are represented in the Management Board and thus in the selection procedure, but civil society and other stakeholders' views on members' expertise remains unclear.

The establishment of the advisory body has proceeded smoothly, and the 15 members represent a wide range of expertise. The timely establishment of the ESAB-CC and its multidisciplinary composition seem to hold potential for a broad outreach.¹⁰⁹ However, **the mandate and work programme of the ESAB-CC do not consider the use of external expertise.** This might undermine the effectiveness of the advisory board's work when there are no established ways of acquiring the needed expertise, or limit the scope of advice that can be given if relevant expertise is not available. The mandate gives the advisory body the task of providing advice based on the best available and most recent scientific evidence, including reports of the IPCC, IPBES and other institutional bodies. The ESAB-CC should therefore be able to provide advice on a variety of climate-related issues, but the lack of available expertise may prevent the task being fully fulfilled. As already noted above, the operational side of the work remains largely unspecified, even though

¹⁰² Nicholas Evans and Matthias Duwe, p. 44.

¹⁰³ Justus Lentsch and Peter Weingart, p. 15 – 16. Plurality of perspectives, theories and methods safeguard the proper knowledge and trust in it.

¹⁰⁴ Cynthia Elliott et al, p. 12. This enables effective operation of the body while it remains flexible to respond or pick up issues of interest.

¹⁰⁵ Alina Averchenkova and Lara Lazaro, p. 16.

¹⁰⁶ Art. 10a(3) EEA Regulation.

¹⁰⁷ Art. 10a(3) EEA Regulation. The Work programme 2023 confirms that the members were designated following an open, fair, and transparent selection procedure, Point 1.4.

¹⁰⁸ Alina Averchenkova and Lara Lazaro, p. 17. The authors suggest a selection process led by an external board composed of representatives of national climate change committees of governments.

¹⁰⁹ Till Eichler et al.

the ECL requires that the work of the advisory body is based on a “fully transparent process”.¹¹⁰ Thus, detailed procedural aspects remain to be defined and this applies to the use of external expertise as well.

Another aspect relating to the composition of an advisory body is leadership. It has been found that the body can effectively drive change when the voice of that body is respected among key stakeholders.¹¹¹ The strength and credibility of the chair and her/his ability to communicate the rationale to influential audiences was identified as key drivers in success of an advisory body in many countries.¹¹² In addition, previous research has suggested individual members should improve and strengthen their social media presence to establish their work.¹¹³

The legal mandate requires the Management Board to take care that a varied disciplinary and sectoral expertise is covered, as well as gender and geographical balance, when appointing the members.¹¹⁴ Currently, the geographical balance within the ESAB-CC is not ideal.¹¹⁵ As a solution, it has been suggested to widen outreach and deepen partnerships with scientific communities of central, eastern and southern EU regions, which are currently underrepresented.¹¹⁶ This would also enhance access to wider expertise.

3.2.4 Resources

Available resources have been found to be a key factor in the success of an advisory body. The support of a secretariat is critical and resourcing of a secretariat that helps to maximise the impact of the expert advisers’ time is crucial.¹¹⁷ The advisory body’s capacity to fulfil its task has been found of extreme importance.¹¹⁸ This means that there should be both support staff and adequate funding available to guarantee that the experts can contribute to the climate policy debate without doing it at the cost of their home institutions for example.¹¹⁹ Lack of resources challenges the bodies’ ability to fulfil their mandates.¹²⁰ Thus, sufficiency and certainty of funding is a key factor in the successful operation of advisory bodies.¹²¹

The ESAB-CC’s expenditure is included in the EEA budget.¹²² In addition to the salaries, the ESAB-CC has an annual budget of €500 thousand to support a wide range of tasks, e.g. communication, publishing, and dissemination and outreach. The initial budget of the board is less than what

¹¹⁰ Art. 3(3) ECL.

¹¹¹ Cynthia Elliott et al, p. 12.

¹¹² Ibid.

¹¹³ Till Eichler et al.

¹¹⁴ Art. 10a(3) EEA Regulation.

¹¹⁵ Till Eichler et al.

¹¹⁶ Ibid.

¹¹⁷ Cynthia Elliott et al, p. 14.

¹¹⁸ Nicholas Evans and Matthias Duwe, p. 32 – 34.

¹¹⁹ Ibid. p. 34.

¹²⁰ Ibid. p. 43.

¹²¹ Cynthia Elliott et al, p. 15.

¹²² European Scientific Advisory Board, Work Programme 2023, Point 1.5, and Art. 11 EEA Regulation.

similar bodies, e.g. the UK CCC have, but it remains to be seen how far the board is able to work with it.¹²³ By January 2024, hiring supporting staff is ongoing, but still far from the envisaged 14 full-time equivalents.

In addition to the task specified in the work programme, the advisory body commits to follow up on political developments and provide advice to policymakers where relevant, depending on the time and resources available.¹²⁴ Thus, **the possible restriction to the work of the ESAB-CC caused by the lack of staff and/or funding is recognised**. The flexible mandate may enable the ESAB-CC to pick up new tasks, but if there is a limited number of supporting staff or other lack of funding, there is a real risk of the ESAB-CC not being able to work effectively. As identified in previous research, the capacity to perform duties is often considered crucial to effectively deliver scientific advice to policymakers at the right time.¹²⁵ Adequate funding and support staff should therefore be guaranteed. Especially the lack of support staff might limit the ESAB-CC's possibilities to pick-up any tasks that are not explicitly dedicated to it in the legal mandate or work programme.

3.2.5 Transformative orientation

For a procedural governance mechanism to be effective, it should be designed with a transformative, long-term orientation towards climate neutrality.¹²⁶ In the context of the ESAB-CC, the transformative orientation criterion refers to the design of the ESAB-CC, i.e. whether it is designed with a transformative, long-term orientation towards climate neutrality, including features promoting long-term effectiveness.¹²⁷ The mechanism should be explicitly designed to help achieve climate neutrality and negative emissions; to both mention the goal of climate neutrality and determine how to contribute to achieve those goals.¹²⁸ In addition, the time horizon should be sufficiently long.¹²⁹

As described above, the ESAB-CC was established to ensure that scientific knowledge related to climate change is provided and to make sure any Union measure is coherent with the objective of climate neutrality by 2050. Therefore, it is **explicitly designed to help achieve net-zero by 2050**. The advisory board supports the transformation by acting as a point of reference for the Union on scientific knowledge and providing expert advice on the measures on the way toward climate neutrality. These tasks and functions are enshrined in the ECL and strengthened by the work programme.

¹²³ Sebastian Oberthür et al, p. 23.

¹²⁴ European Scientific Advisory Board, Work Programme 2023, Point 4.2.

¹²⁵ Nicholas Evans & Matthias Duwe, p. 43.

¹²⁶ Jana Gheuens & Sebastian Oberthür, EU Climate and Energy Policy: How Myopic Is It?, 9 *Politics and Governance* (2021), <https://doi.org/10.17645/pag.v9i3.4320>, p. 337 – 347.

¹²⁷ Brendan Moore et al. p. 20.

¹²⁸ Ibid. p. 21.

¹²⁹ Ibid.

Whether the scientific advice is considered properly or responded to by EU institutions remains to be seen. As mentioned above, the current governance framework does not include any requirements for the Commission to respond, and in theory there is a risk that the ESAB-CC's advice is not used in its full potential. The ESAB-CC is **a permanent body with a mandate to continuously provide advice on any Union measure and their coherence with the climate neutrality by 2050 target**. Its mandate seems to emphasise the role of scientific advice in EU climate policymaking, but to maximise the impact of the scientific advice provided by the ESAB-CC, its role in the policymaking process should be clarified and strengthened. The effective function of the scientific advisory board and genuine consideration of the advice by the Commission or other EU institutions would also significantly strengthen the transformative potential of the ESAB-CC.

3.3 Policy resilience

In the assessment of key procedural governance mechanisms within the EU climate governance system, the second assessment criterion is policy resilience. In this study, policy resilience refers to the mechanism's ability to maintain its coherence and adapt in the context of changing internal and external factors, such as changing political conditions or the Russian invasion of Ukraine in 2022.¹³⁰ Providing scientific advice has been found to be critical for more informed and predictable climate change policymaking and for making it less prone to political cycles.¹³¹

The ESAB-CC is a permanent body and it works independently, which enables it to consider which issues it finds most relevant to examine and provide advice on. The members are appointed in a personal capacity for a term of four years and this process is not related to any political cycle. Members have experience in conducting research and delivering scientific advice, and the selection procedure involves all member states and key EU institutions, which helps to ensure that the ESAB-CC members are committed to providing scientific advice independently from their other roles and institutions.

The **permanent nature of the ESAB-CC and its independence from other institutions help overcome political turbulence**. Its tasks focus on securing transformative climate policy with a long-term perspective of 2050, which are enshrined in law. Therefore, the board has a strong mandate of providing scientific advice on climate change with the aim of reaching net zero by 2050, albeit the recognition of such advice should be strengthened as described above.

In addition to the permanent and independent nature of the ESAB-CC, the **flexible mandate enables the board to pick up topics beyond the legal mandate or work programme**. This has already proved highly useful, when the 2022 revision of the TEN-E Regulation invited the ESAB-CC to provide advice on certain aspects. With an unspecified and flexible mandate, it is highly important to secure adequate funding for the ESAB-CC to take on these new tasks and to

¹³⁰ Ibid, p. 8.

¹³¹ Alina Averchenkova and Lara Lazaro, p. 10.

perform the ones it has committed to. Furthermore, the possibilities to use external expertise to complement the ESAB-CC's own work should be enabled as discussed above, to respond to changing internal and external factors properly.

3.4 Quality of implementation

The implementation effectiveness criterion relates to the effective and timely implementation of the mechanism. The quality of implementation is often a key assessment criterion to determine the effectiveness of a procedural mechanism. Regarding the ESAB-CC, it should be assessed if the advice of the ESAB-CC is implemented in a way that effectively moves towards climate neutrality. As discussed above, a key factor is that the advice is properly considered and responded to by the Commission and/or other EU institutions.

Another aspect is timing; timing of scientific advice can influence whether it is actually used in policy formulation. Favourable timings include the moments when a problem becomes impossible to ignore, a practical policy solution appears, or political events lead to sudden changes in a government's agenda. The influence of crisis events seems particularly significant.¹³² As the formal role of the ESAB-CC is not clearly defined, there is a chance that the advice is not provided at the right time for being effectively considered. If the EU institutions were required to consult the ESAB-CC during a certain phase of the policymaking process, the advice would be effective also timewise.

As the ESAB-CC has been established fairly recently, there is only limited data available on the use of the advice by EU institutions. One of the key tasks of the advisory body for 2023 was to publish recommendations for the 2040 climate target. The ESAB-CC published its recommendations in June 2023 and the Commission is expected to present the proposal for the 2040 target in early 2024.¹³³ There are some indications that the Commission followed the advice of the ESAB-CC and proposed a target of 90% emission reduction by 2040. A Commission internal memorandum reveals that the Commission is preparing the 2040 target proposal based on a 90% net GHG emission reduction.¹³⁴ In addition, in his hearing, Commissioner Hoekstra committed to act according to the ESAB-CC's advice.¹³⁵ Thus, it seems that, **at least relating to the 2040**

¹³² David C. Rose et al, p. 47 – 48.

¹³³ European Scientific Advisory Board, Scientific advice for the determination of an EU-wide 2040 climate target and a greenhouse gas budget for 2030 – 2050, 15 June 2023, available at <https://climate-advisory-board.europa.eu/reports-and-publications/scientific-advice-for-the-determination-of-an-eu-wide-2040/scientific-advice-for-the-determination-of-an-eu-wide-2040-climate-target-and-a-greenhouse-gas-budget-for-2030-2050.pdf/@@display-file/file>.

¹³⁴ Helsingin Sanomat, Komission sisäinen muistio paljastaa: Harkinnassa on EU:n päästötavoitteen merkittävä kiristäminen, available at <https://www.hs.fi/politiikka/art-2000009917664.html>.

¹³⁵ Commissioner Hoekstra in his hearing on 2 October 2023 before the European Parliament, available at https://multimedia.europarl.europa.eu/en/webstreaming/envi-itre-deve-afet-committee-meeting_20231002-1830-COMMITTEE-ENVI-ITRE-AFET-DEVE, see also the follow-up questions, available at <https://www.europarl.europa.eu/news/files/commissioners/wopke-hoekstra/en-wopke-hoekstra-additional-questions-and-answers.pdf>.

climate target, the Commission intends to follow the recommendations of the ESAB-CC. It remains to be seen how deeply the Commission proposal is based on the ESAB-CC's recommendations.

For the 2040 target, the Commission is required by the ECL to consider, among other things, the ESAB-CC's recommendations. However, it remains to be seen how the scientific advice provided by the ESAB-CC is considered when there is no specific requirement for the Commission to consider it. The advice is likely to be implemented more effectively when the interaction between institutions is clear and enables scientific advice to be provided at the right time.

In addition, the resources of the advisory body should be secured. A procedural governance mechanism is unlikely to be effective if the financial and personnel-related resources are not adequate. The establishment of the ESAB-CC has been rather smooth; the selection process of members was successful, and the board has taken up its tasks as planned. Nevertheless, there is some work to do for gathering a well-functioning group of support staff. Only eight members of staff have been appointed, while the aim is 14. Thus there might be a risk that this partly undermines the effectiveness of the work of the ESAB-CC.

4. Conclusion

The role of expert advice in climate policymaking is growing and climate framework laws generally include provisions on scientific advice on climate change related issues. With the adoption of the European Climate Law, the European Scientific Advisory Board on Climate Change was established to provide scientific advice on proposed Union measures and their coherence with the climate neutrality by 2050 target. This report assessed the current role and prerequisites of the board to deliver its expert advice function.

The ESAB-CC has a broad mandate allowing it to relatively freely to pick up issues it considers important for achieving the 2050 climate neutrality goal. Research and literature on scientific advisory bodies emphasises the importance of creating a clear, formal role for scientific advice in the policymaking process. The timely delivery of advice has also been recognised as crucial for maximising policy impact. The current role of the ESAB-CC remains unspecified, and this may seriously undermine the effectiveness of the scientific advice it provides. It is crucial for the upcoming reviews of the Governance Regulation and European Climate Law to clarify the role of scientific advice by clearly indicating the phase and timing of the policy process where the ESAB-CC's advice should be considered by the Commission.

An obligation for the Commission to consult the ESAB-CC or consider its advice in climate policymaking would also improve the legitimacy of policy- and decision-making. By requiring the Commission to explain how it has weighted, judged, or considered different types of advice, transparency of policymaking is improved, and decision-makers can assess the value of different evidence.

As the ESAB-CC has been operational for only a short period of time, the effectiveness of its work in shaping policies across sectors in the transition towards net-zero remains to be seen. The design of the advisory board indicates its structure and work is on the right path. The effectiveness of a scientific advisory board depends largely on the mandate, preferably enshrined in law. The ESAB-CC has a legal mandate that is enshrined in the ECL with the legally binding objective of climate neutrality and is explicitly intended to help policymakers generate policies fit for this target. With some clarification to the formal role of the board, the board should have all the prerequisites to improve science-based EU climate policymaking.

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About the project

4i-TRACTION – innovation, investment, infrastructure and sector integration:
TRANSformative policies for a ClimaTe-neutral European UnION

To achieve climate neutrality by 2050, EU policy will have to be reoriented – from incremental towards structural change. As expressed in the European Green Deal, the challenge is to initiate the necessary transformation to climate neutrality in the coming years, while enhancing competitiveness, productivity, employment.

To mobilise the creative, financial and political resources, the EU also needs a governance framework that facilitates cross-sectoral policy integration and that allows citizens, public and private stakeholders to participate in the process and to own the results. The 4i-TRACTION project analyses how this can be done.

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