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Transformative procedural climate governance: Mechanisms, functions, and assessment criteria

Deliverable 5.1

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Abstract

This report presents an approach to studying the EU's procedural climate governance, namely the frameworks, instruments and institutions that shape and support the climate-related decision-making process of the EU. Procedural governance plays a key role in the EU's approach to the transformation toward climate neutrality: it aims to ensure that policymaking is well-planned, carefully monitored, subject to rigorous evaluation, informed by expert advice, and incorporates the positions of various stakeholders and the public. Although the EU's procedural governance system has developed significantly in the past thirty years, it must be further strengthened to make the EU fit for climate neutrality by 2050. In this report, we conceptualise procedural governance as consisting of individual governance mechanisms, sub-divided into frameworks, instruments, and institutions. We also define eight procedural governance functions that these mechanisms can implement: target-setting, expert advice, planning, decision-making, implementation/enforcement, monitoring/evaluation, access to justice, and stakeholder participation. Finally, we present three criteria – overall effectiveness, policy resilience, and quality of implementation – for assessing the extent to which procedural governance mechanisms are 'fit for purpose' and can support a successful transformation to climate neutrality and net negative emissions.

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Abbreviations

ECL	European Climate Law
GHG	Greenhouse Gas
NECP	National Energy and Climate Plan
NLTS	National Long-Term Strategy
EIC	European Innovation Council
ESAB-CC	European Scientific Advisory Board on Climate Change
EU	European Union
EU ETS	European Union Emissions Trading System
LULUCF	Land use, land-use change, and forestry

Executive summary

Procedural climate governance consists of the frameworks, instruments, and institutions that shape the climate-related decision-making process and support the EU in designing and implementing its approach to climate change. The EU's procedural governance architecture includes frameworks such as the European Climate Law and the Governance Regulation, procedural instruments such as the National Energy and Climate Plans, and institutions such as the European Scientific Advisory Body on Climate Change. Procedural governance works in concert with **substantive climate governance**, which directly reduces greenhouse gas (GHG) emissions and includes substantive instruments such as the Effort Sharing Regulation, the EU Emissions Trading System (EU ETS), the Renewable Energy Directive, the Energy Efficiency Directive, and the CO_2 regulations for new cars, vans, and heavy-duty vehicles. Together, substantive governance and procedural governance constitute the EU's approach to meeting its **policy objectives and targets** such as reducing GHG emissions 55% by 2030 compared to 1990 (Figure ES1).

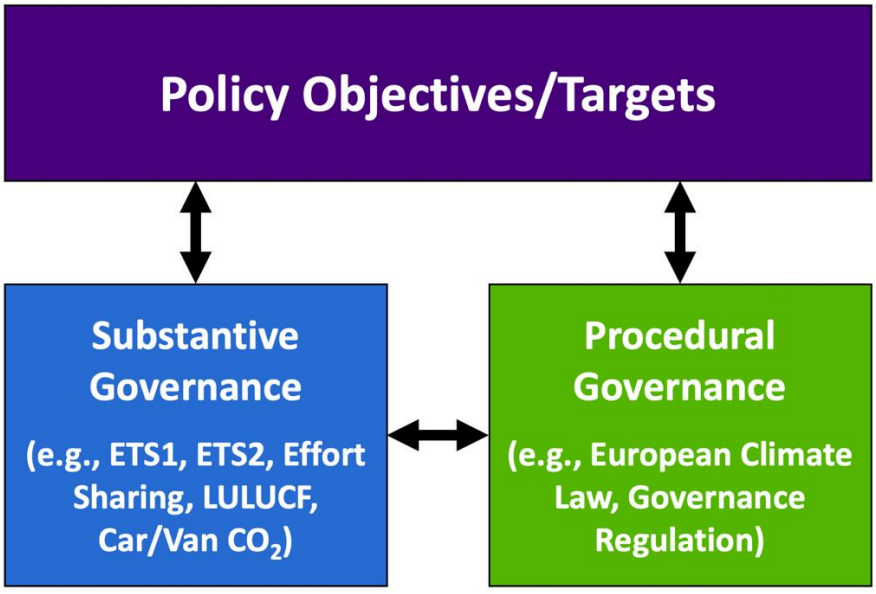

Figure ES1. Policy objectives, substantive governance, and procedural governance

See Figure 1 in main report.

Procedural governance is a key requirement for successfully reaching the hallmarks of transformative climate policy identified by Görlach et al. (2022). In that context, **transformative EU procedural climate governance** can be broadly defined as:

> **Procedural governance which actively facilitates the EU's transformation toward climate neutrality and negative emissions by providing support for the creation, strengthening, and implementation of its substantive climate policy.**

Procedural governance: frameworks, instruments, and institutions

In our approach, the overall concept of procedural governance is sub-divided into **governance mechanisms**, which we define as the individual components of the governance system that carry out its objectives. We identify three sub-types of governance mechanism: frameworks, instruments, and institutions.

- **Frameworks** are overarching governance mechanisms that structure how climate change policy and governance is carried out. Frameworks serve to create the overarching structure within which other governance mechanisms – instruments and institutions – operate. Examples of procedural governance frameworks include the European Climate Law, the Governance Regulation, and the European Green Deal.
- **Instruments** are the "the means that governments have at their disposal to address policy targets" (Hinterleitner et al., 2023, p. 3). Procedural instruments are those 'tools of government' which aim to affect how policy is formulated and implemented. Examples of procedural instruments include the National Energy and Climate Plans (NECP) and the National Long-Term Strategies (NLTS).
- **Institutions** are organisations that coordinate the processes and activities of the wider procedural governance system. Examples of climate governance institutions include the European Scientific Advisory Board on Climate Change (ESAB-CC) and the European Innovation Council (EIC).

Procedural governance functions

We take a functional approach to categorising procedural governance mechanisms, identifying eight procedural governance functions that they can carry out: target-setting, expert advice, planning, decision-making, implementation/enforcement, monitoring/evaluation, access to justice, and stakeholder participation (see Table ES1).

Table ES1. Procedural governance functions

Procedural Governance Function	Description
Access to Justice	Provide judicial access for stakeholders with legal standing.
Decision-making	Set guidelines for how decisions are made, including the policy process.
Expert Advice	Provide advice on climate science, public policy options, and other topics.
Implementation & Enforcement	Ensure existing law and policy is implemented correctly.
Monitoring & Evaluation	Monitor the implementation of policies and related environmental data. Evaluate the expected and actual impacts/effectiveness of policy.
Participation	Incorporate viewpoints & knowledge from stakeholders.
Planning	Provide short-, medium-, and long-term planning for climate policy.
Target-setting	Set overall policy objectives.

See table 1 in main report.

Assessment criteria for governance mechanisms

We identify three criteria that we will use (as part of future research) to assess key procedural governance mechanisms within the EU climate governance system. **Overall effectiveness** relates to a mechanism's ability to carry out its functions (such as planning or implementation) as well as the extent to which a mechanism has a transformative orientation. The latter means that it is designed with a transformative, long-term orientation towards climate neutrality/negative emissions and that it includes design features that promote long-term effectiveness. **Policy resilience** is a mechanism's ability to maintain its coherence and adapt in the context of changing internal and external factors, such as changing political conditions (i.e., after elections) or the 2022 Russian invasion of Ukraine. Climate governance faces a complex and constantly evolving social, economic, and political context, making such policy resilience especially important. The **quality of implementation** examines whether a mechanism is implemented in a way that effectively moves towards climate neutrality, as well as the extent to which it is adequately resourced.

1. Introduction

Reaching climate neutrality by 2050 requires comprehensive and ambitious EU climate governance (Duwe, 2022; IPCC, 2022; Oberthür et al., 2023). **Climate governance** is the broad approach to climate change that includes policies that directly reduce greenhouse gas emissions as well as supporting institutional architecture such as policy advice and public participation (Hölscher & Frantzeskaki, 2020). Within this broad umbrella term, we then distinguish between two distinct, yet intertwined sub-categories of governance: procedural climate governance and substantive climate governance. **Procedural climate governance** consists of the frameworks, instruments, and institutions that shape the climate-related decision-making process and support the EU in designing and implementing its approach to climate change. The EU's procedural governance architecture includes frameworks such as the European Climate Law and the Governance Regulation, procedural instruments such as the National Energy and Climate Plans, and institutions such as the European Scientific Advisory Body on Climate Change. Procedural governance works in concert with **substantive climate governance**, which directly reduces greenhouse gas (GHG) emissions and includes substantive instruments such as the Effort Sharing Regulation, the EU Emissions Trading System (EU ETS), the Renewable Energy Directive, the Energy Efficiency Directive, the CO_2 regulations for new cars, vans, and heavy-duty vehicles and others. An individual law or policy can provide both procedural and substantive governance. As an illustration, a largely substantive law may have underlying procedural components governing its operation (for example, the requirements for regular legislative evaluations under the EU ETS Directive).

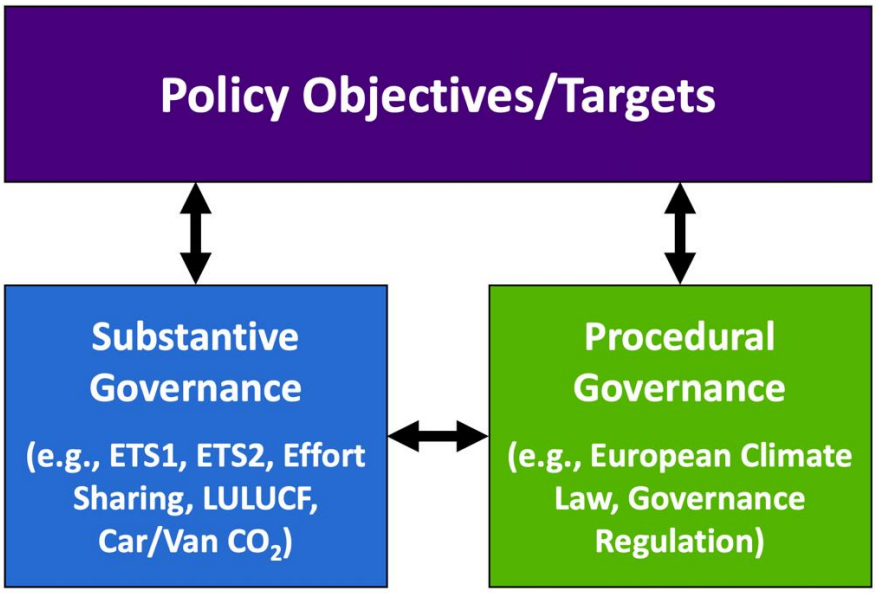

Figure 1 Policy objectives, substantive governance, and procedural governance

Together, substantive governance and procedural governance constitute the EU's approach to meeting its **policy objectives and targets** such as reducing GHG emissions 55% by 2030 compared to 1990 (see Figure 1). Both types of governance are necessary to reach climate neutrality by 2050. Without the substantive instruments that directly reduce emissions, procedural governance would not have an impact on the real world. Without procedural governance, there would be no managed process to change legislation, evaluate existing policy, carry out strategic planning, or involve external experts and other stakeholders.

Despite the importance of both governance types, the academic literature and policymaking discussion has placed most of its emphasis on substantive governance and instruments (Moore, Benson, et al., 2021; Schaffrin et al., 2015). Prior studies have looked at substantive instruments related to national-level renewable energy/energy efficiency policies (Schaffrin et al., 2015; Schmidt & Sewerin, 2019), adaptation policies in a cross-country perspective (Lesnikowski et al., 2019; Ulibarri et al., 2022), and EU-level policies (Jordan & Moore, 2022; Moore, Benson, et al., 2021; Oberthür & von Homeyer, 2022). However, procedural governance is the subject of a growing body of analysis (e.g., Duwe, 2022; Lesnikowski et al., 2019; Oberthür & von Homeyer, 2022). In this context, this report aims to advance thinking on the definition of transformative procedural climate governance and to develop a coherent approach to analysis and policy recommendations.

1.1 Towards transformative procedural governance

Climate change mitigation – and especially the goal of reaching climate neutrality by 2050 and negative GHG emissions thereafter – requires broad, rapid, and far-reaching changes across society (Fazey et al., 2018; IPCC, 2018; IPCC, 2022). These changes are increasingly referred to as *transformations* (Moore, Verfuerth, et al., 2021). In earlier work, Görlach et al. (2022) argued that a core objective of transformative climate policy is to develop procedural governance capable of facilitating transformative change. And indeed, building a transformative procedural governance system is a key requirement for the other core objectives of climate policy that Görlach et al. identified: **thinking backwards** from climate neutrality, overcoming the risk of undesirable **path dependency** and lock-in, and fostering **integration across sectors** (2022, pp. 19–27).

Procedural climate governance plays an integral role in meeting these three objectives. First, thinking backwards from climate neutrality involves long-term, strategic planning, careful monitoring and evaluation of policy, and the input from stakeholders – including experts and the public (Duwe, 2022). Second, reducing undesirable carbon lock-in also requires planning, strategic thinking, expert advice, and careful evaluation (Seto et al., 2016, pp. 443–444). Third, sectoral policy integration can be improved by, for example, incorporating integration-related questions in pre-legislative evaluations such as impact assessments, installing intra-governmental coordination mechanisms that can strengthen a "whole of government" approach, and involving climate-

focused stakeholders more closely in consultations surrounding policymaking in other sectors (Dupont, 2016, pp. 180–183).

In summary, procedural governance is a key requirement for successfully reaching the hallmarks of transformative climate policy we have previously identified. In that context, **transformative EU procedural climate governance** can be broadly defined as:

> **Procedural governance which actively facilitates the EU's transformation toward climate neutrality and negative emissions by providing support for the creation, strengthening, and implementation of its substantive climate policy.**

In its broadest sense, transformative governance of this type is that which can successfully manage the unique challenges of reaching climate neutrality (Oberthür et al., 2023). These challenges include: the strong and increasing urgency of climate mitigation in the face of inadequate emission reductions; the complex, evolving understanding of the problem and the solutions that are available to address it; the long-term nature of the challenge, requiring complex planning, the choice between trade-offs, and dealing with deep uncertainty; the need for whole-of-economy changes to implement the required societal transformations; and the politically and socially contentious nature of the changes that need to be made. Procedural climate governance which is transformative needs to be able to deal with these challenges simultaneously: for example, addressing technological and economic uncertainties, while reducing public and political resistance to change, all while governing a transformation happening in many sectors and policy areas.

1.2 Plan of the report

In section 2, we further conceptualise procedural climate governance, defining the sub-categories of governance mechanisms and the governance functions which they are designed to carry out. In section 3, we present criteria and benchmarks with which to assess various aspects of the EU's current system of procedural climate governance. These criteria need to explore the extent to which key governance mechanisms contribute to meeting the goals of climate neutrality and other EU climate objectives. They are included in an assessment framework based on overarching criteria that focus on the most important areas of assessment. Finally, in section 4 we conclude our argument and outline the next steps in our research process.

2. Procedural governance: Mechanisms and functions

Our approach to procedural and substantive climate governance has its roots in the policy studies literature, which has long focused on policy instruments: "the means that governments have at their disposal to address policy targets" (Hinterleitner et al., 2023, p. 3; see also, Hood, 1986; Salamon, 2000; Howlett & Cashore, 2009). This literature distinguishes between substantive policy instruments and procedural policy instruments (Howlett, 2000). For instance, Bali et al. (2021) define substantive instruments as those "which directly or indirectly affect the nature of the goods and services produced or consumed in society" (p. 297) and procedural instruments as those "designed to affect how a policy is formulated and implemented" (p. 298). Twenty years ago, Howlett (2000) called for an increasing focus on procedural instruments alongside the already significant literature on substantive instruments, both because of their increasing importance in modern governance and the need to "take both the substance and process of policymaking into account" This call has led to increasing academic focus on this topic (Bali et al., 2021, 2022). This development has been mirrored in the literature on climate change policy (Lesnikowski et al., 2019). Our approach expands the scope of analysis from substantive and procedural *instruments*, to the broader concept of substantive and procedural *governance*. Specifically, we focus on the key sub-components of procedural governance, which we term *procedural governance mechanisms.* The next section presents our approach to these mechanisms.

2.1 Governance frameworks, instruments, and institutions

In our approach, the overall procedural governance system is sub-divided into individual **governance mechanisms**, which we define as the individual components of the governance system that carry out its objectives. We identify three sub-types of governance mechanism: frameworks, instruments, and institutions.

2.1.1 Frameworks

Frameworks are overarching governance mechanisms that structure how climate change policy and governance is carried out. Frameworks serve to create the overarching structure within which other governance mechanisms – instruments and institutions – operate. These frameworks can take the form of *framework laws* (Averchenkova et al., 2021), which are individual pieces of legislation designed to provide this overarching structure, such as the UK Climate Change Act, the Danish Climate Law, the EU Governance Regulation, or the European Climate Law. However, frameworks do not need to be formal laws – the European Green Deal strategy plays a key overarching role as a framework in EU climate and energy governance but is itself based on a communication from the European Commission (COM/2019/640).

2.1.2 Instruments

Instruments are the "the means that governments have at their disposal to address policy targets" (Hinterleitner et al., 2023, p. 3). As noted above, procedural instruments are those 'tools of government' which aim to affect how policy is formulated and implemented. Their aim is to not to directly reduce GHG emissions. Instead, they aim to support the substantive governance processes that lead to these reductions, through functions such as planning, public participation, and implementation/enforcement. Procedural instruments are generally embedded in procedural governance frameworks: for example, the National Energy and Climate Plans (NECP) and the National Long-Term Strategies (NLTS) are two key planning-oriented procedural instruments that are embedded within the framework provided by the EU Governance Regulation.

2.1.3 Institutions

Institutions are organisations that coordinate the processes and activities of the wider procedural governance system. In distinguishing institutions from instruments, we differ from other procedural governance studies, which often treat institutions as a type of procedural instrument (e.g., Bali et al., 2021 define "inter-ministerial and inter-departmental committees" as a type of procedural instrument). We do so because institutions are constituted by decision makers and therefore have agency, including over their own rules and operations (unlike frameworks and instruments, which do not). Examples of climate governance institutions include the European Scientific Advisory Board on Climate Change (ESAB-CC) and the European Innovation Council (EIC).

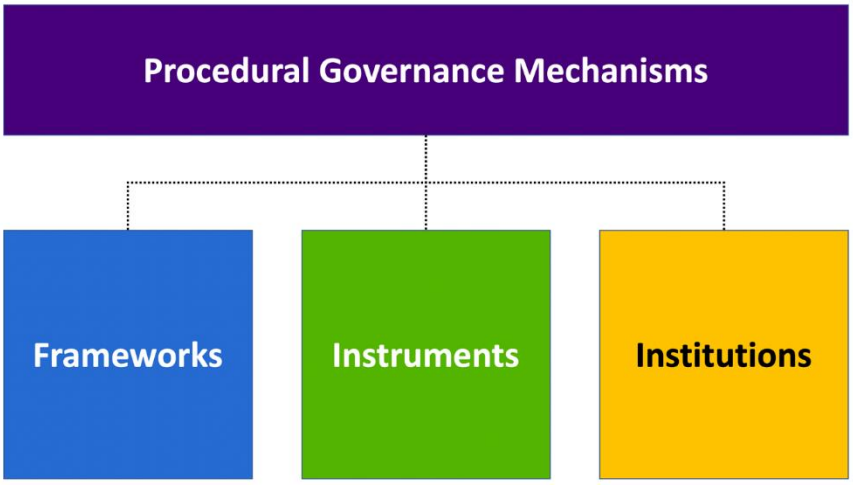

Figure 2 Procedural governance mechanisms

Note: Procedural governance mechanisms are the sub-components of the procedural governance system. There are three main sub-types of procedural governance mechanism: frameworks (overall systems providing structure & defining relationships); instruments (individual 'tools of government' aimed at carrying out specific governance functions); and institutions (organisations that coordinate governance activities).

These three types of mechanism – frameworks, instruments, and institutions – together constitute the procedural governance architecture for climate change policy in the European Union. Furthermore, they are integrated together with substantive governance mechanisms such as the EU ETS and the Effort Sharing Regulation in the full landscape of climate governance – both substantive and procedural – which makes up the Union's approach to the issue.

2.2 Procedural governance functions

Procedural governance mechanisms can be classified in several ways. One common approach in the existing literature on substantive governance is to examine the level of coercion that mechanisms employ, ranging from higher-coercion direct regulation to market-based instruments and lower-coercion voluntary agreements (Jordan et al., 2005; Moore, Benson, et al., 2021). Alternatively, mechanisms can be classified according to the resources that they employ. Hood (1986) distinguishes between four resource types: nodality, authority, treasure, and organization, a model which Howlett (2000) drew on in his early article on procedural instruments (see also Lesnikowski et al., 2019).

In this study, we are most interested in whether procedural governance mechanisms are successfully reaching their objectives; we therefore take a **functional approach to classifying procedural mechanisms.** Procedural governance mechanisms carry out several crucial functions. Various functional categorisations of procedural governance instruments have previously been put forward for health care policy and climate change adaptation (e.g., Bali et al., 2022, p. 328; Barbazza & Tello, 2014, p. 7; Lesnikowski et al., 2019, p. 453). In the climate mitigation research area, Evans and Duwe (2021) have, for example, posited three key roles (i.e., carrying out specific functions) played by national scientific advisory boards: advisor, evaluator, and convenor.

In this report, we modify and add to those existing approaches. Several of the functions we identify are derived from the literature on the public policy cycle (Jann & Wegrich, 2017). This literature generally identifies five stages of the policy cycle: agenda setting, policy formulation, decision-making, implementation, and evaluation. The first stage, agenda setting, when a policy problem is identified, is followed by policy formulation, when objectives are set and various potential policy responses are examined (Jann & Wegrich, 2017, pp. 45, 48; Jordan & Turnpenny, 2015). The decision-making phase encompasses the process when policymakers decide the final design of the policy in question (Jann & Wegrich, 2017, p. 50). Once a policy is adopted, it is implemented (implementation phase) and eventually evaluated by policy makers and others to assess its effectiveness in reaching its objectives (Jann & Wegrich, 2017, pp. 51–57; Schoenefeld & Jordan, 2019).

The last three of these policy phases form the basis for three of the procedural governance functions we identify: **decision-making, implementation/enforcement, and monitoring/evaluation**. Despite their overlap with the policy phases, these governance

functions are not necessarily confined to a single period during the policymaking process. For example, while monitoring and evaluation plays a key role in evaluating a policy after its adoption, in many political systems it also is used extensively in the policy formulation phase (including in the EU, where pre-adoption impact assessments are a standard part of the process).

Table 1 Procedural governance functions

Procedural Governance Function	Description	Illustrative examples
Access to Justice	Provide judicial access for stakeholders with legal standing.	Aarhus Regulation.
Decision-making	Set guidelines for how decisions are made, including the policy process.	Policy competences; Voting rules; EU institutions involved in decision-making.
Expert Advice	Provide advice on climate science, public policy options, and other topics.	External advice: EU Advisory Board, Commission reports by external actors. Internal advice: Advice from within Commission services, EP research service.
Implementation & Enforcement	Ensure existing law and policy is implemented correctly.	Infringement procedure; Enforcement in substantive legislation (fines in ETS; allocation transfers in Effort Sharing Regulation).
Monitoring & Evaluation	Monitor the implementation of policies and related environmental data. Evaluate the expected and actual impacts/ effectiveness of policy.	GHG/policy/statistical monitoring in Governance Reg. Ex ante impact assessments. Ex post policy evaluations/reviews.
Participation	Incorporate viewpoints & knowledge from stakeholders.	Climate Pact; Multi-level Climate and Energy Dialogues.
Planning	Provide short-, medium-, and long-term planning for climate policy.	National Energy & Climate Plans; National Long-Term Strategies; EU sectoral planning (e.g., Hydrogen Strategy).
Target-setting	Set overall policy objectives.	2040 target-setting process in the European Climate Law.

Note: Presented in alphabetical order with short descriptions and policy examples from the EU.

In addition to these initial three procedural governance functions, we identify five further functions, in part from existing literatures, that play important roles across multiple stages of the policy process. These include **target-setting** (McLaren & Markusson, 2020), **expert advice** (Craft & Halligan, 2017), **participation** from stakeholders (Willis et al., 2022), **planning** (Moallemi & Malekpour, 2018), and **access to justice** (Krämer, 2019). A list of the eight procedural governance functions be found in table 1. Each is addressed in more detail below.

It should be noted that the functions above are not only relevant to climate change. For example, functions related to public participation and decision-making are relevant for all areas of governance such as economic and social governance (for an example related to health

governance, see Bali et al. 2022). However, the climate challenge brings with it certain areas of focus that are more important than they might be for other policy areas (see Section 1). These areas include climate change's urgency, its long-term nature, its cross-sectoral and whole-of-society breadth, the evolving costs, risks, and technology related to it, and other aspects (Görlach et al., 2022; Oberthür et al., 2023). Governance mechanisms – and the functions they carry out – should be strongly focused on adapting to and addressing these specific climate-related challenges.

2.2.1 Target-setting

Policy targets – on greenhouse gas emissions, renewable energy, and other issues – play a key role in climate governance, setting the broad objectives around which more detailed policies are designed (Fitch-Roy & Fairbrass, 2018). We treat *policy targets themselves* as a distinct component of climate governance, separate from substantive and procedural governance mechanisms (see Figure 1). However, the *processes and mechanisms of target-setting* fall squarely within the realm of procedural governance.[1] Target-setting can play an important, context-setting role at the beginning of a broader policy process, by making clear the overall objectives that such a process is aiming toward (Boswell et al., 2015; McLaren & Markusson, 2020). It can also come about later in the process, when discussions surrounding policy means lead to a re-evaluation of the original objectives.

In the EU, target-setting processes often take place at the highest levels of EU politics, when the European Commission proposes broad strategic climate targets and the European Council decides whether and at what level they will be set (Bocquillon & Dobbels, 2014; Fitch-Roy & Fairbrass, 2018). Especially more recently, these processes have become increasingly formalised: the European Climate Law includes a formal governance mechanism setting out the process and timing for the European Commission to propose a 2040 GHG reduction target. EU-level targets and target-setting processes interact with similar dynamics at the international level (e.g., the highly influential 2°C/1.5°C temperature targets negotiated under the United Nations Framework Convention on Climate Change) as well as national/sub-national level (e.g., coal phase-out targets in many member states).

2.2.2 Planning

Planning plays a key role in climate governance (Moallemi & Malekpour, 2018). Short-, medium-, and long-term planning tools allow policy makers to consider potential alternative scenarios for both policy and emissions, map out the approach to reach policy objectives, and make their assumptions explicit to help improve policy design and implementation. This forward-looking

[1] This conceptual separation follows the approach in the policy studies literature that distinguishes between policy ends (objectives) and policy means, i.e., substantive and procedural mechanisms (the tools used to reach those ends, see especially Hall, 1993; Howlett & Cashore, 2009).

policy planning – and the connections between different time horizons – is especially critical given the climate challenge's evolving nature, as well as the need to connect short-term decisions (e.g., which nascent technologies to support with innovation funding in the next year) to broad, long-term planning on the direction of the climate transition (e.g., the most likely technological requirements in 2045 to reach climate neutrality).

The EU has a long-standing and highly complex landscape of planning related to climate change. Broad, EU-wide planning processes such as those related to the European Green Deal are carried out alongside a wide range of sectoral processes, such as the Hydrogen Strategy or the Methane Strategy (Duwe, 2022, p. 12). These strategies sit alongside and interact with more technical, scenario-focused planning tools, such as EU Reference Scenario 2020, which provides projections on e.g., GHG emissions, based on current EU policy. In the past decade, there has also been a proliferation in EU-mandated and supervised national planning processes, including the National Long-Term Strategies and National Energy and Climate Plans, as well as less climate-centric processes such as the European Semester's National Reform Programmes (which integrate discussion of the Sustainable Development Goals, including climate action).

2.2.3 Expert Advice

Policymaking relies on the provision of timely, relevant advice to decision-makers to improve the effectiveness of policy (Hustedt & Veit, 2017). This is especially the case in relation to the technically complex and long-term issue of mitigating climate change (Lacey et al., 2018). Expert advice mechanisms integrate such information into the policymaking process (Craft & Halligan, 2017). This integration happens throughout the policy process, including agenda setting/policy formulation (suggesting and analysing policy options), decision-making (examining new design options that arise during negotiations) and monitoring/implementation (being involved in the design of indicators or being directly involved in how a policy is implemented).

In the EU, such expert advice can come from advisory mechanisms within the EU institutions (internal research in the DGs or the European Parliament research service) or from external sources (independent institutions such as the European Scientific Advisory Board on Climate Change or the Intergovernmental Panel on Climate Change). For example, Evans and Duwe (2021) argue that national climate advisory bodies such as the Danish Climate Council can play key roles by advising policy makers, evaluating existing policy, and convening public participation around climate questions. Expert advice can also be incorporated directly into policy implementation: for example, the Innovation Fund draws on input from a dedicated expert group when designing its calls for proposals.

2.2.4 Participation

Participation by the general public and other stakeholders can increase the legitimacy of the policymaking process, improve policy by allowing for input from stakeholders, and raise awareness

and political engagement (Willis et al., 2022). Discussion of public participation at EU level has been especially prominent, given the debate about the extent to which a 'democratic deficit' exists in EU policymaking and how best to address it (Hix & Høyland, 2022, pp. 147–151). Participation can be integrated into a specific policy process (through public consultations on a legislative proposal) or dedicated fora, e.g., as seen in the recent rise in the use of climate change assemblies to solicit the viewpoints of citizens via deliberative approaches (J. Boswell et al., 2023).

At EU level, participation-related governance mechanisms are both focused on climate change (European Climate Pact) and more general in nature (the requirement for legislative public consultations in all policy areas). Participation can be implemented at EU level (legislative consultations and the European Climate Pact) or at member state level (the Multi-level Climate and Energy Dialogues and the public participation requirements for NECPs under the Governance Regulation).

2.2.5 Decision-making

To adopt, modify, and remove public policy, it is necessary to have 'rules of the game' that set out how these changes can be made, and which individuals/groups are involved in the process (Jann & Wegrich, 2017, pp. 48–51). It is also important to define the actors and institutions which will make decisions in this context. Institutions also fulfil decision-making functions, by making decisions in the original policymaking process, as well as during further implementation.

In the EU, many overarching decision-making rules are set by the EU Treaties (e.g., those which define which EU institutions are involved in the policymaking process, the voting rules on legislative files, e.g., the Ordinary Legislative Procedure). Others are set by legislation or interinstitutional agreements (e.g., the EU Transparency Register). Regarding procedural governance institutions, those such as the European Innovation Council hold decision-making responsibility for how innovation funding is allocated and the overall strategic priorities that guide to which projects it is distributed.

2.2.6 Implementation/ Enforcement

Effective implementation is a key stage of the policy cycle which translates the requirements in legislation into on-the-ground results (Skærseth et al., 2016). Implementation-focused governance mechanisms can be classified on a continuum between 'soft' (e.g., those found in voluntary agreements between industry and governments) and 'hard' (e.g., financial penalties).

As noted elsewhere in this report, implementation is a long-standing challenge in EU environmental legislation (Börzel & Buzogány, 2020), and is closely monitored as a result (see, e.g., the regular Environmental Implementation Review reports prepared by the member states). The EU implementation framework includes a range of mechanisms, from softer instruments (such as the review and recommendation model of the NECPs) to harder instruments such as the

infringement procedure (which can result in fines), as well as financial penalties created under effort sharing, LULUCF, or renewable energy legislation (Knodt et al., 2020; Knodt & Schoenefeld, 2020).

2.2.7 Monitoring/Evaluation

It is important to monitor overall progress towards climate, as well as to evaluate how well policies work after adoption and whether their impacts are sufficient to meet policy objectives (Schoenefeld et al., 2021). Monitoring-focused mechanisms can monitor both the underlying legislation and the substantive and procedural mechanisms those laws create. Closely related to monitoring is policy evaluation, an assessment of the extent to which a policy is successfully reaching its goals (Crabb & Leroy, 2012). Evaluation can occur before or during policy adoption – an *ex-ante* evaluation of projected impacts, costs, etc. – or after it is being implemented – *ex-post* evaluation (Crabb & Leroy, 2012, p. 6; Schoenefeld & Jordan, 2019). Effective monitoring and evaluation are key ingredients for ensuring transparency and accountability in EU policy processes (Bovens, 2007).

In the EU, *ex-ante* evaluation occurs, for example, via the European Commission's impact assessments which accompany legislative proposals. *Ex-post* evaluation occurs through processes such as legislative Fitness Checks and regular, mandatory policy reviews of legislation or individual instruments (European Court of Auditors, 2018). These can also be tied explicitly to an option (often held by the European Commission) to revise the legislation/instruments being evaluated.

2.2.8 Access to Justice

Access to justice is a fundamental human right and a means by which civil society can ensure that legal rights are respected, and obligations are met by governments (Krämer, 2019; Peel & Osofsky, 2020). Access to justice is a key element of the rule of law and enables civil society to have their say and to hold decision-makers accountable. In addition, it provides effective remedies to those whose fundamental rights are violated, as enshrined in the Charter of Fundamental Rights of the European Union.[2] Access to justice in environmental matters specifically is also governed by the UN Aarhus Convention, to which the EU and its member states are parties.

Effective access to justice should go hand-in-hand with the implementation of EU climate legislation. Governance mechanisms related to this function provide access to administrative or judicial review procedures, regulate legal standing and how the EU and its member states must respond (most importantly the internal review procedure laid down in the Aarhus Regulation and the judicial review procedures laid down in the Treaties).

[2] Article 47.

3. Criteria for assessing transformative EU climate governance

There are a number of approaches to evaluation our approach to assessing EU climate-related procedural governance is closest to what Vedung (2012) refers to as the goal-attainment/effectiveness model: does the policy achieve its objectives? The evaluation of procedural governance differs from that for substantive governance in important ways. For many substantive instruments, policy assessment examines whether and to what extent an instrument or a policy mix has reduced emissions. For example, there is an extensive academic literature on whether the EU Emissions Trading System (ETS1) has contributed to emission reductions and driven increased climate-related innovation (e.g., Ellerman et al., 2016).

However, procedural mechanisms do not directly reduce emissions – as a result, measuring success or failure focuses on whether a mechanism "affects how a policy is formulated and implemented" (Bali et al., 2021, p. 298) in a way that adequately supports the transition to climate neutrality. A successful architecture for access to justice or public participation cannot easily be measured in emissions reductions: the benchmarks for success are procedural rather than substantive. In addition, the success criteria for governance mechanisms with distinct functions cannot easily be examined with the same criteria (e.g., expert advice vs. access to justice). Despite these issues, some mechanisms can be assessed on whether they lead to intermediate policy outcomes. For example, does an EU strategic plan with concrete action points lead to their successful implementation within three years?

Within this context we use a broad, flexible assessment framework that focuses on procedural governance effectiveness while creating the flexibility for researchers to design tailored criteria that is most relevant to a specific case study. This framework consists of three distinct but interrelated aspects of procedural governance (see Table 2 below). First, we examine **the overall effectiveness** of governance mechanisms. Overall effectiveness relates to both a mechanism's ability to carry out its procedural governance functions (such as planning or implementation) as well as the extent to which a mechanism has a transformative orientation. The latter means that it is designed with a transformative, long-term orientation towards climate neutrality/negative emissions and that it includes design features that promote long-term effectiveness. Second, we look at mechanisms' **policy resilience**, their ability to maintain their coherence and adapt in the context of changing internal and external factors, such as changing political conditions or the 2022 Russian invasion of Ukraine. Climate governance faces a complex and constantly evolving social, economic, and political context, making such policy resilience especially important in this case. Third, we examine the **quality of implementation**, both whether a mechanism is implemented in a way that effectively moves towards climate neutrality as well as the extent to which it is adequately resourced.

3.1 Overall effectiveness

The first criterion that we examine is related to the general strengths and weakness of a governance mechanism. Overall effectiveness is a governance mechanism's **ability to successfully carry out its functions and to adequately support alignment with the move to climate neutrality**. Some mechanisms have one primary governance function as their focus – e.g., the primary focus of the European Climate Pact is to encourage participation. Others have multiple functions: the European Climate Law and the Governance Regulation, as overarching frameworks, have a wide range of governance functions to perform. The European Climate Law covers functions related to monitoring/evaluation (regarding the climate neutrality target), expert advice (creating the European Scientific Advisory Board), and target-setting (related to the process for setting the 2040 GHG target). The Governance Regulation covers functions related to planning (NECPs, NLTSs), monitoring/evaluation (national progress reports on the NECPs), and participation (through the Multi-level Climate and Energy Dialogues), among others.

In the context of the transformation necessary to reach climate neutrality and negative emissions, governance mechanisms must also contribute to long-term thinking and transformative change in the sectors that they address (Gheuens & Oberthür, 2021). A mechanism can be designed and implemented effectively, but still might not be ambitious enough to be transformative. This criterion tries to capture that issue – by bringing into the analysis **an examination of how transformative a mechanism's orientation is**: whether the mechanism is explicitly designed to help with climate neutrality and negative emissions – i.e., if it mentions those goals and makes clear how it contributes to the overall path toward those overarching objectives. We also examine whether the mechanism's time horizon is sufficiently long – e.g., in the case of the National Energy and Climate Plans, they are designed as medium-term planning instruments, they do not look and are not designed to look that far ahead, but they do need to be aligned with the National Long-Term Strategies.

3.2 Policy resilience

The second criterion relates to **policy resilience** (Béland et al., 2020), how a governance mechanism is able to adapt to both endogenous and exogenous circumstances – either by maintaining itself and its objectives – policy durability – or allowing policy makers to adapt its design to address these changes – policy flexibility (Jordan & Moore, 2022). Policy resilience is especially important for climate policy: it is vulnerable to changing economic and political conditions because it often, for example, imposes concentrated costs on influential existing interests and can be sensitive to changing conditions such as the cost of fossil fuels (Jordan & Moore, 2020; Levin et al., 2012).

As noted above, there are two key components of policy resilience. First, **policy durability** is the ability of a governance mechanism to continue over the long term despite changing circumstances

(Jordan & Moore, 2020). This criterion focuses on design aspects that allow a mechanism to both survive as a policy and remain relevant. Political support is a key aspect of durability: without such support, a mechanism is at risk of being weakened or dismantled (Gravey & Jordan, 2016; Gürtler et al., 2019). Jordan and Moore (2020) discuss **durability devices**, aspects of a policy – in this case a governance mechanism – that serves to help lock it into place politically, such as 'no-backsliding' clauses or legally binding objectives. Durability can also be measured empirically based on the lifespan of a mechanism, and whether it has undergone several legislative changes or retained the same design.

Policy flexibility is the ability of a governance mechanism to address changing circumstances (Hölscher & Frantzeskaki, 2020, p. 11; Jordan & Moore, 2020; Kirschke & Kosow, 2022, p. 489). Mechanisms need to be flexible and adaptable, possessing the ability to react to changing circumstances or, alternatively, giving policy makers themselves to have the space to react to those circumstances via a review and revision requirement. These can be identified by **flexibility devices**, which include the above-mentioned review requirements that require policy makers to evaluate the progress of a mechanism, as well as 'action triggers', such as reaching a certain level of greenhouse gas emissions, which automatically requires a response.

3.3 Quality of implementation

The third criterion we examine is the **quality of implementation** of a mechanism. Successful implementation determines whether a governance mechanism's design results in the on-the-ground outcomes foreseen when it is adopted. Implementation can happen at EU level, in the member states, or by other actors that are responsible. Therefore, the quality of implementation is often a key assessment criterion when examining the strengths and weaknesses of procedural mechanisms. If it is a nationally oriented mechanism such as the NECPs, the focus will be on member state implementation and its interaction with the EU-level architecture. If it is, in contrast, an EU-focused mechanism, the implementing actor might be the European Commission or an independent agency such as the European Climate, Infrastructure and Environment Executive Agency (CINEA). Implementation is especially relevant for governance mechanisms coordinated at member state level – for example, many of the challenges with tools such as the National Energy and Climate Plans and National Long-Term Strategies are related to effective and timely implementation, as opposed to weaknesses in the original legislation (e.g., Duwe, 2022; Oberthür et al., 2023; Velten et al., 2022).

An important sub-aspect of this criterion is whether the mechanism has adequate financial and personnel-related resources (Schaffrin et al., 2015, p. 263). Mechanisms need financial, intellectual, and staff resources to operate effectively. The challenge of insufficient resources has been demonstrated in the procedural governance arena, including the lack of expertise-related resources given to member states when preparing their National Long-Term Strategies in comparison with the better-resourced technical support related to the National Energy and Climate Plans (Duwe, 2022, p. 25; Velten et al., 2022).

3.4 Additional criteria

Like any assessment, the relevance of individual criteria will vary depending on the exact mechanism being assessed. The three groups of criteria above will play varying roles depending on the focus of an assessment. An assessment that focuses on existing gaps in the governance system (i.e., a gap analysis) would not be able to assess the quality of implementation if its main finding is that existing governance does not adequately address the topic. It is therefore foreseen that all assessments carried out will address the first category, overall effectiveness, and that the engagement with policy resilience and quality of implementation will vary on the exact area of focus.

There is also room within our assessment to develop tailored criteria for assessing an individual mechanism. Therefore, our assessments will explicitly incorporate an iterative learning process whereby criteria can be added or modified as the research progresses to provide flexibility. One possibility may to be to incorporate a criterion related to efficiency, which is addressed under the EU's Better Regulation agenda and is often used in policy assessment, especially in economics where it plays a key role in evaluating cost effectiveness and underpinning cost-benefit-analysis (Vedung, 2012, p. 388). In another example, several key procedural governance mechanisms are focused on one of the 4is: innovation, investment, integration, and infrastructure (see Görlach et al., 2022). In each of these areas, it would make sense to include a criterion related to the 4i's that are in focus, asking how well the mechanisms being studied support the theme that they are related to.

Table 2 Assessment criteria for procedural climate governance

Category	Potential Assessment Questions
Overall effectiveness	
A governance mechanism's ability to successfully carry out its governance functions and to contribute to long-term planning and transformative change in the sectors that it addresses.	Does the governance mechanism successfully carry out its functions? Are the mechanism's overall goals in line with climate neutrality? Does the mechanism consider a long-term perspective?
Policy resilience	
A governance mechanism's ability to adapt to both endogenous and exogenous circumstances – either by maintaining itself and its objectives (policy durability) or allowing policy makers to adapt its design or its objectives to consider these changes (policy flexibility)	Does the underlying legislation have a review/revision obligation that requires regular evaluation? How effective is this evaluation process? Is there a process for responding to changing economic, political, scientific conditions? How effective is this process? Does the mechanism have sufficient buy-in from key stakeholders and policy makers to continue? Does the policymaking process to adapt the mechanism require the agreement of a large number of 'veto players'?
Quality of implementation	
The effectiveness with which a governance mechanism is implemented, including the provision of adequate resources.	To what extent is the mechanism being implemented effectively? Is the mechanism adequately resourced?

4. Conclusions and future research

Procedural climate governance plays a key role in the EU's approach to climate change. The mechanisms that make up this architecture carry out multiple, sometimes overlapping functions, and are closely related to the EU's substantive climate governance centred on instruments such as the Effort Sharing Regulation and the EU Emissions Trading System. In this report, we have conceptualised procedural climate governance, its mechanisms and functions, and a set of criteria that will be used to assess key mechanisms within the EU's governance architecture.

These concepts will now inform our future research on procedural climate governance in the EU. We will produce an inventory of the key frameworks, instruments, and institutions in EU climate governance, drawing on the procedural governance functions outlined here as well as their relationship to investment, innovation, infrastructure, and integration. From this inventory, we will then choose key focus areas for assessment based on their importance, their relevance to current policy processes, their relevance to the 4is, and existing research expertise of the relevant partners. We will then assess each chosen mechanism according to the criteria laid out in section 3 of this report, modified where relevant to consider the specificities of the chosen assessment foci as well as improvements to the criteria discovered in the process of analysis. Finally, we will make recommendations for procedural governance reform based on our assessment, to inform EU policymaking on procedural climate governance for 2030 and toward climate neutrality.

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About the project

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

To achieve climate neutrality by 2050, EU policy will need 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 necessary 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.