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The challenge of ratcheting up climate ambitions: Implementing the 'experimentalist' EU energy and climate governance regulation

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ABSTRACT

The 2015 Paris climate Agreement established a 'bottom-up', pledge and review process as international climate governance's central framework. The European Union's governance framework – the Energy and Climate Governance Regulation (EUGR) – uses a similar architecture. Both require states to regularly create, revise and update national plans while ramping up ambitions towards meeting the collectively agreed commitments and sharing features of Experimentalist Governance. This paper contributes to the debate on experimentalist climate governance's effectiveness. It assesses systematically the implementation of EUGR based on documentary analysis and expert interviews. We find that the process has been partially effective in raising ambitions but has remained incremental, technocratic and depoliticised. Experimentalist processes such as the EUGR and Paris Agreement require a high level of public and stakeholder engagement to operate but politicisation can have, in turn, adverse effects. This raises questions regarding the ability of experimentalist climate governance to deliver, alone, rapid emission reductions.

1. Introduction

International energy and climate politics has shifted towards increasingly 'bottom-up' and experimental governance frameworks, where national pledges are reviewed and their contribution towards the common targets assessed. Observers have characterised this shift as 'the new logic of

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international climate politics' (Falkner 2016, p. 1107, UNFCCC 2015). The 2015 'Paris Agreement' commits its parties to keeping global warming below 2°C and aiming for below 1.5°C. States are required to submit non-binding pledges, Nationally Determined Contributions (NDCs), which are the central instrument for achieving the headline targets and designed 'to encourage data disclosure, highlight innovative actions, and build momentum' (Jernnäs 2023, p. 18). A stock-taking exercise (the 'Global Stocktake') then determines if the parties are on track towards meeting collective targets. This is a markedly different approach from the 'top-down' 1998 Kyoto protocol, which sets legally binding targets for industrialised countries.

This new logic is also detectable within the context of the EU, a major climate change actor with leadership ambitions (Oberthür and Dupont 2021). Informed by the Paris Agreement, a strikingly similar governance process has been established, defined in law as part of the 2018 Energy Union Governance Regulation (EUGR – Regulation 2018/1999). Member states submit national pledges defining their national targets and policy measures towards meeting collective EU objectives – the National Energy and Climate Plans (NECPs). The plans are then reviewed and evaluated by the European Commission, to identify potential gaps and ensure the achievement of collective EU targets. The overarching targets are a 55% net reduction in Greenhouse Gas (GHG) emissions by 2030 and net zero by 2050, complemented with additional targets for renewable energy and energy efficiency.[1]

At the heart of both the Paris Agreement and the EUGR is the tension between sovereignty and effectiveness. The bottom-up frameworks were designed to help overcome national divisions and negotiating deadlocks, alleviate reluctance towards top-down target setting, mitigate sovereignty concerns and ensure an acceptable degree of autonomy for member states (Falkner 2016, Keohane and Oppenheimer 2016, Bocquillon and Maltby 2020). Both frameworks display features characteristic of Experimentalist Governance (EG) (Bocquillon et al. 2020, Sabel and Victor 2022). Headline targets are agreed at higher governance levels (UNFCCC; EU) and lower-level units – i.e. parties or member states – have autonomy in defining their national plans to achieve those objectives, with a periodic cycle of reviews and revisions that allows space for adjusting targets and instruments in light of new developments and learning (Sabel and Zeitlin 2008, Sabel and Victor 2017). The flexible and recursive nature of EG appears, on the face of it, particularly suited for climate governance, with its high levels of complexity and uncertainty. As both the EUGR and Paris Agreement undergo new experimentalist cycles, assessing effectiveness is timely and important.

One key concern with EG, in general (Börzel 2012) and with regard to international climate change negotiations in particular, however, is whether it can be delivered in the absence of hard enforcement mechanisms (Bang et al. 2016). This represents a gap in the literature,

which focuses on the benefits and design of EG. To evaluate the extent to which EG frameworks, based on bottom-up processes of pledge and review, work in practice and whether they can deliver ambitious commitments to emission reductions, this paper explores the case study of the operation of the EU's energy and climate governance framework, focusing on the EUGR's implementation. We ask: how successfully has the EUGR combined national flexibility with effectiveness in delivering and ratcheting up the EU's collective energy and climate commitments?

The case study of EUGR is well suited to analyse the implementation of EG and its operation and effectiveness. The densely institutionalised, complex and polyarchic EU framework provides favourable conditions for the operation of experimentalist climate governance. As such, it represents a test case, which implications can be drawn from to identify challenges and lessons for other experimentalist settings. While the literature has looked at the negotiations and design of the EUGR (Oberthür 2019, Bocquillon and Maltby 2020), this article is the first to systematically analyse empirically the implementation of the EUGR.

In terms of policy output, whilst we find that member states marginally increased their commitments, ambition and implementation gaps remain. Experimentalist processes require a high level of public and stakeholder engagement for deliberation and learning to take place and peer and societal pressure to be effective. Yet, these have all been limited to EUGR, as its implementation has remained a rather process-oriented, incremental, technocratic and depoliticised exercise. Overall, our contribution raises broader questions about the suitability of Experimentalist Governance frameworks in delivering rapid emission reductions, and whether more acute politicisation can address this challenge without creating deadlock.

The article proceeds by outlining the literature and debates on the challenges of implementation and enforcement in experimentalist, bottom-up governance frameworks, and then proposing an assessment framework centred on their key effectiveness mechanisms. Following a brief outline of our case study and qualitative methodology, we present our findings on the EUGR's operation and conclude with reflections on the EU experience and strengths and challenges of experimentalist climate governance.

2. Experimentalist climate governance and the challenge of effectiveness

We first outline how experimentalism has become an increasingly prominent climate feature, then present key mechanisms of Experimentalist Governance.

2.1. Experimentalist governance: the new (climate) normal?

A shift away from traditional hierarchical governance towards more decentralised and flexible forms of governance has been identified across policy fields and institutional contexts. One prominent approach (Sabel and Zeitlin 2008) identifies a shift away from traditional hierarchical forms of governance towards inclusive, deliberative, locally informed, adaptive and recursive Experimentalist Governance (EG). EG involves an ongoing, iterative and recursive cycle in four steps: 1) based on deliberation,[2] broad framework goals, or specific targets, are defined at a higher governance level; 2) responsibility for the implementation of those goals rests with lower-level units more attuned to the local context and retaining significant discretion in defining specific objectives and instruments; 3) regular (and public) reporting enables peer review and exchange of best practices; 4) procedures and goals are periodically revised based on learning from past experience. EG is particularly well suited to policy areas characterised by 'polyarchy' and 'strategic uncertainty'.

The spread of EG has been documented in different national and regional political settings including, most prominently, the EU (Sabel and Zeitlin 2008). EU energy and climate policies have provided a fertile ground for the emergence of more bottom-up, recursive approaches that enable deliberation and learning, due to the complexity of energy market and climate regulations as well as a wide variety of national situations and energy mixes, but also to alleviate national sovereignty concerns (Bocquillon *et al.* 2020). At the global level, authors have also found that Global Experimentalist Governance (GEG) is a novel but increasingly widespread type of framework, from the Ozone layer regime, to climate change governance and forest certification (De Búrca *et al.* 2014, Sabel and Victor 2022). The key elements of the GEG cycle are similar to EG. Deliberation is key to the definition and redefinition of preferences, targets and instruments, based on the exchange of information and experience, and ultimately practical, problem-solving oriented learning.

In the area of climate change, experimentalist forms of governance have become an increasingly attractive feature in the face of negotiation failures and deadlocks. With its binding targets, the Kyoto Protocol was described as top-down and contrasted with more bottom-up initiatives (Andresen 2015). While Kyoto's legacy is contested due to its failure to curb emissions and keep all parties on board (most notably the US), bottom-up initiatives have been extolled for being more sensitive to the local context, flexible and adapted to the complexities and uncertainties of climate change and deal-making, and politically palatable to a wider range of actors (Sabel and Victor 2017). Various bottom-up climate initiatives have flourished after the perceived failure of the 2009 Copenhagen climate

summit, including 'building blocks' (e.g. voluntary cooperation focusing on specific climate-related issues such as deforestation); 'climate clubs' (cooperations between subsets of more ambitious actors); and cooperation between non-state actors such as cities (Jordan *et al.* 2015). The 2015 Paris climate agreement, adopted as the successor to the Kyoto Protocol, is often characterised as a bottom-up framework with experimentalist features (Sabel and Victor 2017, 2022) and invested with hopes that its universal character and flexibility will ensure its success (Falkner 2016, Keohane and Oppenheimer 2016), able to meet the trilemma challenge of broad participation, deep ambition and sufficient compliance (Bang *et al.* 2016, Dimitrov *et al.* 2018, Tørstad 2020).

2.2. Analytical framework: key mechanisms for assessing the effectiveness of experimentalist climate governance

While the EG literature has tended to focus on the design and operation of experimentalist frameworks in a variety of areas and political settings and emphasised benefits in fostering, collaboration, learning, and democratic participation, it has failed to provide a systematic assessment of their implementation and effectiveness in delivering commonly agreed objectives. This article aims to address this gap.

Indeed, while the flexibility of experimentalist governance appears to be well suited to accommodate complex and uncertain negotiations within a rapidly changing technological and political environment, it also presents challenges for implementation and effectiveness in the absence of hierarchical steer (Börzel 2012). For climate specifically, this raises questions about EG's ability to deliver sufficiently ambitious climate commitments and policies on the agreed timescale. In the Paris Agreement, compliance and enforcement have been identified as its 'Achilles' heel' (Bang *et al.* 2016) given that it relies mainly on procedural obligations – designed to be catalytic and facilitative – but lacks a structure of incentives to ensure adequate ambitions and effective implementation (Dimitrov *et al.* 2019, Falkner 2016, Raiser *et al.* 2020). EG's process-oriented nature may run the risk of turning it into a technocratic exercise, where the focus is more on fulfilling procedural obligations than reaching ambitious outcomes. The rest of this section provides a framework to assess the institutions and practices that are key to EG's effectiveness.

A key widely identified mechanism for compliance is the transparency of the national planning and target setting process (Dimitrov *et al.* 2019, Keohane and Oppenheimer 2016, Raiser *et al.* 2020). Although the plans and their implementation are left to the lower-level, clear guidelines for devising them and reporting publicly are essential. Centrally, a set of common standards and formats for drafting plans and regularly presenting or updating targets, policies

and progress are necessary to achieve comparability and facilitate their public assessment (Raiser *et al.* 2022, Sabel and Victor 2022).

Relatedly, the public participation of a wide range of actors – including interest groups and the general public – in the definition of targets and instruments is key for pooling context-specific knowledge and experience, enabling the contestation of official proposals and expanding the range of feasible alternatives (Sabel and Zeitlin 2008). By opening-up the decision-making process, public participation also aims to increase buy-in, facilitating implementation. For climate policy, this is especially important to enhance non-state actor engagement and bottom-up pressure on governments, potentially counteracting – at least partially – domestic veto players (Raiser *et al.* 2022).

A transparent and reliable procedure for the recursive review and assessment of the decentralised plans and of implementation experiences in different local contexts is essential to enable deliberative peer-review and learning (Sabel and Zeitlin 2008, 2012, Sabel and Victor 2022). It makes possible the identification of successes and failures, facilitating lesson drawing and diffusion of particular institutional and technical innovations between actors and across scales. However, innovation depends on the extent to which it is 'encouraged and coordinated' (Sabel and Victor 2022, p. 3). This function can be fulfilled by bureaucratic and/or civil society actors (Schoenefeld and Jordan 2017). For climate, as with the Paris Agreement, tracking the content and credibility of national plans is challenging, both because of their heterogeneity and the technical and complex nature of the task (Victor *et al.* 2022), which requires extensive resources (Raiser *et al.* 2022). In the EU, the European Commission's role in assessing and comparing is key, due to its extensive technical and policy expertise.

Transparency and peer review are also essential for accountability, creating incentives for compliance through peer and bottom-up pressure (Bang *et al.* 2016, Falkner 2016). Benchmarking of progress and blaming and shaming can create soft rewards for leaders, as well as incentives for laggards (Dannenberg *et al.* 2023). By making clear which actors are delivering on commitments in achieving collective targets, they enable governments to monitor each other's progress and disincentivise free-riding. They also create domestic or transnational pressures on governments to live up to their proclaimed ambitions. This 'politicisation' of the process, defined here as the rise in issue salience, actor expansion and opinion polarisation (Kriesi 2016), has therefore the potential to increase public pressure for action. However, too intense politicisation can create polarisation, backlash and deadlock (Marquardt and Lederer 2022, Paterson *et al.* 2022).

Finally, periodic revisions represent opportunities for the adaptation of the framework, based on learning or in case of failure. They also create pressure for parties to 'play the experimentalist game' to avoid 'penalty defaults', i.e. undesirable alternatives (Sabel and Zeitlin 2008). If there is a risk of failing to meet the

collective targets, the perspective of an undesirable alternative incentivises lower-level units (e.g. states) to comply (Sabel and Victor 2022). Penalty defaults can take the form of non-cooperative outcomes when states develop their own national policies in a competitive manner. The shadow of the hierarchy (Eberlein 2008) – i.e. the reimposition of hierarchical governance through more binding or top-down rules – can also act as an incentive for cooperation. Unlike at the international level, where environmental legal systems and compliance mechanisms tend to be less stringent, in the EU context – with its well-developed legal framework and role for the European Court of Justice – the shadow of hierarchy is a credible possibility through a Commission legislative proposal or Court proceedings.

3. Case study and methods

This section presents in more detail the experimentalist EUGR framework and the methods and data used to analyse its operation.

3.1. The case of the EU governance regulation as climate experimentalist governance

In the EU, the 2018 EUGR represents a central process for coordinating member states' efforts and monitoring progress towards EU climate and energy objectives. Originally adopted in December 2018 to deliver on Paris Agreement commitments, it heralded a new approach to energy and climate governance due to its decentralised, experimentalist character (Bocquillon *et al.* 2020) (see Annex Table A1). As part of the EUGR, member states submit *pledges* in the form of integrated National Climate and Energy Plans (NECPs). The draft NECPs include information defined in broad terms in the EUGR and further specified through Commission templates and a structured, transparent, iterative process between the Commission and member states (Regulation 2018/1999: Article 1).

The plans are subject to *review* by the Commission, as well as *regular reporting* of progress. The NECPs – draft and final – and Commission's recommendations are made public, with the objective of facilitating exchanges of best practices and peer pressure from other governments, but also public criticism and the critical engagement of civil society (Bocquillon *et al.* 2020). Each country needs to submit biennial progress reports, while the Commission monitors aggregate progress through annual 'State of the Energy Union' reports. Additionally, the EUGR mandates governments to produce long-term strategies towards the Paris Agreement's targets (in 2020 and every 10 years). EUGR is intended as a recursive process with *periodic revision* based on learning and considering new developments. In the first experimentalist cycle,

the drafts were submitted in 2018, and revised and approved by 2020. In the second cycle, updated drafts were required by June 2023, with increased ambitions in line with the new more ambitious headline EU targets. Here, we focus on its operation over its first completed cycle, spanning 2018–2022.

The EUGR is designed to mirror and implement the Paris Agreement (referenced over 50 times through the text) (Interview 8, Regulation 2018/ 1999). Indeed, the deadlines and reporting obligations align with the Paris Agreement, most notably, the 2023 'Global Stocktake' of its implementation and the world's collective progress towards its objectives (Qi *et al.* 2024).

3.2. Methods and data

In our empirical assessment, we look at the quality of the process – e.g. transparency, participation, etc., – as well as policy outputs – the plans and whether they are sufficiently ambitious and likely to be delivered. To assess the latter, we look at specific targets (e.g. renewable energy targets) and implementing measures (e.g. policies and projects) in the national plans pledged by member states.[3] Drawing on the Commission's and experts' assessments, we focus on two aspects: 1. The 'ambition gap' between EU targets and national plans; 2. the 'implementation gap' between plans and policy measures, existing or promised, to deliver them.[4]

To support our assessment, we use primary sources in the form of policy documents and press releases. These include: Commission reviews of the draft and final plans; initial evaluation of the changes member states made following reviews; how the plans were received by European and national civil society groups, as evidenced by the specialised press and press releases/reports from NGOs.

In addition to policy document analysis, 23 semi-structured expert interviews were conducted online between 2021 and 2022 with key actors in the Commission, civil society (NGOs at national and EU levels), and member states (see Appendix Table A3).[5] Interviewees were selected based on their role in the policy-making process, involvement with draft and final plans, or work scrutinising plans and implementation at EU and domestic levels (see Appendix Table A5 for interview themes).

4. The EU's experimentalist climate governance in practice

Drawing on the mechanisms identified in framework section 2.2, we assess the operation and effectiveness of the experimentalist EUGR (see also Annex Table 2 and 3 for an outline and sample of representative interview material). Table 1 summarises the key findings.

Table 1. Summary of findings.

Transparent target setting and planning	Wide response by member states, but commonly as a technocratic reporting rather than strategic exercise. Partial harmonisation of national plans made publicly available, though variable detail. Administrative burden of reporting perceived as bureaucratic.
Public participation	Highly variable in scope and inclusivity across member states, and role in shaping plans uneven at best.
Reporting and assessment: reviews and recommendations	Partial effect combined with use of 'ambition' gap rhetoric to mobilise some incremental increase in ambition. Modest cross-country learning.
Peer and bottom-up pressure	Reviews by, and pressure from, transnational NGOs. Limited pressure from national NGOs and media due to the technical nature of reviews and difficulty in comparing. Limited effect of 'blame and shame'.
Revision of plans	Incremental rather than transformational increase in ambitions. Limited revision to the experimentalist framework. Challenge of significantly enhanced targets and new policy instruments.

4.1. Transparent target setting and planning

Under the EUGR, member states were required to submit their initial draft NECPs by December 2018. All were submitted by February 2019 (see appendix Table A2) and assessed by the Commission, which estimated the collective 'ambition gap' towards meeting EU targets and made (non-binding) country-specific recommendations for the final plans (Morgan 2019a).

The drafting was, from the outset, conducted in 'a strong and lively dialogue' with the Commission (Interview 2), which not only provided a loose (non-binding) template for member states to follow to ensure consistency but also informally set expectations, indicated minimum requirements and provided detailed recommendations on policy measures. Some national targets – most notably for emission reductions – are centrally defined at EU level and enforceable in law,[6] while others – renewable energy, energy efficiency – are 'pledged' by states. Despite the lack of nationally binding renewable energy targets, an 'indicative formula' benchmarks national contributions (Annex II, Regulation 2018/1999), to ensure a fair distribution of the effort towards the overall target. This was used by the Commission to create pressure for minimum requirements (Bocquillon and Maltby 2020, p. 50).

A technical working group offered a deliberative space for the Commission to 'informally discuss with Member States' (Interview 2). The Commission took a light-touch approach, stressing that they 'really limited [themselves] to providing guidance' (Interview 3) on analysis, modelling and drafting, for example through consultants directly funded by DG Reform. The Commission also tried to spur cooperation and lesson-drawing by showcasing best practices or

inviting member states to coordinate on specific cross-border issues (Interviews 7, 8).

Policy integration and coherence are key objectives, and these integrated plans have encouraged coordination and learning across different sectors and departments/ministries, helping: 'break the silos' of climate and energy (Interviews 1, 2, 16, 17); develop an administrative culture of long-term cross-sectoral and inter-ministerial planning (Interviews 7, 9); and bringing additional stakeholders into the policy-making process (Interview 7). Yet, despite the stated objective of reducing administrative burden, NECPs were sometimes perceived as yet another reporting requirement (Interviews 7, 9), pointing to the technocratic nature of the process. Despite attempts at harmonisation, NECPs varied markedly in terms of length, precision, as well as targets and baselines. Many draft plans also lacked the required supporting information. They were criticised by environmental organisations as 'more reporting exercises than coherent strategies' (Morgan 2019b). New climate and energy initiatives (see 4.5) have also led to a 'fragmentation of plans' that have failed to cohere into a single annual stocktake (Interviews 9, 10). This represents a paradoxical failure to date of the experimentalist model – to be more flexible and accommodate policy change.

4.2. Public participation

Public and stakeholder consultations were required, within reasonable time-frames to ensure meaningful and genuine information and debate (Articles 3, 10, 11, Regulation 2018/1999). The

Commission claimed that overall 'this has been an unprecedented process, as the plans have been subject to extensive consultation with stakeholders, civil society and citizens' (Commission 2020a: 1) helping build a strong sense of ownership and support of the energy and climate transition objectives (Ibid: 25).

However, in practice, the length, form (e.g. Parliament, online, and/ or local) and scope of the consultations varied significantly, ranging from those open for several months to those for just a few weeks with no substantive public debate (Interviews 5, 6, 7, 8). For example, in France, there was 'extensive consultation' - although as part of wider national participatory processes rather than on the NECPs themselves. In Poland, there was only a 5-week consultation on the draft, without indication of how results were considered (Commission 2023). The Netherlands and Sweden were perceived to be 'best practice of how consultations should be conducted, transparent and inclusive' (Interview 7). In line with our analysis, Righettini and Vicentini (2023) have drawn attention to wide differences in participatory

culture and practices in policy-making across the EU but do not either identify clear regional patterns.

Public participation fell short of opening-up the decision-making process to a more inclusive set of voices (Interview 12; Interview 5) and was sometimes included just to 'tick the box' (Interview 8). Yet, for EG, opening the decision-making process is considered key for democratic input, destabilising entrenched interests, widening the range of options under consideration and ultimately for meaningful deliberation. As an interviewee argues, 'if citizens cannot speak, or voice, their opinion, or what they think should be in [the plans], obviously, it kind of weakens the whole bottom-up process' (Interview 7). Lack of participation limits the scope for wider engagement with, and ultimately, the politicisation of the process, key to increasing pressure and effectiveness (see section 4.4). Overall, if the requirement for participation created an incentive for opening up decision-making processes, too often it remained constrained and technocratic in nature.

4.3. Reporting and assessment: reviews and recommendations

The Commission's first assessment of the drafts was published in June 2019. Member states were required to respond to recommendations in their revised, final plans by the end of the year (though 11 countries missed this deadline). The Commission then presented its EU wide assessment of the final plans in September 2020, followed by individual assessments of national plans for further guidance. It looked at targets and the feasibility of policies to reach them.

The assessment of draft plans concluded that there was an ambition gap and a lack of effort sharing. Only 11 member states were considered in line or above the target (formula) for renewables; 16 were on target for emissions; and only 3 for energy efficiency (Commission 2019). Overall, the Commission found that the EU would fall short of its 32% renewable target by 1.6% and by a significant 6.2% against the EU's then indicative 32.5% energy efficiency target. The plans put the EU on track towards achieving its target of 40% GHG emission reductions by 2030 compared to 1990 (but 2% under in non-ETS sectors).[7]

The assessment, and an overview table of national situations, aimed to pressure member states to raise commitments and was accompanied by detailed and public national recommendations (Morgan 2019a). For renewables, the Commission used the indicative formula, publicly identifying 15 member states whose commitments were below expectations (10 above, and 3 in line). Yet, the Commission largely refrained from playing the 'blame and shame game' for fear of alienating member states (Interviews 2, 10). A challenge for the Commission was the political sensitivity of balancing

respect for sovereignty concerns with the fair distribution of the collective EU effort.

Best practices were also highlighted to spur policy learning and incentivise other member states to provide more details or increase their ambitions. For example, the Commission pointed out that 'several draft NECPs would benefit from providing further details … as already done, for example, by Ireland and Latvia' (Commission 2019, p. 7). The 'ambition gap' was used as a rhetorical device to push countries to raise their ambitions, with some effect. For instance, several countries including France, Greece and Bulgaria announced that they would raise (marginally) their renewable energy targets (Simon 2019c). Member state autonomy was clear in that the Commission's recommendations had no binding force' (Regulation 2018/1999: 9); they were only required to consider them or disclose publicly the reasons for rejecting them, opening, at least nominally, national planning to contestation and justification – a key element of EG. However, in many cases, the recommendations were ignored, or only 'partially' addressed with often superficial responses (see annex Table 2).

Even when relatively ambitious objectives were included, the lack of specificity of associated policies often casts doubt on their feasibility. For example, for Poland: 'The plan remains rather descriptive and still needs to be complemented by concrete measures' (Commission 2020b, p. 3); for Hungary: 'there is scope … to intensify efforts to improve the energy performance of the building stock with concrete measures, targets and actions' (Commission 2020c, p. 14). Although it is difficult to identify clear patterns, some Central and Eastern European countries tended to provide less information in draft plans (Interviews 5, 7). Some indications also suggest that smaller administrations found the process more challenging (Interviews 3, 5, 9, 16, 17).

4.4. Peer and bottom-up pressure

Public plans and recommendations potentially facilitate peer pressure, public criticism and the critical engagement of civil society (Bocquillon *et al.* 2020), to nudge member states to comply and raise ambitions (Simon 2020).

As intended, making draft NECPs public enabled environmental organisations to scrutinise them, with this considered 'the best instrument […] to provide transparency', and an opportunity to benchmark progress within and across countries (Interview 6, also 10). Environmental NGOs engaged with member states, advising on technical aspects and governance challenges (Interview 9). The Commission acknowledged that civil society organisations' analysis was complementary to its work, including more explicitly highlighting differences between member states (Interview 2). For instance, the European Climate Foundation commissioned study benchmarked

national plans against one another, identifying leaders and laggards, and concluded that policies and measures were often vague, and timelines inadequate, highlighting significant national and EU ambition gaps (Climact and Ecologic 2019). Similarly, climate NGOs CAN and Sandbag singled out countries without 2030 coal phase-out plans (Simon 2019b) and Carbon Market Watch criticised plans for including ambitious targets without appropriate policy measures (Simon 2019a).

This scrutiny pressured member states and led to increased EU media coverage although mostly in the specialised press (e.g. Euractiv, Politico Europe etc.) (Interview 5). At the national level, the picture was uneven, with publicity and media coverage relatively limited. The Commission's ability to mobilise bottom-up pressure was constrained by the difficulty to compare plans, their ambition and feasibility (Interviews 7, 8). The highly technical reports, lack of official ranking of progress, and absence of a 'user friendly tool' for the public and civil society made it challenging for facilitating wide media coverage (Interview 9). Consequently, the overall politicisation of the process remained rather subdued and relatively confined to expert circles in Brussels and the national capital, limiting the 'blame and shame' effect.

4.5. Revision of plans and governance framework

An objective of the two-step process – draft then revised final plans – was to increase ambition, specificity and feasibility (Interviews 17, 20). Between draft and final plans, ambition for emissions reductions increased modestly, by 1.5% to 41% (Commission 2020a). For renewables, an ambition gap of 1.6% became a modest overachievement of 1.1–1.7% above the 32% target (Council of the EU 2019), though not all member states achieved their 'indicative' formula target. Energy efficiency, lacking EU-wide or national-binding targets, fared the worst, with 15 countries ranking 'low' or 'very low' according to the Commission (see Appendix Table 2). Although the ambition gap was narrowed from 6.3% below to 3.1% below, the target was still missed (Council of the EU 2019). Additionally, targets and objectives were often adjusted by member states without necessarily revising the policy substance – raising questions about implementation and the credibility of plans (Wind Europe 2021). Some member states interpreted the process as mere reporting rather than substantive exercise (Interview 8), reinforcing its technocratic nature.

An increase in EU ambitions and adoption of new targets and policies have also made the plans outdated. As the final NECPs were submitted, the newly appointed von der Leyen Commission was already negotiating enhanced targets as part of the 'Green Deal'. Headline targets of −55% net emissions by 2030 and net zero by 2050 were adopted in 2021, followed by enhanced renewable (42.5%) and energy efficiency (42%) targets as part of the 'Fit for 55' legislative package. A key challenge of the second EUGR cycle,

with draft submissions by June 2023 and final plans in 2024, was to align these NECPs with these significantly higher new ambitions. No substantive changes have been made to the process, though the Commission issued guidance emphasising 'principles and good practices' for the NECP updates (Commission 2022, p. 2). This represents a modest instance of lesson drawing and revision of the EG framework. Given the limited increase between the draft and final plans in the first planning cycle, there are question marks around whether 'the process can work with new targets' which would require more transformative change (Interview 6, also 8).

A potentially positive outcome is how the EUGR has fed into other frameworks and processes, in particular the COVID-19 stimulus package (Recovery and Resilience Facility, RRF), which provides €724bn in grants and loans on the condition that 37% of spending are for climate projects and reforms (Bocquillon *et al.* 2023). The Commission has attempted to tie the EUGR to RRF funds to give the NECPs 'more teeth' (Interview 3). A Commission interviewee highlighted how NECPs were used as 'a sort of roadmap of what [they] wanted to see' in national recovery plans (Interview 11). The Commission used its policy knowledge acquired through the NECPs, including investment gaps, to propose amendments to the national recovery plans (Interviews 18, 22). Member states also drew upon 'plans and projects that were already in the drawers' (Interview 12, also 14), with some projects included in NECPs brought forward in time or increased in ambition (Interview 16).

5. Does experimentalist climate governance work: insights from the EUGR

Drawing on this empirical analysis, insights can be drawn from the operation of the EUGR on the effectiveness of experimentalist climate governance more generally.

Looking first at the *process*, it has delivered, at least on the surface. The bottom-up, experimentalist design where member states establish NECPs, which are then reviewed and amended to match EU targets, has maintained substantial national autonomy, ownership and buy-in. Member states delivered their plans mostly within the timeframe, following Commission templates and recommendations. Yet, there are still significant variations across member states in terms of types of national targets, levels of details of the plans, and ultimately ambitions. Despite the Commission's effort to ensure coherence and comparability, the NECPs appear more like loosely integrated reporting documents, building on existing national strategies, policies, and European obligations, than genuine coherent planning strategies. This reflects the process' predominantly technocratic nature.

An important feature of EG is the openness, transparency and publicity that enables comparisons, lesson drawing, as well as blaming and shaming, ultimately helping to deliver common objectives. However, the scope and impact of public and stakeholder consultations varied widely, limiting opportunities for democratic deliberation and contestation. The EUGR's implementation was scrutinised, especially at the EU level where the Commission and environmental NGOs produced evaluations and benchmarking of national ambitions, but only to a limited extent, with public attention and media coverage uneven. This contrasts with the wider engagement and more politicised debates on the definition of EU targets (Bocquillon and Maltby 2020), which tend to capture public attention but whose momentum is, inevitably, hard to sustain for more technical planning.

A key potential benefit of EG is for deliberation to stimulate lesson-drawing and learning. This happened to a degree as the planning led to a sustained dialogue between the Commission and member states about targets, policies, and more technical aspects such as assumptions and methods for modelling. There is also evidence of discussions between member states themselves about cooperation – especially between neighbours – and best practices. It is not clear how much this fed into increased ambition, innovation and feasibility. Overall, the EUGR's implementation was process-focused, driven by policy elites, received limited attention and remained relatively technocratic and depoliticised.

Turning to *policy outputs*, the record is mixed, reflecting the limits of the process. It led to increased ambitions and policy specificity, as a result of the Commission's recommendations and moderate pressure from member states and civil society. National plans meet two of the three collectively agreed targets: emission reductions and renewable energy. In the first case, national targets in non-ETS sectors are 'hard' since they are written in the Effort Sharing Decision and legally enforceable through the European Court of Justice, which puts pressure on member states. Whilst there are no binding national renewable targets, the indicative formula was used to some effect by the Commission to incentivise member states to raise their ambitions and 'do their fair share'. Member states fell short only for energy efficiency, which had no overall-binding targets at domestic or EU levels, but the ambition gap was incrementally reduced.

Noticeably, experimentalism, with its bottom-up pledge and review process, sidesteps issues of distribution and fairness, which are central to climate change, but which it might be less well equipped to deal with in the absence of strong hierarchical coordination. While the EUGR process addresses these only indirectly through the indicative renewable formula and peer pressure, it is also backed by legislation sharing the effort of emission reductions. This raises questions about the ability of EG to function when distributive issues cannot be dealt with in a more hierarchical fashion.

The EUGR points to the importance of 'penalty defaults' or – more precisely here, the 'shadow of hierarchy' - in the form of legal obligations in associated legislation or a clear benchmark such as the indicative formula, in incentivising member states to deliver collectively on EU targets or otherwise face the possibility of more hierarchical governance. The EU governance framework is significantly more stringent than the Paris framework: it not only relies on procedural obligations but also on various substantive, more legally prescriptive and precise requirements, backed up by stronger mechanisms for ensuring effective implementation led by the Commission (Oberthür 2019). This raises questions as to the ability of experimental climate governance to deliver in their absence (Bang *et al.* 2016). Financial incentives can also be important: the linking of NECPs with post-COVID recovery funds represents a clear effort at hardening a soft experimentalist climate governance.

Even when national objectives appear relatively ambitious, there is often considerable uncertainty regarding whether associated policy measures are credible and sufficient. For the EUGR, this was challenged by both the Commission and civil society organisations, but only partially addressed. NECPs often merely listed pre-existing policies and initiatives. When member states raised their initial targets, these often appeared declarative and not always accompanied by new implementation policies. Generally, uncertainty remains as to the implementation of proposed policies. This implementation gap has been identified as a major issue in international climate policy more widely (Fransen *et al.* 2023).

A final aspect is the recursive nature of the process, theoretically making EG more responsive to new developments and facilitating the revision of the framework and goals. As the NECPs were revised as part of a new experimentalist 'cycle' with an initial deadline of June 2023 for the drafts, member states have been working collectively towards significantly more ambitious binding EU targets: 55% net GHG emission reductions by 2030 and net zero by 2050 (Regulation 2021/1119); 42.5% renewables by 2030 (Directive 2023/2413); and 11.7% energy efficiency for 2030 (Directive 2023/1791). These enhanced collective objectives require more ambitious national targets and associated policy measures. The first cycle has only delivered incrementally more ambitious plans, but as the new EU 2030 targets require more transformational change, it remains to be seen whether the new cycle can deliver. In December 2023, the Commission assessment of the 21 *draft* NECPs in the second cycle identified a significant ambition gap for renewables, energy efficiency and emissions (Commission 2023). The incremental nature of the experimental Paris Agreement has been criticised as 'dangerous' in view of the large-scale impact of climate change (Allan 2019). The case of the EUGR suggests that this might be a more general limitation of experimentalist climate governance. EG tends to deliver outputs and outcomes in an

incremental fashion, when the climate challenge requires rapid and transformational action. Considering the first decade of the implementation of the Paris Agreement, similar concerns appear warranted: The UNFCCC' 2022 report on submitted national plans (NDCs) concluded that the objective of limiting temperature rises to even 2°C was not on target (UNFCCC 2022).

6. Conclusion: experimentalist climate governance and politicisation, squaring the circle?

Experimentalist climate governance has become increasingly popular to deal with negotiations involving many parties, highly complex issues requiring technical expertise and coordination across sectors, and entrenched interests and sovereignty concerns. The literature has investigated the design and benefits of experimentalist frameworks, but a gap remains as to their operation and effectiveness.

Our systematic empirical analysis of the case study of the experimentalist EUGR uncovers a number of insights with wider implications. First, the transparency and precision of planning increased although the process often tended towards mere reporting rather than a strategic exercise. Second, some learning was facilitated, but participation and engagement were uneven and more restricted than expected, limiting soft incentives for ambitions and implementation. Third, ambition increased incrementally as a result of the process. Whilst this is in part the result of flanking legislation, such as the Effort Sharing Decision which sets legally enforceable targets for member states to reduce their emissions key sectors, the EUGR also contributed to incrementally raising ambitions in the renewable and energy efficiency policy areas where no hard national targets were in place. Fourth, and crucially, ambition and implementation gaps remained, with the EU in danger of missing its enhanced 2030 targets (ESABCC 2024). As the bloc has ramped up its ambitions as part of its 'Green Deal', there is uncertainty as to whether the EUGR process can deliver in its second and further cycles and drive the transformational change required for rapid emission reductions necessary to achieve net zero by 2050.

Overall, the first round of the EUGR was predominantly process-focused, and remained more technocratic and less politicised than intended, in practice if not by design. We argue that experimentalist processes require a high level of public and stakeholder engagement for learning to take place and peer and societal pressure to be effective. This is indeed also a feature of the Paris Agreement, whose effectiveness crucially relies on the mobilisation of leaders and non-state actors to ensure the review process – and the Global Stocktake in particular – functions 'as a corrective device that catalyses climate action, rather than a mere accounting device' (Kuyper and Tørstad 2023, p. 1000, also, Qi *et al.* 2024). An increased publicity and politicisation of the process has the potential to enhance peer and societal pressure. However, it may be

challenging to sustain over the full EG cycle and would require voluntarism from member states and sufficient capacities from non-state actors to deploy effective strategies. While enhanced politicisation of the process can help address effectiveness issues, it also raises the risk of divisions and deadlocks. Politicisation can heighten conflicts of interest and sovereignty concerns, which was a motivation for the development of EG frameworks in the policy area in the first place, thus limiting the space for deliberation and learning.

EG tends to operate best at intermediate levels of politicisation to deal with complex regulatory issues. But climate and energy are, at heart, distributive issues, involving questions of responsibility, fairness and burden sharing which are highly political and may not be easily and effectively dealt with without a higher level of politicisation. As the EU experience shows, it is particularly challenging for bottom-up experimentalist governance processes to deal with issues of distribution and fairness, unless they are complemented with clear effort-sharing benchmarks, something that remains missing within the framework of the Paris Agreement.

This research points to several important areas for further research. First, while the EU experience illustrates the shortfalls of too little politicisation, there are questions as to the ability of experimentalist governance to deliver when politicisation and conflict arise. This tension represents a promising area of investigation (see also Paterson *et al.* 2022). Second, with the conclusion of the first Global Stocktake as part of the Paris Agreement in November 2023, there is potential for further research to systematically compare the EU and Paris processes, as well as other EG frameworks, to identify similarities and differences and draw more generalisable insights. Third and finally, with the start of a new pledge and review cycle for both the EUGR and Paris Agreement process, analysis of experimentalist climate governance over several cycles can reveal whether it is able to evolve and adapt – a purported advantage – to overcome the limitations of its initial design and operation and deliver ambitious climate objectives.

Notes

1. The original headline target was 40% emission reductions by 2030, increased to 55% net as part of the EU 'Green Deal', with a 2050 'net zero' target enshrined in the 2021 Climate Law.
2. Defined as the use of arguments and concrete experiences to disentrench settled practices and interests to generate novel solutions (Sabel and Zeitlin 2012, p. 170).
3. We assess climate policy outputs rather than outcomes – which are hard to measure and largely still to be determined.
4. More precisely, as we focus here on policy adoption rather than policy outcome, the 'policy adoption gap' (Fransen *et al.* 2023).
5. Ethical approval reference: MRM-22/23–26,201.

6. National targets for emission reductions in sectors not included in the ETS are binding and defined in the Effort Sharing Decision. For ETS sectors, emission abatement levels are determined by the carbon price and market mechanisms, not national plans (Directive 2023/959).
7. Failing to reach their binding national Effort Sharing Decision target in non-ETS sectors would lead to infringement proceedings, with a potential fine imposed by the Court of Justice.

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