
26. The EU: towards adequate, coherent and coordinated climate action?

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INTRODUCTION

EU climate policy has come a long way in a relatively short period of time. As the 2020s progress, however, the EU is nevertheless faced with a set of unprecedented and interacting challenges. It must deliver, and indeed increase, its declared climate ambitions, commensurate with the aims of the European Green Deal (EGD) and Climate Law, whilst simultaneously handling multiple crises that repeatedly appear with a disconcerting degree of unexpectedness. Even before the outbreak of the COVID-19 pandemic, rising gas prices and the outbreak of full-scale war in Ukraine, the EU was said to be experiencing ‘turbulent times’ (von Homeyer et al. 2021). The seemingly relentless nature of these developments – a veritable ‘permacrisis’ to quote the European Commission (Zuleeg et al. 2022) – raises unsettling questions about the EU’s capacity to act collectively, and its autonomy to achieve long-term policy goals, not least on climate (Fiott 2021).

Against this backdrop, this chapter takes stock of what we have learned from the contributions gathered in this *Handbook* and reflects on the EU’s ability to deliver on increasingly ambitious climate policy objectives. We begin by briefly summarizing key messages from each chapter, following the order of the main parts of the *Handbook*. We then bring out a number of cross-cutting themes, related to key ongoing challenges facing effective EU climate policy. These include raising and appropriately directing significant new finance, the need for democratic but also decisive decision making, long-term governance frameworks, the continuing power of ‘incumbents’, the adequacy of relying on technological fixes, and the geopolitical dimension. We end with an assessment of the prospects for EU climate policy and politics as the 2020s develop, in particular the extent to which responses to crises can be managed to allow a continued, or even enhanced focus on climate change.

PART I: THE MAIN ACTORS AND INSTITUTIONS

In our introductory chapter, we noted that the EU represents a unique, multi-levelled institutional landscape, populated with a variety of actors and institutions with different and at times contradictory interests, visions and capacities to act. In our view, one of this *Handbook*’s important contributions has been to explore the continued evolution of the key actors shaping EU policy. This went significantly beyond the ‘usual suspects’ and for that reason, Part I is the longest in the volume.

The Commission formed in 2019 by Ursula von der Leyen has been dubbed the ‘greenest’ ever. As numerous chapters have agreed, this is the combined result of the perceived need to

adjust to the shifting expectations of other actors, and a conducive wider context. As Bürgin noted in Chapter 2, candidates to become Commission President in 2019 had to proclaim their strong climate ambition to stand any chance of approval. The Commission's capacity to promote a coherent climate policy has certainly been strengthened by internal organizational changes, such as the stronger hierarchical steering of the President, the special role of an Executive Vice President and Climate Commissioner, stronger levels of horizontal coordination, and the more interventionist coordinating role of the Secretariat General. Clever coalition building with key Member States was seen to allow significant achievements, including establishment of the post-COVID *Next Generation EU* recovery fund, and its use in part to advance the EGD. What is more, the Commission has used its capacity to distribute research and development funding in key areas, supporting potential breakthrough technologies (Skjærseth and Eikeland, Chapter 18).

The Commission's high level of ambition has been sustained despite repeated push-backs from certain Member States. In Chapter 3, Wurzel, Di Lullo and Liefferink covered the roles and 'jostling for influence' of the European Council, the Council of the EU (the Council) and Member States. It described how the former has moved into an increasingly central position in climate policy, repeatedly acting as supreme arbiter on significance dossiers where differences within the Council – notably between the older Western European Member States and their newer counterparts from Central and Eastern Europe – could not be bridged. A case in point was the lead-up to the 2015 Paris UN climate conference. Although there are examples of strong climate leadership by some Member States, a more common theme of EU policy is that of ambitious action being held up by disagreements among countries, particular on matters related to national energy mixes.

Petri, Zapletalova and Biedenkopf (Chapter 4) showed convincingly that the Parliament has also been a key advocate of ambitious climate policy – even if its powers to shape regulation remain relatively limited. Examples of its influence being exerted include the 2018 revision of the Renewable Energy Directive, where MEPs' persistence led to higher targets for 2030 than the Council had initially intended, and the raising of the proportion of the EU budget allocated for climate purposes from 25 to 30 per cent (on which, see Rietig and Dupont, Chapter 17). Advocates of climate action also have the Parliament to thank for insisting on the creation of what has the potential to become a key new policy entrepreneur, the European Scientific Advisory Board on Climate Change. However, while in general the Parliament proposes ambitious amendments to legislative proposals, their content has arguably become less radical over time. Moreover, while its performance at the international level has improved, its ambitions generally exceed its *de facto* involvement.

In Chapter 5, Mertens and Thiemann described how the European Investment Bank (EIB) has become 'a central actor in the EU's climate policy landscape', one of the principal implementing partners of the EGD, particularly through the Sustainable Europe Investment Plan. The bank pledged to raise its level of support to climate action and environmental sustainability to exceed 50 per cent of its overall lending activity by 2025, thus helping to leverage €1 trillion of (combined public and private) investment by the EIB Group during the 2020s. Mertens and Thiemann warn, however, that it is also a policy entrepreneur with its own institutional self-interest, about which other actors should be somewhat wary. This includes its role in developing the EU's green taxonomy, for example, and other policies related to sustainable finance.

In Chapter 6, Eckert examined the role of business and private finance. In addition to examining how various activities are subject to regulation in contemporary EU climate policy, the chapter identified how business branches engage in voluntary action, and have sought to influence policy processes. The picture painted was a mixed and evolving one. Some businesses engage in meaningful voluntary climate action or advocate enhanced ambition; the overall increase of renewables in the EU's energy mix proposed under the 'Fit for 55' package, for example, received support from the wind power sector in particular. Others, however, have taken a more reluctant or explicitly oppositional stance; the EU's mixed results regarding energy efficiency goals, for example, and specifically eco-design, can be attributed to varying levels of business commitment. (Eckert's analysis of the role of industry lobbying on sustainable finance is discussed below.)

Chapter 7, by Park, Della Porta and Portos highlighted how different groups, movements and actors (together representing 'civil society') influence policy through combinations of advocacy (lobbying within existing governance structures) and activism (exerting pressure from the outside, including through the courts). Decisions to shift from an emphasis on activism towards advocacy, they suggested, are made as opportunities for insider influence emerge. Conversely, when opportunities close, or as actors judge that they have been co-opted, the emphasis shifts back. The chapter noted how newer movements, such as Fridays for Future and Extinction Rebellion, are distinctive in the considerable emphasis they place on *individual* action from citizens, as well as pressuring politicians to act. The authors draw attention to the Climate Pact, announced as a part of the EGD and designed to mobilize individual action, as offering potential for meaningful engagement – while also raising the possibility that it becomes a further means of civil society cooption.

In Chapter 8, Kern usefully reminded us of the important role that cities play in decarbonizing society and also facilitating adaptation to the impacts of climate change, and how networks such as the Covenant of Mayors have offered significant leadership. Combining supranational pressure (from the EU) with advocacy and action from city and regional levels, she noted, may serve to strengthen Member State climate ambition. However, Kern also highlighted the important constraints under which municipalities must work, given that they do not control all levers necessary to achieve carbon-neutrality and greater climate resilience at city or regional level. The Commission has been moving to strengthen such capacities in new ways, particularly through its new Missions initiative, although achieving synergies across various agendas, while avoiding conflicts, will be a demanding task. Moreover, more action by large numbers of often smaller cities will be necessary if climate policy goals are to be obtained.

In his analysis of the growing role of litigation in climate policy, closing Part I of the book, Stoczkiewicz (Chapter 9) made a number of observations. The rise of courts (including those within the Member States) as actors in climate policy is an important new feature of the landscape. They represent an important arena for civil society, taking advantage of the procedural environmental rights granted by the Aarhus Convention and relevant EU law, but also for developing new legal arguments based on other sources, such as human rights law. However, Stoczkiewicz concludes that this trend does not constitute a shifting of the burden of initiative and responsibility for addressing the climate crisis away from the Commission and Parliament. The shift is rather towards increased inclusion of the judiciary in influencing EU (and Member State) climate policy.

PART II: THE CORE DYNAMICS SHAPING EU POLICY

In the introductory chapter of this *Handbook*, we drew a distinction between two main dynamics shaping EU policy. Opening Part II, Vogler (Chapter 10) highlighted the ‘outside-in’ influence of the global regime on EU policy, but also the EU’s attempts, in turn, to shape those dynamics (‘inside-out’). Both dynamics are well illustrated in the case of emissions trading, where Vogler notes how the ETS first became the unlikely centrepiece of EU policy, and then one which EU policymakers attempted to use to leverage policy change at international level, specifically on transport. The EU’s attempts to extend its policy approach to activities such as international transport that operate beyond its borders were seen to have provoked significant international opposition, but also tensions between the Commission and Member States that have hampered ambitious action. These tensions are exacerbated in particular by the EU’s non-recognition as a Regional Economic Integration Organization by the IMO and ICAO, meaning that the Commission has to rely on Member States with potentially divergent interests to represent the EU’s position.

Tobin et al.’s contribution on leadership (Chapter 13) explored these dynamics further, examining three core dimensions: (i) leadership within the EU, in a context of ‘polycentric’ multi-level governance; (ii) internationally, in global climate negotiations; and (iii) broader external governance. The chapter sees in the EGD an ‘attempt at heroic/transformational leadership’, in which the Commission pursues multiple forms of climate leadership at once, including through such new initiatives as Farm to Fork and the Climate Pact, as well as the ‘Fit for 55’ package. The EU’s complexity as a system of governance is found to afford many opportunities to lead, including ‘cognitive’ and ‘exemplary’ leadership – the ‘proposal or development of ideas that shape subsequent action by fellow actors’ and ‘intentional setting of examples for others’ respectively – with some instances of ‘structural’ leadership (based on economic, military and/or negotiating power). However, an ongoing context of crisis and turbulence, global power shifts and related changes in the global distribution of GHG emissions, as well as the difficulties inherent in guiding such an interconnected, multi-level global actor, have also stymied this potential, arguably resulting in a more ‘humdrum’ style of leadership.

Despite the undoubted importance of these dynamics, it would be naïve to believe that EU policy development has been motivated entirely by environmental concerns or out of solidarity with countries most vulnerable to growing climate impacts. In Chapter 11, Youngs and Lazard highlighted the continuing pre-eminence given to energy security considerations, and the self-interested geo-economic aspects of climate policy that can lead to accusations of protectionism. A wider set of ecological issues, which interact with climate dynamics in complex ways, was seen to risk increasing threats to European security if they are not met with a more coherent and concerted response. For example, while the EU has been one of the international actors stepping up in terms of adaptation finance, the overall current level of this funding is still negligible in the face of ongoing and foreseeable climate-related disasters. These gaps in the EGD, Youngs and Lazard suggest, mean that it is still not fully clear what the EU is willing and able to do to mitigate or adapt to (external) climate-related disruptions, beyond crisis management.

The importance that economic self-interest has played in shaping EU climate action was also highlighted by Fitch-Roy and Bailey in Chapter 12, on how ‘green growth’ and competitiveness discourses inform policy. EU policy has, they suggest, been characterized by an implicit faith in capitalist political economy and its ability to deliver low-carbon transition through

technological innovation and solutions that can shield socio-technical systems from deeper and more radical transition. Under the banner of green growth, they noted that economic growth-oriented models continue largely unchallenged. Critics, they note, highlight how this tends to strategically depoliticize EU climate and energy policy and bind it to a decoupling idea, achievement of which continues to prove elusive.

PART III: THE MAIN POLICY INSTRUMENTS AND MODES OF GOVERNANCE

In Chapter 1 we noted how the EU has advanced significantly from a situation in which its policies were more ‘symbolic’ than real (Oberthür and Dupont, 2011) to one that is replete with legally binding targets, a significant toolbox of policy instruments and a range of institutions to oversee them. In opening Part III, Knodt (Chapter 14) introduced the sheer range of ‘governance configurations’ by which EU emission reduction goals can in principle now be achieved, featuring differing emphases on conventional standard-setting policies and measures and carbon pricing through market-based instruments. Sensitivities among Member States over instruments that are perceived as impinging on their sovereign right to determine their own energy mix were highlighted as critical in shaping the form of climate and energy governance. Such sensitivities have meant that the Commission has been obliged to adopt relatively soft forms of governance in the Regulation on the Governance of the Energy Union and Climate Action. The ‘Fit for 55’ package does nothing to harden the governance of energy efficiency or renewable energies, despite the urgent need. This, Knodt warns, runs the risk that emission reduction targets within the Fit for 55 package may ultimately not be delivered.

In Chapter 15, Romppanen examined the more specific role of effort sharing across the Member States in ensuring the delivery of collective EU emission reduction targets in those sectors of the economy falling outside the ETS. Now covering more than half of the EU’s GHG emissions, more than three decades of regulatory development lie behind the Effort Sharing Regulation (ESR), imbuing it with unique governance features within which Member States may design and implement national measures but, unlike the ETS, with significant room for national discretion. The ESR thus reflects the strong interdependence between inside-out and outside-in dynamics identified by Vogler, Chapter 10. Indeed, in Chapter 15, Romppanen sees the role of effort sharing becoming even more decisive, in that it encompasses the hard-to-abate sectors, such as transport, where significantly greater efforts are needed. This chapter also highlighted the significance of the LULUCF Regulation, and proposed revisions to it, under which Member States would receive binding targets to increase their net carbon removals in the land use and forestry sector for the period from 2026 to 2030.

The importance of interaction between the EU’s policy instruments emerges as a key theme for both Knodt and Romppanen, and potentially a weak link in the EGD. The EU ETS (in both its original form, and its forthcoming parallel application to building and transport sectors), effort sharing and LULUCF policies must work coherently for the EU to achieve its climate targets. Romppanen warns that flexibilities allowing linkage between these instruments should be perceived as a tool that enables GHG emission reductions to be made most cost-effectively, ‘and not as an opportunity to undermine effective action where it is needed the most’.

Next, Chapter 16 by Wettestad introduced the Carbon Border Adjustment Mechanism (CBAM) as a new external ‘arm’ of the EU ETS aimed at preventing ‘carbon leakage’. This

chapter highlighted how the CBAM idea is far from new, tracing its conceptual origins to the initial development of the ‘regime’ for allocating free allowances under the ETS. France emerges in Wettestad’s account as a particular policy entrepreneur, one which some might regard as verging on protectionist. The European Parliament’s leadership on the issue is also analytically interesting, nuancing the picture of the Commission as *the* Green Deal entrepreneur; indeed, Von der Leyen’s support of the CBAM idea was in large measure a response to pressure from Parliament. For other Member States and industries, the rising carbon price after 2018, with projected further increases towards 2030, were a significant motivating factor. The potential for CBAM to contribute financially to decarbonization goals increased its appeal, while US withdrawal from the Paris Agreement served to increase interest in more ‘proactive’ carbon border taxation.

Rietig and Dupont’s contribution (Chapter 17) examined how the EU has been able to make considerable progress towards the integration of its climate change objectives across all policy sectors – Climate Policy Integration (CPI) – with particular reference to the EU budget. The Commission adopted a policy entrepreneurial strategy, seeing CPI as the most promising means to deliver climate objectives in the midst of the post-2008 economic crisis. The initial policy innovation of dedicating 20 per cent of the EU’s 2014–2020 budget to co-benefit climate action countered the possibility that climate action could be relegated down the political agenda. In the agreement on the 2021–2027 budget, the new target became 30 per cent. This example nicely illustrates how elements of policy entrepreneurship, policy innovation and also path dependency can combine to advance climate action. Reacting to external crises can result in policy innovation and facilitate learning among policymakers, despite difficult framework conditions. But in future, the authors note, CPI scholarship will need to widen its focus, to gauge the strength of more *systemic* transformation efforts, encompassing food, mobility and buildings, adaptation to climate impacts, of the kind being attempted through the EGD.

Meanwhile, Skjærseth and Eikeland (Chapter 18) assessed the EU’s progress with instruments to promote low-carbon technological innovation. While so-called ‘pull’ policies support renewables or establish carbon pricing, technology ‘push’ policies, notably the Strategic Energy Technology (SET) Plan and other R&I initiatives, seek to leverage private investments by reducing their costs and risks. The authors assessed how the SET Plan developed in relation to other EU governance structures, focusing on three dimensions of policy integration: the horizontal alignment between ‘push’ and ‘pull’ policies at EU level; the horizontal alignment of ‘push’ policies depending on the compatibility of the eligibility criteria of various funding programmes; and thirdly, the vertical alignment in policies between the EU and national levels. They concluded that, while horizontal and vertical EU-level alignment has improved, and the EGD has the governance structure to mainstream and further improve energy research and innovation alignment, it remains too soon to evaluate the overall effect.

PART IV: BARRIERS TO MORE AMBITIOUS ACTION IN PARTICULAR SECTORS

The chapters in Part IV examined the challenges confronting EU climate policy when it comes to the ‘hard-to-abate’ sectors. In Chapter 19, Matthews examined the challenges of decarbonizing agriculture, noting the relatively limited technical and management options available, but

that changing production levels and mixes (e.g. reductions in livestock numbers) could open up greater mitigation opportunities, particularly when linked to possible shifts in consumer diets. While some analyses suggest that realistic modifications to average diets could reduce emissions by 40 per cent, policy has remained heavily focused on improvements in the emissions intensity of production (rather than an absolute reduction in emissions). Thus, Matthews concludes, the failure to seriously address agricultural emissions must be seen as a case of limited political ambition rather than limited mitigation potential. However, the ‘Fit for 55’ package, and creation of a combined agriculture and land use pillar with its own reduction targets, are potentially significant developments, although much will depend on what Member States opt to do given the discretion they continue to enjoy in implementation.

Wyns and Khandekar (Chapter 20) addressed the challenges in steel and cement manufacturing. These are amongst the industry sectors that have reduced emissions most so far in the EU economy, but far more is necessary if net zero ambitions are to be realized. A prerequisite is the provision of large amounts of reliable and competitively priced low-carbon electricity. The necessary infrastructure and investment will likely need to be financed by a combination of public and private sources. Existing EU instruments could be used to facilitate this but also new instruments, including innovation in public accounting (which could, for example, allow Member States to write off major climate-friendly infrastructure projects over multiple years), could assist. Within the ‘Fit for 55’ package, Wyns and Khandekar remind us that a range of proposals have the potential to deliver progress, but again are likely to depend significantly on Member State willingness.

Dyrhaug and Rayner’s survey of the challenges facing transport (Chapter 21) highlighted the historic tensions affecting EU efforts to decarbonize the sector related to the priority accorded to liberalization and facilitating cross-border movement. Lobbying by powerful incumbents (e.g. airlines able to secure favourable terms under the EU ETS, as well as Europe’s significant car manufacturing sector), but also the EU’s relatively limited competence and entanglement with global institutions emerged as themes strongly affecting what policy measures are feasible. Alongside these constraints, continued expectations of (high) mobility and political reluctance to risk potential backlash against rising road transport costs are also delaying progress on decarbonization. On the other hand, demand for (and manufacturers’ willingness to supply) electric vehicles is growing, and there are signs of an increased interest on the part of the Commission in treating the related challenges more as matters of industrial policy, and in using new market-based instruments.

PART V: NEW AND ONGOING CHALLENGES

Achieving net-zero by 2050 will require a radical and potentially costly overhaul of the EU’s current policies, which will have profound and wide-ranging implications, for its Member States and the world beyond. The chapters in Part V examined some of these challenges in more detail.

Given the constraints noted in Part IV, it is not surprising that more concerted attention is being devoted to new technologies such as Carbon Dioxide Removal (CDR). In Chapter 22, Schenuit and Geden explained that under the terms of the Climate Law, once it has achieved net zero by 2050, the EU will need to go on to achieve *net-negative* GHG emissions. As soon as demands for industrialized countries to become net-negative are negotiated under the

UNFCCC, the EU will be expected by other countries to be a key player in deploying and scaling up CDR. This will require, and has the potential to facilitate, new political alliances, but could also lead to new conflicts, or exacerbate existing ones, both within the EU and between the EU and other international actors. Looking ahead, the authors suggest that policy-making will be shaped by ‘geographies of net zero’ encompassing different removal capacities and varying political preferences for different CDR methods in particular localities.

Brendan Moore’s examination (Chapter 23) of the consequences of Brexit – the decision of the United Kingdom to leave the EU – focused on the impact on the EU’s internal climate change policy, and the extent of current and possible future policy divergence. On the former, despite initial concerns, the gap left by the UK’s departure in budgetary and mitigation effort sharing terms has been made up without much conflict. Regarding divergence, the chapter noted how in many ways the UK’s system of target setting has been consciously emulated in the EU Climate Law. Less positively, the EU’s proposed CBAM and the development of a national UK ETS are examples illustrating the possibility of future divergence. And although the UK has raised its GHG reduction targets, including increasing its 2030 target to 78 per cent, the possibility remains that right-wing politicians might seize on the opportunities offered by Brexit to roll back climate policy gains, undermining the generally cooperative interaction on climate that has continued with the EU.

Noting the ambition of the European Green Deal to promote and implement ambitious environment, climate and energy policies across the world, in Chapter 25 Dobson took up this theme, exploring the dilemmas associated with the ‘extra-territorial’ reach of several EU climate policy measures that potentially bring them into conflict with international trade law. The Commission, she noted, has explicitly encouraged the EU to leverage its openness and engage trading partners, to ensure that they contribute significantly to emission reduction. Although the EU advances a ‘green agenda’ in ongoing negotiations on World Trade Organization (WTO) reform, for the foreseeable future the substantive obligations under the GATT and GATS, with their aim of removing barriers to trade, set limitations on the design of climate measures. Focusing on the key challenges posed to climate protective measures targeting upstream externalities across value chains, the chapter noted how several EU measures have already come into conflict with world trade law, and the likelihood that others will soon do so.

In their analysis of the potential of Green Recovery, comparing the responses to the global financial crisis of 2008 and the 2020 COVID-19 pandemic, Quitzow, Bersalli, Lilliestam and Prontera (Chapter 24) noted a significant expansion of the Commission’s role in the wake of the latter crisis, and identified how crises may offer opportunities for climate policy and institutional reform that might in time even become transformational. We return to the implications for the financial aspects of the EGD in more detail in the following section.

THE FUTURE OF CLIMATE POLICY IN THE EUROPEAN GREEN DEAL: CHALLENGES AHEAD

The chapters assembled in this *Handbook* exhibit some striking commonalities regarding the challenges to the delivery of ambitious climate policy they cover. This section brings out and further elaborates a few of these challenges.

Financing the Transition

The EU's increasing climate policy ambition translates into a need for (re-)directing greatly increased investment towards decarbonization and energy transition, as well as adaptation and resilience. The EGD's investment pillar, the Sustainable Europe Investment Plan, seeks to mobilize €1 trillion by 2030. Beyond that, the Commission's most ambitious scenario, set out in 2018 (European Commission 2018), envisions spending €28.4 trillion between 2031 and 2050 (Tooze 2021).

As Fitch-Roy and Bailey reminded us in Chapter 12, in the absence of significant fiscal and budgetary competence, the EU has traditionally acted as 'regulatory state', without 'the core fiscal resources to become involved directly in redistributive investment in technologies and sectors often associated with the green economy'. The EU has therefore had to rely on mobilizing private finance and investment, as well as re-directing Member State public spending (overseen by rules governing state aid). Several contributors highlighted that much of the EGD harnesses a range of tools and approaches to this end, as reflected in the European Investment Bank's efforts to become the EU's 'climate bank' (Mertens and Thiemann, Chapter 5), the development of the sustainable investment taxonomy (Eckert, Chapter 6 especially), the mainstreaming of climate concerns into the EU's budget (Rietig and Dupont, Chapter 17), and the efforts made in the direction of 'green recovery' and 'just transition' (Quitow et al., Chapter 24). But to varying degrees, these chapters raised a number of concerns, including the likelihood of sufficient finance being mobilized, the implications of using particular policy instruments to raise it; the implications for existing rules on government debt levels; and whether the agreed taxonomy will direct investments appropriately or not.

In this context, the European Investment Bank is emerging as a means to deliver significant levels of blended investment including both private and public sources (making 'green' investments attractive for private financial actors by de-risking). Mertens and Thiemann (Chapter 5) showed how the EIB has gradually increased its economic policy weight and its climate action portfolio. But a number of structural obstacles to further progress were identified. Among them are the bank's perceived need to maintain a healthy balance sheet from its investments, in order to ensure its continuing independence; dependency on Member States' ministries of finance or large capital market investors, which continues to expose it to a range of conflicting political pressures; doubts over whether sufficient supervision and stakeholder control is in place; and the adequacy of signals on where to invest provided by the new sustainable investment taxonomy.

Despite the EU's historically limited budget, in the wake of the COVID-19 pandemic, Member States have become more willing to contemplate a genuine and unprecedented pooling of economic resources (Quitow et al., Chapter 24). As a result, the Commission has been aiming to raise some €750 billion on the financial markets to finance its pan-European recovery plan. Although stopping short of issuing the Eurobonds that a number of Member States had called for, the scale of direct borrowing by the Commission signalled the potential for a paradigm shift, giving rise to an EU-level fiscal policy. At the same time, the tight fiscal rules embodied in the Stability and Growth Pact constitute a further constraint, significantly limiting the ability of Member State governments to increase their own spending on the climate transition (Wyns and Khandekar, Chapter 20 in this volume; Tubiana 2021, Van Lerven 2022).

The EU's reliance on the private sector to finance much of the net zero transition has also given rise to concerns over the extent of democratic control and social justice aspects. In

their chapter, Tobin et al. echoed concerns of critical political economists that new funding mechanisms to address concerns over ‘just transition’ may not be up to the task, or may end up bypassing the communities that will most need support through the ‘Just Transition Mechanism’, and ‘instead head for those already profiting via the status quo’. Quitzow et al. (Chapter 24) further noted that, although a significant step forward in addressing the socio-economic impacts of phasing out fossil fuels, the Just Transition Fund has been criticized for its lack of financial ambition and overly centralized governance structure.

Finally, the EU’s perceived need to mobilize significant additional resources has also prompted consideration of measures such as a carbon border adjustment mechanism that had previously not been regarded as feasible, and which still present risks. Proposals to earmark CBAM revenues for investment in the EU’s transition have met criticism from, among others, former Commission officials. As noted in Chapters 11 and 16 by Youngs and Lazard and Wettestad respectively, these critics have argued against using CBAM revenues for Member States and as EU ‘own resources’ to fund the pandemic recovery package on the grounds that it risks angering the EU’s international partners, in particular developing countries, and that the revenue should instead be used to support such countries. This raises questions regarding the credibility of the EU’s claims to global climate leadership.

The Need for Democratic but Decisive Decision Making

The manner in which the widely discussed problem of an (alleged) democratic deficit in the EU extends to climate policy and governance is also reflected by several contributors. The chapters examining the Commission (Bürgin, Chapter 2), the EIB and other financial institutions (Mertens and Thiemann, Eckert, Chapters 5 and 6 respectively), and the courts (Stoczkiewicz, Chapter 9) all highlighted instances where ‘behind closed doors’ decision making has led to outputs that militate against strong climate ambition, disappoint rising public expectations, and even give rise to litigation. The green taxonomy, initially touted as the EU’s definitive guide for investors increasingly being required to demonstrate the long-term sustainability of their investments, but which ultimately came to include nuclear and gas-generated power, is a case in point. The development of the taxonomy by the Commission through a series of ostensibly technical delegated acts, basing its legitimacy on expert input, belied the fundamentally ‘political character of green taxonomies’ (Mertens and Thiemann, Chapter 5). Key MEPs lamented the European Parliament’s lack of meaningful involvement in the process, given its limited role in delegated legislation: ‘We didn’t have an official consultation – even though we asked for it’ (Pickstone 2022).

As efforts to deliver ambitious decarbonization (and adaptation measures) accelerate and display potentially uneven socio-economic burdens and downsides, stakeholder and citizen involvement is likely to become even more important for the acceptance of climate policy measures, including at local level (Szulecki 2018). However, as (Kern, Chapter 8) noted, more participatory modes of governance carry their own risks, including potential for conflict and outcomes that may ultimately go against climate policy imperatives.

At the time of this writing, the most immediate challenge facing EU climate policy is to secure agreement on the ‘Fit for 55’ package, despite its numerous controversial aspects, against a very tight legislative timetable (Schlacke et al. 2022). The Commission has been keen to emphasize the integrity of the entire package, in order to prevent ‘salami slicing’. Yet, the complexity of the negotiating process, and important role for the European Parliament,

lessens the chances of the package being adopted as a single ‘grand bargain’. And if negotiations are protracted, the EU will have lost precious time to implement its ambitious emission reduction targets.¹

Weaknesses in Long-term Governance Frameworks

Several chapters (but primarily Chapters 14 and 15 by Knodt and Romppanen respectively) noted how significant questions remain regarding the degree to which the EGD will embed a sufficiently robust and long-term perspective through governance frameworks and ‘configurations’ of energy and climate policy characterized by different competences, modes of governance, targets, and instruments. Much still appears to depend on political will from the Member States, whose historic reluctance to transfer greater powers to the EU level has continued. With some exceptions (see Ecologic 2020), internal politics and legal frameworks in Member States are far from reliable in terms of long-term, sustained commitment to climate policy, making them potentially weak links in delivering the EU’s net zero by 2050 goal.

The sums raised by the *Next Generation EU*, combined with the Multiannual Financial Framework for 2021–2027, and the agreement to dedicate at least 30 per cent of them to EGD-relevant spending, are clearly significant. Much of the actual spending will ultimately depend, however, on implementation in Member State recovery and resilience plans (Quitrow et al., Chapter 24). In the specific case of agriculture, Matthews (Chapter 19) notes that the new CAP, covering the period 2023–2027, explicitly requires a higher level of environmental and climate ambition (further underlined by the ambitious targets in the Farm to Fork and Biodiversity Strategies), but how much of the detail of implementation is similarly left to Member States. It is ultimately up to them to decide on the priority their CAP Strategic Plans will give to the specific climate objective and the manner of its implementation. While the Commission has the opportunity to assess and approve these plans, Matthews’ chapter noted the weakness of the governance framework for the new CAP, and the rejection by many key players of the implied paradigm shift.

Limits to the EU’s Policy Paradigm

A number of chapters touch on the unease of many critics regarding the fundamental assumptions underpinning EU climate policy, which may be unduly optimistic in at least two respects. The first relates to the structures of capitalist political economy and their ability to deliver low-carbon transition, at least in a socially just way (Akgüç et al. 2021; Heffron and McCauley 2022); the second, to the ability of technological innovation and solutions to succeed in reducing emissions to the extent that deeper and more radical social transitions need not be contemplated. In various ways, Chapters 12, 21, 19 and 11 by Fitch-Roy and Bailey, Dyrhaug and Rayner, Matthews as well as Youngs and Lazard respectively all highlighted the limits of reliance on technology, but the continued reluctance to challenge deeply rooted social practices and behaviour. In the analyses conducted by the Commission (and consultants on its behalf) charting possible paths to net zero, critics have noted how the potential for radical changes in (carbon-intensive) lifestyles do not feature, despite their potential to deliver significant further emission reductions for the EU (Tooze 2021).

Apart from these fundamental criticisms, questions may also be raised about the comprehensiveness of the EGD even in its own terms. Wyns and Khandekar (Chapter 20), for example,

noted that the most important elements currently absent in the ‘Fit for 55’ package are policies and measures that would increase materials efficiency and circular use, given that around half of future mitigation in basic materials production is expected from these elements. Further EU laws need to be put in place enabling higher circular use and reduced material intensity in major materials consuming sectors of the economy (e.g. construction and automotive).

For their part, Schenuit and Geden’s analysis (Chapter 22) of the current policies on carbon capture and removal found that, although increasingly acknowledged to be necessary, such technologies arguably constitute forms of optimistic techno-fix, promoted by fossil fuel incumbents and some producing and exporting countries in Europe (including the EEA’s largest hydrocarbon producer, Norway) to enable some degree of continued ‘business as usual’. Although it can be regarded as an addition to the mitigation ‘toolbox’, and not a radical departure from it, CDR does have the potential to alter EU climate politics, both in terms of target structures and differentiation of climate ambitions across countries and sectors, and through its potential to trigger more polarized debates.

The Power of Incumbents

A large part of the explanation for the selective framing of EU climate policy was traced by several chapters to the power of incumbent industries, including the hold they exert over some key Member States on particularly significant matters. The controversial outcome of the taxonomy debate owes much to the nuclear industry’s hold over the French government, and the alliance with gas interests in other Member States (including Germany) that pressed for the classification of both forms of energy as sustainable (Wurzel, Chapter 3 in this volume; Deutsche Welle 2022). The danger of regulatory capture and greenwash was also noted by Mertens and Thiemann (Chapter 5) in the case of the EIB and the rapid increase in the issuing of Green Bonds, and by Eckert (Chapter 6) concerning, *inter alia*, the burgeoning green finance sector.

Dyrhaug and Rayner (Chapter 21) highlighted the existence of powerful incumbent interests as a key reason why emissions from transport are ‘hard to abate’. Car manufacturers have shown themselves capable of exploiting their important structural role in European economies to subvert existing regulations (‘Dieselgate’) and resist the introduction of new ones. For its part, the aviation sector has done notably well out of recent EU (and global) climate policy (Vogler’s Chapter 10 highlighted the means by which leverage was effectively applied). The story of large agricultural incumbents’ weight in constraining possible reforms of the Common Agricultural Policy has been well rehearsed over decades. In Chapter 19, Matthews noted the influence of powerful agricultural industry actors in the failure to pursue more ambitious emission reductions, particularly through reduced livestock numbers.

As the case of agriculture shows, the political power of incumbents is often reflected in their ability to commandeer huge long-term subsidies from both the EU and some Member States. It is important to note that although the EU and its Member States have provided subsidies for renewable energies, they have also been slow in reducing support for fossil fuels. While the 27 Member States subsidized renewables to the tune of €73 billion, the amount of fossil fuel subsidies has remained steady since 2008 at around €50 billion annually (Enerdata 2021).

Geopolitical Context

Although the chapters in this volume were written in large part before the Russian full-scale invasion of Ukraine, the monumental ramifications of this event, along with other broadly geopolitical concerns, are touched on by several of the contributors. In Chapter 10, Vogler reminded us how ratification by Russia was necessary to ensure the entry into force of the Kyoto Protocol, and the significance of the EU's international diplomacy in securing this (agreeing to support Russia's membership of the World Trade Organization, and adjust some of the terms on which Russian gas entered the European Single Market). More recently, in the run-up to the 2021 Glasgow COP, the Russian government adopted framework climate legislation including a net-zero target by 2060, and a GHG reporting system for large emitters. In Chapter 16, Wettestad observed that the impulses for such initiatives are external, and are to a large extent prompted by EU policies (actual or proposed), in this latter case responding to the proposed CBAM.² On the other hand, Youngs and Lazard (Chapter 11) were critical of the absence of a more fully geopolitical vision within the European Green Deal, as opposed to a more commercially oriented geo-economic perspective. At the heart of such a vision, in these authors' view, would be the establishment of more benign economic interdependencies in what otherwise has potential to become a new – and ecologically highly damaging – scramble for resources necessary for the low-carbon transition, in particular rare earth metals. Among other benefits, a more developed geo-political perspective would have better prepared the EU for the kind of profound shock caused by the Russian invasion of Ukraine.

When viewed over a longer time perspective, several chapters served to remind us how the EU's dependence on foreign energy sources – including but not limited to Russian – has always been a factor motivating the development of its internal EU policies and measures. For example, Russia's decisions (first in January 2006 and then in 2009) to halt gas supplies to Ukraine, gave new impetus to develop new internal climate and energy policies (Delbeke and Vis 2015: 86). These directly informed the 2009 climate-energy package, which in turn provided the foundation for another large policy package aimed at delivering further cuts by 2030 (Jordan and Moore 2020: 69–71). On each occasion, debate ensued on whether the EU's policies exacerbate these geopolitical pressures, and should therefore be downgraded, or whether the pace of decarbonization should instead be accelerated in order to ease them in the future. In the following section, we examine more closely the situation facing the EU after the outbreak of full-scale war in Ukraine in February 2022.

FUTURE PROSPECTS: TURNING CRISES INTO WINDOWS OF OPPORTUNITY?

In Chapter 24, Quitzow, et al. noted how crises can be turned into opportunities for climate policy and institutional reform that might in time even become transformational. Throughout the long history of EU environment policy, crises have certainly played a significant role in creating the conditions in which internal (and external) policies can advance. In the introductory section of this chapter we noted that the EU was experiencing 'turbulent times' (von Homeyer et al. 2021), even before the COVID-19 pandemic and Russian invasion of Ukraine (Dupont et al. 2020). In this concluding section, we ask whether the crises that confronted

the EU in 2022, and in particular the need to respond to events in Ukraine, can be turned into climate policy opportunities.

Some have argued that February 2022 marked the emergence of a new, post-liberal world order, sharply at odds with everything the EU stands for. The invasion has even been interpreted as ‘a gambit to destabilise Europe’s deep decarbonisation goals, because these, held as they are by Russia’s biggest energy import client, threaten the heart of [Russia’s own] governance model’ (Tubiana 2022). Whatever Putin’s motives, by mid-2022 it was possible to identify two opposing geopolitical scenarios for the EU. In one, Member States reject calls for closer cooperation to advance the low-carbon transition, instead unilaterally seeking to secure their own energy supplies, thereby allowing Russia to continue the divide and rule tactics by which it receives huge rents for its fossil-fuel exports. The ambitiousness of the ‘Fit for 55’ Package would be correspondingly reduced, as incumbents receive special treatment and deadlines are relaxed. Aspects of this tendency have not been hard to find, and it was perhaps telling that the prospect of Member States such as Germany having at least temporary recourse to coal power – justified by the need to avoid civil unrest following energy shortages – received endorsement from the highest levels of EU climate policymaking (Bounds and Varvitsioti 2022).

But in another scenario, geopolitical shocks prompt greater political integration in energy matters, driving closer coordination with climate policy than has – for reasons discussed by Knodt in Chapter 14 – been possible to date. This view was forcefully expressed in an appeal issued in the wake of the Russian invasion by 11 former commissioners (Abnett 2022; Delbeke, Cornillie and Vis 2022), to avoid short-termist decisions locking in continued dependence on fossil fuels. Under this scenario, the EU’s increasing climate policy ambition translates into recognizing the need for greater cooperation, and radically increased investment towards cross-sectoral decarbonization and energy transition. The Commission has already estimated the scale of investment necessary to deliver its decarbonization goals (European Commission 2018), agreeing with a series of other estimates in envisaging between 1 and 1.5 per cent of the EU’s GDP. To those sceptical of the EU’s ability to mobilize the levels of finance necessary to fully implement the EGD, the economic historian Adam Tooze provides useful context:

Reallocating trillions flowing into fossil fuel-intensive sectors will cover four-fifths of the required investment ... The incremental additional investment needed is some €5.4 trillion over 30 years – between 1 and 1.5 per cent of GDP ... As it happens, 1.2 per cent of GDP is what the EU27 spent on their militaries in 2019 ... It is a lot of money but by no means beyond reach (Tooze 2021).

Moving beyond 2022, more intense debate on the EU’s fiscal rules, particularly the Stability and Growth Pact (SGP), could present opportunities for boosting the levels of public sector investment dedicated to the EU’s climate transition which otherwise risk falling short of what is required (Mang and Caddick 2023).

In responding to events in Ukraine, the balance between the EU’s attempts to develop alternative sources *of* fossil fuel versus alternatives *to* fossil fuels thus emerged as a particular source of contention. The development of the Commission’s *REPowerEU* strategy provided early, somewhat mixed indications of how this may play out in the 2020s. During its drafting, the Commission joined with the International Energy Agency in issuing a nine-point plan that included calls for Europeans to drive less and more slowly, and avoid flying, suggestive of a window of opportunity opening for advocates of behaviour change, rather than reliance on technological fixes. But ultimately, the *REPowerEU* Communication that ultimately appeared

in May (European Commission 2022) emphasized the sourcing of alternative supplies of energy above the management of demand.

Bodies including the Court of Auditors (2022) and IEA (Hodgson 2022) have warned that the EU's diversification strategy, seeking alternative sources of fossil fuel imports and support for new gas infrastructure, risks undermining climate targets under 'Fit for 55', and indeed conflicts with projections of declining future demand for gas. As noted above, these issues also came to the fore in relation to the green taxonomy. In July 2022, despite significant mobilization by civil society campaigns, the European Parliament was unable to muster the absolute majority needed to veto the inclusion of gas and nuclear as sustainable investments. Apart from climate campaigners, a large number of investors, for whose benefit the taxonomy was designed in the first place, warned that the 'EU's inclusion of gas and nuclear invalidates its pitch as the gold standard for green investment' (Hernandez 2022).

Although the transition to net zero will create losers as well as winners, the EU has realized that it needs funds to ease the effects, and thus ensure that the transition to net zero remains politically legitimate. In general, we agree with those who suggest that with each new shock, after some initial uncertainty, the EU has succeeded in moving to a more cohesive approach (Chassany 2022). But doing so has required Member States to exercise a degree of enlightened self-interest, accepting that greater solidarity with their counterparts serves their own long-term purposes. In our opening chapter, we noted how that sense of common interest has often been galvanized by the activities of policy entrepreneurs. At different times, different actors throughout the EU have adopted a policy-entrepreneurial role to highlight the benefits of deeper integration, and skilfully overcome potential obstacles to policy agreement (Jordan et al. 2012). In Chapters 2 and 17, Bürgin, and Rietig and Dupont emphasized the Commission's significant capacity to act as 'climate policy entrepreneur', seizing on crises and using them as opportunities to pursue deeper political integration.

Throughout the 2020s, we should expect the benefits and drawbacks of deeper political integration to be played out as the EU seeks to implement its net zero commitment. In the context of the 'Fit for 55' package, there has been heightened debate around the extent to which stronger cooperation on energy efficiency measures should be pursued. Those favoring stronger climate action argue that the inability/unwillingness of EU and its Member States to drive energy efficiency more ambitiously looks particularly regrettable in the light of the Ukrainian energy crisis. For them, energy efficiency should be pursued with far greater urgency and ambition (Hodgson 2022; Court of Auditors 2022; McWilliams et al. 2022). Indeed, the hitherto untapped benefits of this are potentially huge, including for the EU, if Member State publics credit the institutions of the EU for reductions in energy poverty. On the other hand, for those favouring slower climate action, high upfront costs of insulating public buildings and homes are likely to be given greater emphasis.

For some in the EU, using crises (or even 'permacrises') to advance political integration will always be a politically risky strategy. Better, they argue, to use the EU's strengths – its hard 'market power' and its softer 'non-market power' – to shape its geopolitical context. The von der Leyen Commission has been particularly keen to turn the notion of 'strategic autonomy' into concrete policies related to defence, technology and energy (including climate change). But reliance on its market power itself carries distinctive risks for the EU. Noting the ambition of the European Green Deal to promote ambitious environmental, climate and energy policies across the world, Dobson's Chapter 25 explored the dilemmas associated with the 'extra-territorial' reach of several EU climate policy measures. To lessen the risk of

being challenged and deemed in breach of international trade law, Dobson suggests that when contemplating a unilateral standard, the EU will need to find a consistent way to negotiate with affected states (but that the vast array of relevant legislation renders this particularly difficult). Convincing the WTO that its measures do not constitute disguised protectionism is made particularly complex by the expectation that climate protection should be connected with, at the very least, a level playing field, when in fact the Commission, in seeking to increase green growth and energy independence, explicitly aims to go *further* than this. The *REPowerEU* Plan is a case in point, where the realization of the EU's aims implies a certain competitive *advantage* for EU actors. Whether such an advantage can be achieved within the bounds of WTO law, Dobson warns, remains to be seen.

There is a further crisis confronting the EU in the 2020s, one which it would be remiss of this concluding chapter not to raise. On top of the challenges to EU cohesion, solidarity and policy integration posed by the war in Ukraine, policymakers will need to respond in a significantly more concerted way than has been managed so far to the challenges presented by worsening climate impacts, of the kind experienced across the continent (and indeed much of the world) in mid-2022 (Mathiesen et al. 2021). Such impacts appear to require something beyond the incrementalism and 'depoliticisation' that have been seen to characterize existing policy responses (Remling 2018). Increasingly visible impacts, whether single catastrophic events, or more insidious creeping effects, are problematic in political and policy terms in at least four senses. Firstly, they impose increasingly burdensome macroeconomic costs on the EU's financial system that will require a response (Lenaerts et al. 2022; Zenios 2021). Secondly, they test the extent of solidarity between more and less badly affected Member States (Dinan, quoted in Mathiesen et al. 2021), and between the EU and affected countries beyond its borders. The question of whether the need for greater investment in resilience and adaptation will motivate further integration and manifestations of solidarity (within and beyond the EU), or the opposite, is a live and disconcerting one. The extent to which the EU is willing and able to aid vulnerable countries, beyond crisis management, remains unclear (Youngs and Lazard, Chapter 11 in this volume; Bergamaschi et al. 2019). Thirdly, given increased importance ascribed to enhancing sinks (see Romppanen (Chapter 15) on LULUCF), and the reliance of certain mitigation-related technologies on plentiful water supplies, policymakers will need to ensure that their emission reduction commitments remain robust in the face of increasing climate impacts. Fourthly, more effort will be required to ensure that the pursuit of 'twin transitions', towards both climate neutrality and climate resilience (touched on by Kern in Chapter 8) can be conducted in a coherent way.

One thing that it is relatively safe to conclude is that the field of climate change politics and policy in the European Union will continue to provide academic researchers with a rich field to explore. This concluding chapter has set out some of the specific developments on which they are likely to find themselves concentrating.

NOTE

1. Readers can keep track of the progress of the legislative 'train' of proposals within the European Green Deal at <https://www.europarl.europa.eu/legislative-train/theme-a-european-green-deal>.
2. In 2020, Russia was a top-five trade partner of the EU in sectors targeted by the measure (aluminum, iron and steel, fertilizers and electricity) (Szulecki, Overland and Smith 2022).

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