

CLIMATE PROGRESS IN THE EU AND THE WORLD

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STEPHEN MINAS



FEPS
Primer Series

CLIMATE PROGRESS IN THE EU AND THE WORLD

Stephen Minas

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Charting a just and social transition
in a volatile age



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Foreword

"Climate change is not a distant threat, it's a clear and present danger. The European Union has a moral obligation to lead the fight against climate change and protect our planet for future generations."

Frans Timmermans

It is hard to find a topic in which politics and activism have influenced so much. This interplay between politics and activism is not a mere coincidence; it is the very essence of a thriving democracy. It is the embodiment of the people's power to hold leaders accountable and demand a sustainable, equitable, and habitable world for all.

It is also hard to find a policy area that has developed more than climate action over the recent past. The EU has a long track record of work on the decarbonization of the economy - a priority that has shaped EU spending for over two decades now - but it is indeed with the launch of the EU Green Deal that substantial progress has been attained in the fight against climate change and climate change deniers.

For these two reasons, the connection with democracy and activism and the fast-paced advancement made in EU politics, a FEPS Primer on climate policy is timely and spot-on.

Progressive politics have played a major role in shaping EU climate policy, and social democrats all around Europe are being called upon to lead efforts in addressing the critical stage of the climate crisis whilst adapting welfare and employment policy to ensure justice in the transition. This primer encapsulates the essence, rationale and construct of EU climate law and policy, and outlines progressive principles that can help achieve the necessary changes to advance climate progress in the EU and globally. Given that climate policy is influenced by science, economics, and international affairs, the primer provides an overview of key developments in these areas as they relate to the political agenda on climate change.

Importantly, the primer summarizes key debates in climate politics worldwide, as these debates set the context for policy decisions in specific jurisdictions, such as the EU and its Member States.

Stephen Minas is well placed to take us on this journey across the development of EU climate law as he's not only a top expert on EU climate action but an authority in terms of global climate action and can put the European path towards climate justice in perspective vis-à-vis climate policy developments in other parts of the globe and crucially, he can report on the EU role in shaping the multilateral agenda for environmental protection. As an academic at Peking University and King's College London, Stephen Minas assures the highest scientific standards, but what makes him extraordinarily fit to illustrate the making of climate policy is also his drive for the cause and the connection with policy-making, for instance thanks to participation in the IUCN World Commission on Environmental Law. Besides that, he has also been a very active member of the FEPS Young Academics Network and part of the steering group of the UNited for Climate Justice¹ policy proposals.

As we embark on this exploration of EU climate action, it is therefore necessary to also contemplate the ability of progressive politics to channel the requests of the climate movement into the highest level of EU policy-making.

Specifically, the Executive Commission's former Executive Vice President Frans Timmermans, in charge of the EU Green Deal, has left an enormous legacy: an unprecedented body of laws meant to address the climate crisis, protect biodiversity, steer a just transition and move towards renewable energy.

One of the politically relevant results of his action at the Commission has been the ability to mainstream climate and avoid addressing climate targets in a silo. The European Green Deal has in fact addressed EU social and cohesion matters, thanks to the Just Transition Fund and the Social Climate Fund; it has updated the economic framework including sustainability as a pivotal objective of EU eco-

1 <https://fepe-europe.eu/publication/692-united-for-climate-justice-declaration-with-guiding-proposals-for-progressive-climate-action/>

conomic governance as visible in the Annual Sustainable Growth Survey and in the earmarked funds for climate within the Recovery and Resilience Facility; it has relaunched green industrial policy and climate diplomacy for a just approach to raw materials; it has elevated housing policy to an EU matter thanks to the Renovation Wave. To put it in the words of Timmermans: *“the European Green Deal is not just an environmental agenda, it’s an economic, social, and geopolitical agenda. It’s about creating a sustainable, fair, and prosperous future for all Europeans.”*

Detractors and some uncompromising environmentalists complain that Europe has done too little and this is probably true. EU Member States could have done more or could have started sooner to revert the worrisome trend of pollution and nature’s destruction. Someone less factional or more of a connoisseur of EU policy-making would however point out that, in a context in which EU institutions are governed by a political coalition led by conservative forces that have no shame in running a campaign to vote against nature restoration laws and some Member States are run by right-wing extremists that even flirt with climate change denial, achieving what Frans Timmermans have attained was a masterpiece of political strong will and policy design.

The European Green Deal still has to deliver and attain its full potential, but it has set already a course of action that signals discontinuity with the past and witnesses the potential of progressive forces in shaping the future and protecting our planet and the people living in it.

Dr David Rinaldi
FEPS Director of Studies and Policy

Executive summary

Why climate change matters

As the IPCC has reported, there can be no doubt that human activities are causing global warming. The global surface temperature has already increased by 1.1°C.

Anthropogenic climate change is already impacting every region of the globe and affecting vulnerable people more severely than others.

Climate change is a whole-of-economy problem. To tackle it, we need transformational change across economic sectors. Economic responses to climate change must address ‘negative externalities’ but also avoid regressive and inequitable outcomes.

International climate governance has multiple action channels but is centred on the United Nations Framework Convention on Climate Change (UNFCCC) regime and most notably the 2015 Paris Agreement, which sets ambitious goals and has nearly

universal adoption. However, there is still a substantial gap between what the Paris goals require and aggregate implementation. Progressives must work through multilateral, bilateral and other channels to strengthen the climate transition.

Key issues in climate politics

While almost everyone agrees that managing climate change should be a top priority, complete consensus has not been achieved on climate policy either within the EU or internationally.

While the consolidation of scientific consensus has made outright climate denial untenable in mainstream politics, opponents of climate action continue to deploy other strategies, ranging from ‘techno-optimism’ to ‘doomism’. Progressives must be alert to these techniques.

While ‘climate justice’ concerns are at the centre of climate politics, many different approaches are possible. Alongside other important aspects of justice, such as proper procedure, progressives must always place a concern for the disadvantaged at the centre of climate policy.

Climate justice has intra-state, inter-state and inter-generation-

al strands. Policymakers must address all of them.

As we go through the climate transition it is imperative to ensure greater respect for human rights and to strengthen democracy at multiple levels, both within the EU and internationally.

Climate regulation is a response to greenhouse gas emissions as a major instance of market failure. Various regulatory mechanisms – including market-based mechanisms such as emissions trading – have been introduced to correct this failure. Such market approaches are essential but they must be designed and implemented in such a way that they do not burden already disadvantaged citizens.

Notions of ‘de-growth’ are inconsistent with the improvement of economic wellbeing. They are also potentially regressive and are probably impossible to implement in a democracy. Instead, progressives should push for the use of economic indicators that better capture social wellbeing, sustainable development and the need to stay within planetary boundaries.

The role of the private sector in the climate transition is con-

tested. Progressives should reject the claim that climate action should be confined to state planning, but they should also lay down regulations and incentives for private actors to contribute to climate action, and channel funding towards climate solutions and away from harmful activities.

Climate policy and geopolitical developments are interdependent. First, climate change is a global security threat multiplier. Second, climate change affects intra- and international competition for commodities and territory. Third, aspects of the response to climate change, such as electrification and digitalisation, bring their own security challenges. Fourth, while responding to climate change will leave every state better off, compared with inaction, climate action creates relative winners and losers. The EU has much to gain from the climate transition in terms of energy security and trade balances. However, security challenges from states that see themselves as ‘losers’ will need to be managed.

Russia’s invasion of Ukraine exemplifies the relationship between geopolitics and climate

policy. Within the EU, it demonstrates the risks of energy reliance on potentially hostile third states and the crucial role in energy security of domestic renewables and storage.

Because global aggregate climate mitigation is still inadequate, ‘geoengineering’ proposals, research and experimentation are growing in prominence. International governance of these activities is fragmented and uncertain.

The international community’s climate goals

The EU has been a major player in the negotiation of international climate law. In turn, international climate objectives are the starting point for the development of EU climate law and policy.

While the UNFCCC process has had both successes and failures, overall it has fallen short of tackling climate change, resulting in even more ambitious targets and more compressed timelines.

International climate law is the product of broader international currents, especially when it comes to the distribution of resources and efforts between

developed and developing countries.

International climate law is being implemented primarily at the domestic level, with typically weak enforcement mechanisms at the international level.

Following the adoption of the 1992 UN Climate Convention and the 1997 Kyoto Protocol, the 2015 Paris Agreement created a universal framework for climate action in all countries, although there are important differences between the commitments of developed and developing Parties. The Paris Agreement sets mitigation, adaptation and finance objectives.

The progressive commitment to multilateralism and international solidarity requires that we work towards the Paris goals and strengthen support for poorer countries, both because it is just and as a key means of unlocking greater ambition.

EU climate law and policy

The EU’s competences for regulating climate change derive from EU treaty law. Both the EU and its Member States have roles in climate policymaking. EU climate policy and law result from negotiations among the EU

institutions and Member States, in which European political parties also play important roles.

EU climate policy includes both targets and markets and both cross-cutting elements and areas of sectoral focus. The social dimension has become more prominent in recent years, although there is still much room for improvement.

The 2021 European Climate Law, as the framework law establishing EU climate targets and processes, is a key regulation giving legal effect to EU climate policy.

Important areas of EU climate law and policy include:

- regulation to make the economy more climate-friendly, including through carbon pricing and other economic measures;
- efforts to shift finance flows toward climate action through sustainable finance regulations such as the EU ‘taxonomy’;
- transitioning to clean energy through climate mitigation, renewables and energy efficiency targets, while addressing energy poverty;
- protecting communities from climate impacts and response measures, including through ad-

aptation, disaster risk reduction and ‘just transition’ endeavours;

- efforts to make the climate transition more inclusive, including through public participation in decision-making, planning tools and other interventions;
- greening trade and investment, including through climate-friendly international economic agreements, extraterritorial influence of EU standards and carbon border adjustment;
- building strategic autonomy, including by ending energy dependence, pursuing innovation missions to strengthen EU industrial capacity, aligning neighbours – such as the Energy Community’s Contracting Parties – with EU climate policy, and integrating climate considerations into defence and security policy; and
- practicing international solidarity, with practical support for and collaboration with poorer nations.

Progressive principles for strengthening climate policy:

Both within the EU and internationally, climate law and policy are subject to perpetual nego-

tiation. Many opportunities are available to advocate for progressive principles to strengthen climate action.

While policy needs and contexts are changing constantly, principles are immutable. They encourage coherence across policies and enable the development of a compelling narrative to get citizens and stakeholders on board.

Progressives should be guided by the following principles to make a progressive and European climate transition possible:

- **Ambition:** This is best defined with reference to the Paris goals and is fundamental to making progress on climate policy. Progressives should constantly seek opportunities to strengthen climate goals and implementation.
- **Inclusion:** The climate transition should leave nobody behind. Progressives should advocate for the interests of vulnerable members of society and also look for ways in which marginalised communities can help to improve climate policy.

- **Justice:** The climate transition must be socially just. Progressives must oppose socially regressive climate policies and champion policies that put social wellbeing at the heart of climate action.

- **Freedom:** Climate policy can be a powerful tool for enhancing liberties, such as freedom from energy dependence at the EU level and liberation from energy poverty at the household level. Progressives should champion the democratising potential of climate policy both within the EU and internationally.

- **International solidarity:** Progressives must practice international solidarity by standing with the world's poor, offering them practical assistance and seeking conceptual and programmatic innovations to underpin the climate transition in poorer nations. International solidarity is also built through transnational inter-party and civil society engagement.

1 Introduction

Even in a world confronted by multiple and interlocking crises, climate change stands out as an existential threat to humanity's collective future. Together with the broader degradation of the 'Earth system' and the ever-present but now resurgent threat of nuclear weapons, climate change jeopardises the 'safe operating space' within which human civilisation has thrived.

The climate crisis is distinguished not just by its magnitude but also by its all-encompassing scope. While other major environmental problems have been dealt with by substituting certain products in industrial processes or by protecting certain geographies, climate change is a whole-of-economy problem and responding to it requires far-reaching and transformational changes of unprecedented scale and pace. This includes both phasing out reliance on greenhouse gas (GHG) emitting activities across a broad range of sectors, such as energy, industry, transport and agriculture, and adapting human activities and settlements to the increasingly severe physical consequences of climate change.

The climate crisis is not new. Nor is knowledge of it. Scientists first identified the 'greenhouse effect' over a century ago. For decades, scientists in fields relevant to climate change have been warning policymakers of this growing threat. Over this period, scientific consensus has consolidated and the warnings have become increasingly dire. Policy responses have been real but for the most part insufficient.

Arguably, climate change remained a second-order policy issue until its consequences became part of the lived experience of citizens in particular countries. The extreme weather events of recent years, which – scientists have explained – have been intensified by climate change, have upended the status quo in many parts of the world. The calamitous experiences of storms, fires, floods and other disasters have vaulted climate change to near the top of the politi-

cal agenda, as affected citizens demand solutions from their political leaders. Popular movements such as ‘School Strikes for the Climate’ and ‘Extinction Rebellion’ have demonstrated the concerns of different social strata and social groups, and have affected policymaking, sometimes in unforeseen ways. Climate politics may have become trapped in an unfortunate predicament: whereas in the past, the felt consequences of climate change were too gradual and modest to mobilise demands for more ambitious policies, now that symptoms of climate crisis are everywhere, populations have been jolted from their apathy but there are fears that it might already be too late to avert serious disruption. Certainly, more dramatic responses are required than would have been the case earlier.

This climate emergency confronts us with a policymaking but also a political challenge. The all-encompassing nature of this challenge means that, at the macro level, we are indeed ‘all in it together’, but also that choices need to be made at every level of governance about the distribution of efforts, costs and support in tackling the climate crisis. These are political choices that can be resolved only partially using technical criteria and expertise.

While climate change is indeed pervasive, one practical effect is to expose and compound multiple inequalities. At the international level, climate change affects some nations more than others because of their physical and economic profiles. Furthermore, some nations have been major GHG emitters, while others, whose contributions to the problem have been negligible, face the worst consequences. For some, the submerging of their entire national territory under a rising sea is practically guaranteed. Nations also differ considerably in their resources and ability to adapt to global heating.

Similarly, the impacts of climate change are unequal within nations. As usual, it is the poor who suffer the most, for example as urban heatwaves increasingly threaten health. The elderly are also disproportionately vulnerable to the health consequences of climate change. Particular communities or workers whose dwellings or livelihoods are exposed either to climate change or to policy responses – from fisherfolk to farmers to coal miners – are also on the climate frontlines, literally or metaphorically.

Climate inequality also has an intergenerational dimension, which has long been acknowledged in theory, but has come to the fore of climate politics only more recently, mainly as a result of youth activism. The youngest generations today are more exposed than any of their predecessors to the consequences of the poor climate choices their elders have made, whether as political leaders, businesspeople or consumers. This inequality of agency and risk is even greater for the unborn generations that will have to live in the world of the 2100s and beyond. Finally, there is inequality between humans, the cause of ‘anthropogenic’ climate change, and all the non-human species forced to adapt as best they can to climate change, paying the price for our GHG emissions and our pollution of their habitats, up to and including extinction.

These and other inequalities demand that collective responses to climate change address the full range of particular needs and achieve not just a rapid and effective, but also a just transition. The politics of climate change plays out at multiple levels, within towns, cities, provinces and countries, through regional organisations, including (but not only) the European Union, and in intergovernmental negotiations. Climate politics also takes place through activism, networking and self-organisation in social movements, the trade union movement, NGOs, religious communities and corporations, investors and professional associations. Much of the political activity in these latter domains has a transnational character, not confined to any particular country or even region.

The EU has long been a key actor in climate politics across many of these domains. For decades, the EU has been able to claim a position of leadership in both the development of domestic climate policy and the crafting of international agreements for cooperation and coordinated action. The EU has certainly left its stamp on international climate agreements and has developed international climate policies that are both more effective and more socially cohesive than many comparable policies in other jurisdictions, consistent with the EU’s ‘social market economy’ basis.

But the current global situation raises new or intensified challenges to EU climate policy. The confluence of multiple crises – pandem-

ic, energy, war – have brought the world to a climate crossroads. The EU must, simultaneously, work to strengthen collective ambition and achieve deeper global emissions cuts, despite the failure of most countries to seize the opportunity for a ‘green recovery’ after the Covid-19 shutdowns,¹ and implement internal laws and policies of unprecedented climate ambition in a manner that strengthens social cohesion rather than fracturing it. And it must do all this while still recovering from the pandemic, as well as tackling the dire security, energy and economic consequences of the Russian Federation’s criminal invasion of Ukraine.

Progressive policymakers have made major contributions to the shaping of EU climate policy. Today, progressives are called upon again to be protagonists in developing and implementing policy for the decisive stage of the climate crisis, guided by principles of ambition, inclusion, justice, freedom and international solidarity.

This primer is intended to serve as an introduction to EU climate law and policy. It also suggests principles for achieving the change we need to secure climate progress in the EU and the world. Because climate policy rests on science, economics and history, the primer includes an overview of key developments in these fields as climate change moved onto the political agenda. Some key debates in climate politics globally are also summarised, as these provide the parameters for policy choices in particular jurisdictions, such as the EU and its Member States.

The primer prefaces discussion of EU law and policy with an introduction to the international community’s climate goals and how these have evolved since the 1990s, from the adoption of the UN Framework Convention on Climate Change and the Kyoto Protocol to the approval of the Paris Agreement and subsequent developments. Relations between international and EU climate policy can be seen as an ongoing ‘regulatory dialogue’, in which EU positions influence the development of international frameworks, which in turn prompt further developments in EU law and policy to meet

1 Davis, Steven J. et al, ‘Emissions rebound from the COVID-19 pandemic’ (2022) 12 *Nature Climate Change* 412-414.

international commitments. This close relationship between international and EU climate policy will continue to influence the next stages of EU policymaking and implementation in the critical years ahead.

The reminder of the primer is structured as follows. Part A – **‘Confronting the climate crisis’** – sets the scene for a discussion of EU climate law and policy by tracking how climate change emerged onto the policy agenda, the key debates that have shaped climate policy and the climate goals that have been agreed at the international level. Part A opens with **‘Chapter 2: Why climate change matters’**, which sets out the importance of climate change as both a physical phenomenon and as a political and economic challenge. Chapter 3 presents an overview of **‘Key issues in climate politics’**. Adopting a global scope but focusing on debates within the EU, this chapter identifies the fault-lines on central questions of climate policy. Before we turn to EU climate law and policy, Chapter 4 presents **‘The international community’s climate goals’**. These goals, set out in the three climate treaties and related decisions, provide the overarching framework for domestic climate policy, including in the EU.

Part B shifts the focus to EU law and policy frameworks for climate change, current developments and a discussion of the progressive principles that should inform further EU climate action. Chapter 5 presents major areas of **‘EU climate law and policy’**. Chapter 6 concludes the primer by looking **‘Towards a progressive and European climate transition’**. This chapter proposes five principles that should guide progressives in strengthening climate policy.

PART A:

CONFRONTING THE CLIMATE CRISIS

2 Why climate change matters

Climate change is not simply one issue among many. The climate issue forces us to confront fundamental questions of humanity's shared future more than any other issue, except perhaps the potential use of nuclear weapons. The unique character of the climate challenge, and therefore of climate politics, lies in the relationship it exposes between human activity and the planetary conditions that support life on earth. The first answer to the question of why climate change matters is therefore found in the warnings of scientists. Beyond this, climate change matters, politically, because it necessitates choices that impact all aspects of our societies and economies. Climate change also matters as a question of international relations, particularly as the international community has sought to address it through multilateral agreements. This chapter will summarise the fundamental aspects of the climate issue that give it salience: scientific, economic and diplomatic.

Climate science

Climate change is a physical problem. Human-induced climate change results from activities that release greenhouse gases (GHG) into the atmosphere, resulting in a growing concentration of GHG particulates, which in turn causes global heating and other negative physical consequences. This 'greenhouse effect' has been well understood for many decades and has been affirmed by scientific con-

sensus. Although climate politics is still fraught with efforts to muddy the scientific waters, the basic facts are clear and not amenable to debate: ‘we cannot negotiate *with* climate change’.²

The development of scientific understanding of the relationship between the climate and GHG concentrations in the atmosphere can be traced back to the nineteenth century.³ Nevertheless, when the modern economy came to rely on fossil fuels the phenomenon of climate change was still not broadly understood. Coal was satisfying half of global energy needs as early as 1900, whereas oil became the leading source of energy in the 1960s.⁴ Climate change was not a factor in the politics of these times, even though warnings were occasionally raised about it.⁵

The scientific consensus and its political consequences

In the 1970s and 1980s, prominent scientists were instrumental in putting climate change on national policy agendas. NASA scientist James Hansen’s testimony to the US Congress in 1988 is a prominent example.⁶ Progressive politicians played an important role in

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- 2 Scheffran, Jürgen et al. (eds), *Climate Change, Human Security and Violent Conflict: Challenges for Societal Stability* (Springer 2012) 27.
 - 3 Le Treut, H., R. Somerville, U. Cubasch, Ding, Y., Mauritzen, C., Moksit, A., Peterson T. and Prather, M., ‘Historical Overview of Climate Change’, in: *Climate Change 2007: The Physical Science Basis*. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds)] (Cambridge University Press, 2007), 103ff.
 - 4 Yergin, Daniel, *The New Map: Energy, Climate, and the Clash of Nations* (Allen Lane, 2020) 379.
 - 5 For example, in 1965 US President Lyndon Johnson stated to the Congress that ‘[t]his generation has altered the composition of the atmosphere on a global scale through ... a steady increase in carbon dioxide from the burning of fossil fuels’. Doyle, Alister, *The Great Melt: Accounts from the Frontline of Climate Change* (Flint, 2021) 79–80.
 - 6 Hansen told Congress that ‘it is time to stop waffling so much and say that the evidence is pretty strong that the greenhouse effect is here’. Shabecoff, Philip, ‘Global Warming Has Begun, Expert Tells Senate’, *The New York Times*, 24 June 1988, <https://www.nytimes.com/1988/06/24/us/global-warming-has-begun-expert-tells-senate.html>

bringing this scientific information to a wider audience and advocating for policy responses. A standout example is former US Vice President Al Gore, who was responsible for holding the first congressional hearings on climate change.⁷ Notably, in light of subsequent developments, some conservatives were also alert to the problem at that time.⁸

During this period, the gathering scientific consensus on climate change prompted consideration of the issue at the intergovernmental level. The then executive director of the United Nations Environment Programme (UNEP) encouraged the scientists and researchers convened for the 1985 Villach conference on climate variation to ‘set the ball rolling in the direction of negotiation’.⁹ In 1988, the United Nations General Assembly endorsed the joint establishment of the Intergovernmental Panel on Climate Change (IPCC) by the World Meteorological Organization and UNEP, ‘to provide internationally coordinated scientific assessments of the magnitude, timing and potential environmental and socio-economic impact of climate change and realistic response strategies’.¹⁰

The IPCC brings together thousands of scientists and social scientists who contribute to its regular assessment reports. These reports assess developments in climate science and related fields in order to ‘provide a comprehensive summary of what is known about the drivers of climate change, its impacts and future risks, and how adapta-

7 Aldred, Jessica and Lauren Goodchild, ‘Timeline: Al Gore’, *The Guardian*, 12 October 2007, <https://www.theguardian.com/environment/2007/oct/12/climatechange1>

8 Margaret Thatcher is a standout example. Vidal, John, ‘Margaret Thatcher: an unlikely green hero?’, *The Guardian*, 9 April 2013, <https://www.theguardian.com/environment/blog/2013/apr/09/margaret-thatcher-green-hero> (accessed 5 July 2023).

9 Minas, Stephen, ‘The Paris Agreement to Strengthen role of Networks in Climate Policy & Technology’, *Global Policy*, 23 December 2015, <https://www.globalpolicyjournal.com/blog/23/12/2015/paris-agreement-strengthen-role-networks-climate-policy-technology>

10 UNGA Resolution 43/53: Protection of global climate for present and future generations of mankind (1988), para. 5.

tion and mitigation can reduce those risks'.¹¹ The IPCC should not be seen as a climate 'oracle'. It does no original research and therefore does not produce new knowledge. Nevertheless, its authoritative syntheses of the state of climate science are recognised globally.

The IPCC has come to occupy an unusual position in global politics. It has no legal authority and it does not prescribe policy. Nevertheless, its regular reporting is a major factor in the further development of climate policies and international agreements. From the perspective of governments, the IPCC's legitimacy derives not just from the fact that its reports represent the consensus analysis of leading scientists and social scientists, but also because the reports and their crucial summaries for policymakers are adopted by the IPCC's 195 member countries, often after intense negotiation. This means that the IPCC is not a 'pure' scientific body but is rather a 'hybrid institution straddling ... science-policy debates'.¹² IPCC findings are also utilised by climate activists in pressuring their governments for more ambitious climate action, as well as by the business and finance sectors for their own climate decision-making.

In its sixth and most recent assessment report, the summary of which was released in 2023, the IPCC presented clear findings on the nature, causes and impacts of climate change, as well as on future risks and impacts. The IPCC reported that '[h]uman activities, principally through emissions of greenhouse gases, have unequivocally caused global warming, with global surface temperature reaching 1.1°C above 1850–1900 in 2011–2020'.¹³ This human-caused climate change is 'already affecting many weather and climate extremes in every region across the globe', with 'widespread adverse impacts and related losses and damages to nature and people'.¹⁴ These impacts are distributed unequally. Some 3.3 to 3.6 billion people 'live in con-

11 'About the IPCC', <https://www.ipcc.ch/about/>

12 Livingston, Jasmine E. and Markku Rummukainen, 'Taking science by surprise: The knowledge politics of the IPCC Special Report on 1.5 degrees' (2020) 112 *Environmental Science and Policy* 10, 11.

13 IPCC, 'Synthesis Report of the IPCC Sixth Assessment Report (AR6): Summary for Policymakers' (2023) 4.

14 See n 13, 5.

texts that are highly vulnerable to climate change', with the 'largest adverse impacts' affecting communities in the least developed countries (LDCs), small island states and particular regions, but also 'Indigenous Peoples, small-scale food producers and low-income households' globally.¹⁵

The IPCC warned that '[c]ontinued greenhouse gas emissions will lead to increasing global warming, with the best estimate of reaching 1.5°C in the near term in considered scenarios and modelled pathways. Every increment of global warming will intensify multiple and concurrent hazards.'¹⁶ It found that climate-related risks related to future warming were higher than its previous 2014 synthesis report had estimated and noted that 'abrupt and/or irreversible changes in the climate system' become more likely with further global warming.¹⁷

Climate change and the economy

The reporting from the IPCC and other scientific authorities leaves no doubt that transformational change is needed to tackle the climate problem adequately. Climate mitigation directly affects many economic sectors, including energy (including energy use in industry, buildings and transport), agriculture, forestry and land use, industry and waste management.¹⁸ Adaptation will increasingly require major changes to urban and critical infrastructure, agriculture, land use and planning in order to buttress the resilience of communities. Beyond specific sectors, the Paris Agreement requires a reorientation of global finance flows, but that remains at a very early stage. The UNFCCC Standing Committee on Finance, which produces reports on climate finance and draft guidance for UNFCCC funding bodies, has observed that '[a]lthough climate finance flows are increasing, they remain relatively small in the broader context of other

15 See n 13.

16 See n 13, 12.

17 See n 13, 19.

18 Ritchie, Hannah and Max Roser, 'Emissions by sector', *Our World in Data*, <https://ourworldindata.org/emissions-by-sector>

finance flows, investment opportunities and costs'.¹⁹ Climate change is a whole-of-economy problem and our responses to it necessitate economic policy choices that will affect every sector and citizen.

Economic framings of the climate challenge have exercised a powerful influence on decisions about policy responses. Reflecting experiences from confronting other sources of environmental pollution, the phenomenon of global warming was soon identified as an instance of the 'tragedy of the commons'. This theory proposes that a given common resource will eventually be depleted through overuse, as each user makes individually rational but collectively disastrous decisions to exploit the free resource before others get there first: 'Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all.'²⁰ In the case of climate change, the 'commons' in question is the global atmosphere, which is subject to 'ruin' by those able to emit greenhouse gases with impunity, increasing its CO₂ concentration beyond safe levels.

Expressed purely in economic terms, such emissions have been characterised as a 'negative externality': 'Those who produce greenhouse-gas emissions are bringing about climate change, thereby imposing costs on the world and on future generations, but they do not face directly, neither via markets nor in other ways, the full consequences of the costs of their actions.'²¹ The proposed solution has been to 'internalise' these costs using various means in order to disincentivise emissions. Such policies are in the tradition of Pigouvian taxation or pricing, which aims to maximise welfare.²²

19 UNFCCC Standing Committee on Finance, Fourth (2020) Biennial Assessment and Overview of Climate Finance Flows (2020) 12.

20 Hardin, Garrett, 'The tragedy of the commons' (1968) 162 *Science* 1243–1248.

21 Stern Review: The Economics of Climate Change (2006) 24.

22 Edenhofer, Ottmar, Max Franks and Matthias Kalkuhl, 'Pigou in the 21st Century: a tribute on the occasion of the 100th anniversary of the publication of *The Economics of Welfare*' (2021) 28 *International Tax and Public Finance* 1090–1121.

While this approach has had some success and remains important in the overall struggle against climate change, it has its limitations.²³ Pricing carbon using various means is not a complete solution. Most carbon pricing schemes worldwide set the price too low to have a transformative effect. The obvious solution of increasing the carbon price to an adequate level is often a political non-starter. It is also the case that many of the needed changes, concerning mitigation, adaptation, and loss and damage, are not necessarily responsive to price signals and require either direct regulation or some other intervention.

For progressives, economic policy regarding climate change must always be carefully considered from an equity standpoint. Carbon pricing and other fiscal measures must be designed so as not to have an inordinately regressive effect, imposing the highest relative costs on those least able to afford them. Such regressive climate measures are inconsistent with principles of climate justice and are also vulnerable to social backlash, resistance and repeal. The economics of climate change must be handled carefully with a view to both maximising ambition and safeguarding the durability of necessary policies from political and social challenge. As will be seen, the implementation of just transition and related concepts has become central to achieving this.

A historical overview of climate politics and diplomacy

From the Stockholm Declaration to the Paris Agreement

At the international level, the processes that led to the development of climate governance can be traced back to the late 1960s and early 1970s. This was a time of rising concerns over ‘limits to growth’,

23 Brown, Katrina, W. Neil Adger and Joshua E. Cinner, ‘Moving climate change beyond the tragedy of the commons’ (2019) 54 *Global Environmental Change* 61–63.

including environmental degradation.²⁴ In 1968, the UN General Assembly resolved to organise a global conference for the ‘comprehensive consideration within the United Nations of the problems of the human environment’ and to identify aspects that ‘can only or best be solved through international co-operation and agreement’.²⁵ The resulting conference, held in Stockholm in 1972, adopted a set of principles that have informed the subsequent development of international environmental law, including climate law.²⁶ These include the need to safeguard the ‘natural resources of the earth’ for the benefit of future as well as present generations, the need for environmental policies not to hamper the ‘development potential of developing countries’ and a call to make ‘environmental technologies’ available to developing countries.²⁷

The principles underpinning international environmental law continued to develop in the 1980s. A major milestone was the 1987 report by the World Commission on Environment and Development, chaired by former prime minister of Norway Gro Harlem Brundtland (Labour Party). This report defined sustainability, with an emphasis on intergenerational justice, as ‘meet[ing] the needs of the present without compromising the ability of future generations to meet their own needs’.²⁸ During the same period, the UN General Assembly rec-

24 Meadows, Donella H. et al. , *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind* (Universe Books, 1972), <http://www.donellameadows.org/wp-content/userfiles/Limits-to-Growth-digital-scan-version.pdf>

25 UN General Assembly Resolution 2398 (1968), cited in Paglia, Eric, ‘The Swedish initiative and the 1972 Stockholm Conference: the decisive role of science diplomacy in the emergence of global environmental governance’ (2021) 8(2) *Humanities & Social Sciences Communications* 1, 8.

26 Report of the United Nations Conference on the Human Environment, Stockholm, 5–16 June 1972, <https://documents.un.org/api/symbol/access?j=NL730005&t=pdf>

27 Ibid., principles 2, 11 and 20.

28 UN General Assembly, ‘Report of the World Commission on Environment and Development: Our Common Future’, A/42/427, Annex, (1987), para. 27.

ognised climate change as a 'common concern of mankind, since climate is an essential condition which sustains life on earth'.²⁹

Two years later, in 1990, the General Assembly established an Intergovernmental Negotiating Committee to prepare a framework climate convention.³⁰ After five sessions, the committee produced a text that was adopted as the UN Climate Convention in 1992. The framework format was designed to establish the objectives, principles, basic commitments and institutional architecture of the international climate regime, while leaving matters of concrete implementation to be agreed subsequently. This model was intended to maximise the participation of Parties (states, plus the EU as a lone 'regional economic integration organization', that are party to an international agreement), resulting in near universal membership.³¹ As a treaty, the Climate Convention is legally binding on its Parties, although there is no functioning mechanism of binding inter-state dispute resolution to enforce it.

The Convention's principles draw upon the earlier Stockholm Principles and the concurrently adopted 1992 Rio Principles. Principles that have been important to the implementation of the Convention include: common but differentiated responsibilities and respective capabilities (CBDR-RC), which require developed Parties to take the lead in combating climate change; the precautionary principle, which requires Parties to take measures even in the absence of 'full scientific certainty'; and the requirement that climate measures be compatible with the international trade regime and not be 'disguised restriction[s] on international trade'. Through its annexes, the Convention effectively divided Parties into three main categories for the

29 This declaration was made in the same resolution in which the UN General Assembly established the IPCC. UNGA Resolution 43/53: Protection of global climate for present and future generations of mankind (1988), para. 1.

30 UNGA Resolution 45/212: Protection of global climate for present and future generations of mankind (1990), para. 1.

31 United Nations Framework Convention on Climate Change, United Nations Treaty Collection, https://treaties.un.org/pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXVII-7&chapter=27&Temp=mtdsg3&-clang=_en

purposes of the climate regime: Annex I Parties include developed Parties and post-communist ‘economies in transition’, which must undertake the highest level of domestic climate measures provided for in the Convention; Annex II Parties, which are developed Parties and must also provide assistance to developing Parties; and ‘non-Annex I’ Parties, namely, developing countries that can receive climate assistance and are required to take less stringent domestic climate measures.

The Climate Convention entered into force in 1994 and subsequently the Convention’s supreme decision-making body, the Conference of the Parties (COP), met annually. By 1997, the COP had finalised an implementing agreement for the Convention, adopted as the Kyoto Protocol. The Protocol is a legally binding treaty in its own right. It established quantified emission limitation and reduction commitments for each of the developed Parties that ratified it and permitted the EU to adopt a collective target for its Member States. It also established market or ‘flexibility’ mechanisms to enable Parties to cooperate on climate mitigation and sustainable development.

Although the overall emissions target for the Kyoto Protocol’s commitment period, ending in 2012, was achieved, the limitations of the Kyoto approach were evident from its inception. The United States decided not to ratify the Protocol, which left the largest developed GHG emitter outside the system. Also, as the Kyoto targets applied only to developed countries, the massive growth in emissions from emerging markets and developing countries was entirely uncontrolled. Developing countries defended the Kyoto model as a practical application of CBDR-RC and Parties agreed to follow up its first commitment period with a second, running from 2013 to 2020. However, other major developed countries – namely Japan, Canada and the Russian Federation – joined the United States in refusing to adopt an emissions target for this period, as a result of which the emissions covered by the Kyoto Protocol shrank further as a proportion of global emissions.

Faced with Kyoto’s limitations, the COP launched an attempt to negotiate a universal climate agreement that could apply to all Par-

ties, developed and developing alike. The first attempt to negotiate such an agreement, at the 2009 Copenhagen conference, failed. Elements of the deliberations of this conference were later adopted or adapted into the new framework, however. These included the notion of ‘pledge and review’ (with countries nominating their own climate targets in a ‘bottom-up’ process), the creation of the Green Climate Fund, operating under the guidance of the COP, and the commitment from developed Parties to mobilise USD 100 billion annually in climate finance for developing Parties by 2020.

The new climate framework was adopted in Paris in 2015, under the presidency of Laurent Fabius, then foreign minister of France. The 2015 conference was preceded by a groundswell of momentum for a strong outcome from diverse stakeholders, ranging from public health experts to the Pope.³² The Paris Agreement is a treaty of ongoing application, rather than limited to commitment periods of several years as was Kyoto. Its methodology is centred on the iterative communication of national climate targets through Nationally Determined Contributions (NDCs), with Parties committing to publish increasingly ambitious NDCs every five years. Collective progress is reviewed every five years through the Global Stock-Take (GST). Developed countries remain committed to supporting developing countries. However, the Agreement does not contain or refer to annexes, instead using the terms ‘developed’ and ‘developing’ Parties without defining them or listing the relevant Parties. This means that Parties’ respective commitments are not determined by their 1992 levels of development but evolve together with national circumstances.

With sufficient ratifications, the Paris Agreement entered into force only one year after its adoption (in contrast to the eight years

32 Commissions from the Lancet journals, ‘Health and Climate Change’, 23 June 2015, *The Lancet*, <https://www.thelancet.com/commissions/climate-and-health-2015>; Pope Francis, ‘Encyclical Letter *Laudato si’* of the Holy Father Francis on care for our common home’, 24 May 2015, https://www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html, para. 23ff (both accessed 9 May).

required for the more controversial Kyoto Protocol). Shortly after the Agreement entered into force, however, Donald Trump was elected president of the United States on a platform of climate denial. Trump duly announced in 2017 that the United States would withdraw from the Paris Agreement and carried out his threat the day after the 2020 US presidential election. The upshot is that most of the ‘Paris rulebook’ for implementation had to be adopted during a hostile American presidency. It is notable that the EU and many other Parties were able to defend the Paris Agreement during this period and that no other Party followed the United States in withdrawing. Indeed, the Paris Agreement has near-universal membership, and the United States rejoined in 2021 under the Biden administration.³³

After more than thirty years of almost unbroken negotiations,³⁴ the international community now has a universal climate agreement under which all Parties have commitments, albeit still with significant differentiation between developed and developing Parties.

The Parties face a massive implementation challenge, however, and studies continue to highlight a gap (although narrowing) between Parties’ aggregate commitments and the Paris goals. Recent reporting has underscored the gulf between current policy settings and the realisation of scenarios consistent with the Paris Agreement goals. The IPCC has noted that in all its scenarios for annual CO₂ emissions, the 1.5°C global warming level is likely to be reached or exceeded.³⁵ The IPCC also warns that the ‘[p]rojected cumulative future CO₂ emissions over the lifetime of existing and currently planned fossil fuel infrastructure without additional abatement ex-

33 Paris Agreement, United Nations Treaty Collection, https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XXVII-7-d&chapter=27&clang=_en

34 Because of the pandemic, there was no meeting of the COP in 2020, with the scheduled Glasgow conference delayed by a year to 2021.

35 IPCC, 2021: Summary for Policymakers. In: *Climate Change 2021: The Physical Science Basis*. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, 15.

ceed the total cumulative net CO₂ emissions in pathways that limit warming to 1.5°C ... with no or limited overshoot'.³⁶

For its part, UNEP found that the new or updated NDCs announced before COP26 were 'highly insufficient to bridge the gap' between 2030 emissions and the Paris goals. Meeting these NDCs would reduce projected 2030 emissions by only 7.5 per cent, 'whereas 30 per cent is needed for 2°C and 55 per cent is needed for 1.5°C'.³⁷ Regarding adaptation, UNEP has reported that 'the adaptation finance gap is larger than indicated in 2020 and widening', while 'the rate and scale of adaptation progress at the national level is not enough to keep up with growing needs and tracking progress remains a challenge'.³⁸

Clearly, although progress has been made since the adoption of the Paris agreement, a step change is still required to strengthen climate action to the point at which the world can be confident of meeting the Paris goals and avoiding the worst climate scenarios. Climate change has moved to the centre of international politics and is far from limited to the UNFCCC process. For the EU and other actors that prioritise climate action, there are manifold opportunities to promote the climate transition in various bilateral and multilateral contexts. Progressive governments and politicians have both the opportunity and the responsibility to be protagonists in this effort.

36 IPCC, 2022: Summary for Policymakers. In: *Climate Change 2022: Mitigation of Climate Change*. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, 20.

37 United Nations Environment Programme (2021): *Emissions Gap Report 2021: The Heat Is On – A World of Climate Promises Not Yet Delivered*. Nairobi, 34.

38 United Nations Environment Programme (2021): *Adaptation Gap Report 2021: The gathering storm – Adapting to climate change in a post-pandemic world*. Nairobi, xv–xviii.

3 Key issues in climate politics

Although almost everyone now agrees that responding to climate change should be a priority, there is no consensus on climate policy. Indeed, as climate has ascended to the top of the political agenda, climate politics remains as contested as ever. This chapter, although far from comprehensive, provides an introduction to key issues in the contemporary debate on climate politics. These issues include: the weaponisation of denial, delay and despair by opponents of climate action; differing approaches to climate justice; the respective roles of regulation, markets and economic growth in climate policy; the challenges of multilevel governance; the deepening nexus between climate and geopolitics; and the novel challenge posed by proposals to ward off climate impacts by deliberately manipulating Earth systems. These are all issues that progressives must grapple with in framing climate politics and fashioning climate policy.

Denial, delay and doomism

The weaponisation of scepticism

As awareness of climate change spread, fossil fuel interests started to use tactics previously employed by the tobacco industry to deny and obfuscate the health consequences of smoking.³⁹ Such tactics include the commissioning of so-called ‘attack science’, which involves paying experts to write contrarian articles that industry lobbyists use to claim the existence of scientific uncertainty.⁴⁰

39 For an in-depth investigation, see Oreskes, Naomi and Erik M. Conway, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming* (Bloomsbury, 2012).

40 Lyster, Rosemary, *Climate Justice and Disaster Law* (Cambridge University Press, 2015) 13.

The strategic undermining of climate science has ranged from outright denial to somewhat more subtle claims that ‘the jury is still out’, the goal being (as one 1991 strategy document put it) to ‘reposition global warming as theory not fact’.⁴¹ The ‘Global Climate Coalition’ (GCC) business lobby group – which campaigned against the Kyoto Protocol and emphasised both scientific uncertainty and the costs of action – exemplified this approach.⁴²

Opponents of climate action have used attacks on science and scientists to sabotage international climate cooperation. The most notorious example of this is the so-called ‘Climategate’ scandal, in which emails from a unit of climate researchers at the UK University of East Anglia were hacked and released just prior to the 2009 Copenhagen conference, COP15. These emails were seized upon by fossil fuel lobbyists, as well as by Parties to the Climate Convention opposed to an ambitious deal at COP15, as supposed ‘proof’ of a conspiracy to manufacture a false consensus on climate science. Multiple subsequent investigations cleared the scientists involved of any malpractice, but the damage had been done.⁴³ Climate denialist politicians have also weaponised lawsuits and legal threats against individual climate scientists.⁴⁴

The changing lobby for climate inaction

As climate science denial became increasingly discredited, fossil fuel interests opposed to the energy transition took to downplaying the risks of climate change. For example, Rex Tillerson, then CEO of ExxonMobil and for a time Secretary of State in the Trump administration, played down the climate threat in these terms: ‘We have spent our entire existence adapting, OK? So we will adapt to this.’⁴⁵ Others have claimed that future technological innovations render current climate action unnecessary (so-called ‘techno-optimism’).

41 Cited in Gore, Al, *The Future* (Random House, 2013) 319.

42 Falkner, Robert, *Business Power and Conflict in International Environmental Politics* (Palgrave Macmillan, 2008) 28, 102ff.

43 Lyster, *Climate Justice and Disaster Law*, 22–23. See n 40.

44 See n 40, 25ff.

45 Cited in Gore, *The Future*, 303. See n 41.

Another tactic, which skirts around explicit climate denialism, has been to run scare campaigns against specific climate policies while ostensibly not questioning the need for climate action in principle. Typical claims include the argument that proposed climate measures would ‘destroy jobs’ or increase the tax burden. This messaging has been very effective in a number of democracies, in effect by associating climate action with erosion of the living standards of working people. As Mariana Mazzucato has warned, ‘the vision behind achieving carbon neutrality has been a feature of many progressive governments – but also a reason why they subsequently lost elections ... Thus having a vision is not enough: it is essential to engage with citizens about it’.⁴⁶

As more and more people have firsthand experience of negative climate change impacts, a new approach has been ‘weaponised’ to demotivate citizens from demanding climate action. This is climate despair, or ‘doomism’, which is based on the premise that ‘if people believe there is nothing you can do, they are led down a path of disengagement’.⁴⁷ While doomism is the opposite of denialism in the sense that it exaggerates humanity’s hopeless plight in the face of climate disaster, its intended effect is often the same: to forestall serious policy responses. The rise of doomism⁴⁸ is a reminder that advocates of climate action must achieve a difficult balance: simultaneously to communicate that climate change is an existential threat *and* that we have the capacity to respond effectively to this challenge.

Ultimately, progressives should take little comfort from the discrediting of climate denialism and the pivoting of more ‘mainstream’ opponents of climate action to less obviously absurd arguments. The

46 Mazzucato, Mariana, *Mission Economy: A moonshot guide to changing capitalism* (Allen Lane, 2021) 109.

47 Watts, Jonathan, ‘Climatologist Michael E Mann: “Good people fall victim to doomism. I do too sometimes”’, *The Guardian*, 27 February 2021, <https://www.theguardian.com/environment/2021/feb/27/climatologist-michael-e-mann-doomism-climate-crisis-interview>

48 See, for example, Franzen, Jonathan ‘What If We Stopped Pretending?’, *New Yorker*, 8 September 2019, <https://www.newyorker.com/culture/cultural-comment/what-if-we-stopped-pretending> (accessed 3 July 2023).

stubborn persistence of climate denial within right-wing (and especially far-right) politics indicates that hardcore denialists are impervious to arguments based on logic. Their commitment to denialism seems to be grounded not in rationality but in identity. As Al Gore has observed, ‘the denial of global warming has somehow become a “cultural issue”, in the sense that many who reject the scientific evidence feel group kinship – almost a tribal identity – with others who are also locked into denial’.⁴⁹

Recent research indicates a strong correlation between climate denial and right-wing socioeconomic and sociocultural attitudes. Interestingly, for example, ‘antifeminism had a unique effect on climate change denial’, which researchers speculate ‘could indicate a link between anti-environmentalism and a motivation to protect the traditional gender norms and masculine hegemony’.⁵⁰ The same study found that ‘[d]istrust of public service media was among the strongest predictors of climate change denial’.⁵¹

These findings illustrate the continuing potency of climate denialism as an integral part of a ‘package’ of populist and far-right identity politics. It is no coincidence that attacks on climate reality are often expressed in misogynistic terms (such as the public abuse directed at Greta Thunberg and other female climate advocates). It is by design that some of the worst opponents of climate action rose to power by assailing the mainstream media, promoting ‘alternative facts’ and relying on extremist media echo-chambers to mobilise their supporters. There is no easy solution to this state of affairs. Recent election victories against far-right climate-denialist incumbents suggest the need for climate advocates to build coalitions against the far-right that are as broad as possible and include mainstream conservatives.

49 Gore, *The Future*, 317. See n 41.

50 Jylhä, Kirsti M., Pontus Strimling and Jens Rydgren, ‘Climate Change Denial among Radical Right-Wing Supporters’ (2020) 12 *Sustainability* 10226, 9 of 15.

51 See n 50.

Climate justice(s)

Theories

The unequal impacts of climate change are what make this issue a matter of justice and not just of technocratic administration. A concern with ‘climate justice’ has therefore been at the centre of climate politics for decades,⁵² even if justice goals have not always been pursued in climate policies. Indeed, taking climate justice claims seriously makes climate policy more challenging, because it requires that climate inequalities be tackled across a broad range of areas, such as employment, health and migration.⁵³

While the *injustice* of climate change may seem self-evident, climate justice is a broad and contested concept and has given rise to a vast scholarly literature. Different approaches to climate justice have been developed that reflect the values and goals of their promoters. The most basic distinction is probably between approaches to climate justice concerned solely with the justice claims of the human community (past, present and future) and those that also consider justice for ‘nature’, including non-human animals, environments and perhaps the Earth system as a whole.⁵⁴

Rosemary Lyster has summarised existing theories of climate justice as including: a corrective approach that requires actors to contribute to solving the problem in proportion to their contribution

52 See, for example, the 2004 Climate Justice Declaration, which incorporates principles developed by the 2nd People of Color Environmental Justice Leadership Summit. The declaration states that ‘[p]oor nations, people of color, Indigenous Peoples, and low-income communities in all nations are the first to experience negative climate change impacts such as sea level rise, flooding, drought, heat-death and illness, respiratory illness, infectious disease, and economic and cultural displacement’, https://ejl.seas.umich.edu/ejcc_principles.html

53 As recognised in the EESC’s 2017 climate justice opinion, cited in Minas, Stephen, ‘Financing climate justice in the European Union and China: common mechanisms, different perspectives’ (2022) 20 *Asia Europe Journal* 377, 382.

54 See n 53, 379.

to causing it (as the ‘polluter pays’ principle would suggest); a distributive approach according to which ability to pay towards climate solutions is the key measure of responsibility; a hybrid approach that attempts to incorporate both contributions to the problem and ability to pay for solutions; a beneficiary-pays principle according to which contributions are determined by the degree to which individual countries have benefited from emitting greenhouse gases; and the notion of greenhouse development rights, which concerns an equitable division of the global carbon budget.⁵⁵ Another approach distinguishes between ‘burden-sharing justice’ (based on fairness) and ‘harm avoidance justice’ (based on capability).⁵⁶ Others have shown that different aspects of climate justice – recognitional, procedural and distributive – are not alternatives but rather mutually reinforcing.⁵⁷

A variety of principles have been proposed for distributing the costs of climate change, including the polluter-pays principle, beneficiary pays, ‘grandfathering’, ‘emissions egalitarianism’ and ability to pay.⁵⁸ The latter principle is related to the notion of ‘prioritarianism’, according to which ‘utility counts for more, the worse off the recipient’.⁵⁹ In terms of policy consequences, prioritarianism requires what Catholic social teaching terms a ‘preferential option for the poor’.⁶⁰ In our context, this means climate policy that is pro-

55 Lyster, *Climate Justice and Disaster Law*, 125–131. See n 40.

56 Caney, 2004, cited in Minas, ‘Financing climate justice in the European Union and China’, 380. See n 53.

57 See, for example, New, M., et al., ‘Decision-Making Options for Managing Risk’, in: *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [H.-O. Pörtner, et al (eds.)] (Cambridge University Press, 2022) 2539–2654, <https://doi.org/10.1017/9781009325844.026>, 2606.

58 Knight, Carl and Kevin le Merle, ‘Climate Justice Principles’, Policy Brief, FEPS, February 2023, 4ff.

59 See n 58, 10.

60 Martins, Alexandre A., ‘Laudato Si’: Integral Ecology and Preferential Option for the Poor’ (2018) 46 *Journal of Religious Ethics* 410.

poor, as well as designed to benefit disadvantaged people in general.⁶¹ This is a bedrock principle for progressive climate policy.

Intra-state, inter-state and inter-generational climate justice

Policymakers informed by different theories of climate justice are likely to pursue different climate policies. In turn, the chosen theory of justice is likely to reflect a policymaker's political principles and overall vision of what makes a good society. Reflecting this, the 2019 FEPS study 'UNited for Climate Justice' put equity at the centre of its approach to climate justice.⁶² The study adopted a broad definition of climate justice, albeit limited to the social plane (implicitly rejecting an eco-centric approach): 'we define climate justice here as any social justice issue associated with either the impacts of climate change and the preventive measures to address the consequences'.⁶³

The practical identification of climate justice concerns and policy responses was organised into three 'core interconnected strands of climate justice issues', each of which centred the normative goal of equity in a different context: inter-country equity; intra-country equity; and inter-generational equity.⁶⁴

First, inter-country equity was considered to address 'questions such as the differential impacts among countries of current and future climate change; the allocation of responsibility for mitigation, and for financing adaptation efforts; and, as a factor in discussions on both of these questions, the attribution of responsibility for the problem of climate change'.⁶⁵ While the study mentioned the UNFCCC process, inter-country equity is of course a central consideration in many international processes dealing with climate

61 Ribot, Jesse 'Vulnerability Does Not Fall from the Sky: Toward Multi-scale, Pro-Poor Climate Policy', in Robin Mearns and Andrew Norton (eds), *Social Dimensions of Climate Change: Equity and Vulnerability in a Warming World* (World Bank, 2010) 59ff.

62 The author of this primer participated in the steering committee of that project.

63 FEPS, 'UNited for Climate Justice: Policy paper with declaration and guiding proposals for progressive climate action' (2019) 10.

64 See n 63, 10–11.

65 See n 63, 10.

change (including within the EU). Opportunities to move towards inter-country equity are conditioned by the different normative and procedural frameworks of different international processes.

Second, intra-country equity reflects the reality that ‘[d]ifferent groups are affected in different ways by the degree of commitment to decarbonisation, and by decisions on how targets will be met’, while ‘the impacts of climate change (and the costs of Government commitments to addressing them, for example through land use planning or through insurance subsidies) can also create differing impacts’.⁶⁶ The example of poorer people who own uninsured (and perhaps uninsurable) property in locations prone to disasters illustrates the challenge of intra-country equity. The struggle for intra-country climate justice cannot be separated from the broader inequalities and governance challenges of the relevant social context. This holds true in both developing and developed states, as the extreme example of South Africa’s energy crisis demonstrates.⁶⁷

As this ‘strand’ is the one most closely connected to domestic politics, it is the area of climate policy in which competing approaches (conservative, social democratic and liberal, among others) are most manifest. Intra-country justice directs attention to the societal transition that is an inescapable aspect of the transformational change required to respond to climate change.⁶⁸ A key concept in this regard is ‘just transition’, which the European Trade Union Confederation has described as ‘a long-term plan to achieve ambitious climate action in a way that benefits the whole of society and does not simply pile the costs on the least privileged’.⁶⁹

66 See n 63, 11.

67 Todd, Iain and Darren McCauley, ‘An interdisciplinary approach to the energy transition in South Africa’ (2021) 2 *Discover Sustainability* 33; Pilling, David ‘The cost of getting South Africa to stop using coal’, *Financial Times*, 2 November 2022, <https://www.ft.com/content/3c64950c-2154-4757-bf25-d93c7850be8f> (accessed 25 April 2023).

68 Minas, Stephen, Matthew Kennedy and Karsten Krause, ‘Navigating a Just Transition through the Climate Emergency: What Role for Finance and Technology’ (2020) 31 *Irish Studies in International Affairs* 131, 135ff.

69 See n 63, 136–137.

The third strand of climate justice is inter-generational equity, which is grounded in the liberal tradition, as expressed, for example, by Rawls' 'just savings principle' and in the Brundtland Report's famous description of sustainable development as 'meet[ing] the needs of the present without compromising the ability of future generations to meet their own needs'.⁷⁰ The 2019 FEPS study identified the 'key issue' here as being that 'while older generations are generally responsible for, and face the costs of, mitigation action now, younger generations and future generations face the brunt of the impacts of climate change, and will bear the main costs of any failure to take adequate action'.⁷¹ Inter-generational equity raises a qualitatively different policy and political challenge from the first two strands, because it is not limited to the distribution of costs and benefits among those currently alive. Youth climate activism and some notable court cases have increased the prominence of inter-generational climate justice in recent years.⁷² It is nevertheless difficult for societies to impose limits on current production and consumption in the interests of unborn generations (as Barack Obama once noted, 'the future never has lobbyists like the status quo does').⁷³ Some climate experts have also suggested that basic economic principles lead us to improperly discount the climate-related losses to be suffered by future generations, in accordance with the time value of money.⁷⁴

70 Minas, 'Financing climate justice in the European Union and China', 379; 'Report of the World Commission on Environment and Development: Our Common Future', para. 27.

71 FEPS, 'UNited for Climate Justice: Policy paper with declaration and guiding proposals for progressive climate action' (2019) 11.

72 There are also campaigns and litigation by groups of elderly citizens, who point to the disproportionate burden they bear of health impacts resulting from climate change. In April 2024, the European Court of Human Rights found in favour of the Verein KlimaSeniorinnen Schweiz in such a case.

73 Administration of Barack Obama, 2012, Remarks at a Campaign Rally in Columbus, Ohio, 5 November 2012, <https://www.govinfo.gov/content/pkg/DCPD-201200871/pdf/DCPD-201200871.pdf> (accessed 25 April 2023).

74 See, for example, Kysar, Douglas A., 'Climate change, cultural transformation, and comprehensive rationality' (2004) 31 *Boston College Envi-*

The relationship between climate justice and the legal obligations of states continues to develop. A particularly significant development in this context may be the campaign initiated by some small island developing states (SIDS) to get international courts to give advisory opinions on the climate obligations of states. In December 2022, the recently established ‘Commission of Small Island States on Climate Change and International Law’ asked the International Tribunal for the Law of the Sea to advise on obligations of states regarding protection of the marine environment in relation to climate change.⁷⁵ In March 2023, the UN General Assembly adopted a resolution proposed by Vanuatu to request the International Court of Justice, the ‘principal judicial organ’ of the UN,⁷⁶ to deliver an advisory opinion on legal obligations concerning climate change.⁷⁷ International court advisory opinions are not in themselves legally binding but can be highly influential, both legally and politically. Several EU Member States participated in the ‘core group’ of states drafting the UNGA resolution.⁷⁸

Anthropocentric and eco-centric climate justice

As already noted, approaches to climate justice can be distinguished according to how broadly they define the community of actors with justice claims. The traditional and still dominant approach is ‘an-

ronmental Affairs Law Review 555, 578ff.

75 ITLOS, Request for an Advisory Opinion submitted by the Commission of Small Island States on Climate Change and International Law (Request for Advisory Opinion submitted to the Tribunal), <https://www.itlos.org/en/main/cases/list-of-cases/request-for-an-advisory-opinion-submitted-by-the-commission-of-small-island-states-on-climate-change-and-international-law-request-for-advisory-opinion-submitted-to-the-tribunal/> (accessed 25 April 2023).

76 United Nations, ‘Main Bodies’, <https://www.un.org/en/about-us/main-bodies> (accessed 25 April 2023).

77 UN General Assembly, Request for an advisory opinion of the International Court of Justice on the obligations of States in respect of climate change, A/77/L.58, 1 March 2023.

78 https://drive.google.com/file/d/1h3s4Vy-XL_YvUO-MgOYsjtqmjcEjxtcp/view

thropocentric', that is, recognising the justice claims only of humans (whether or not they include future generations).

There is a growing scholarly and activist tendency in favour of recognising that non-human animals also have valid climate justice claims.⁷⁹ This approach highlights the disastrous effects of climate change on the habitats of many animals and the relationship between climate change and the accelerating rate of extinctions. Law has traditionally categorised animals as property or pests. Many international and domestic environmental laws protect or conserve certain categories of animals, their habitats or 'biological diversity'.⁸⁰ However, these rules do not acknowledge animals as rights-holders per se.

This dominant approach is being challenged by ethical arguments in favour of a posited responsibility owed to non-human animals as fellow living creatures that can experience pain and therefore should be treated with kindness.⁸¹ While the immediate concerns of this school of thought are related to the harming of animals by the meat and fishing industries, cruel sports and entertainments, the argument extends to the degradation of animal habitats caused by climate change.⁸²

Finally, there are those who argue that 'nature' itself should be considered to be a rights holder in relation to climate justice. This

79 See, for example, Tschakert, Petra et al. 'Multispecies justice: Climate-just futures with, for and beyond humans' (2020) WIREs Climate Change e699.

80 Defined in Article 2 of the Convention on Biological Diversity as 'the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems'.

81 See, for example, Singer, Peter, *Animal Liberation: A New Ethics for our Treatment of Animals* (1975) and Ricard, Matthieu, *A Plea for the Animals: The Moral, Philosophical, and Evolutionary Imperative to Treat All Beings with Compassion* (2017).

82 This argument is sometimes conflated with the large carbon footprint of the meat industry and the climate mitigation co-benefits of vegetarianism and veganism. While climate change is an important driver of the plant-based food industry, this is not a climate justice issue in itself.

perspective explicitly rejects the utilitarian approach to nature conservation as worthwhile only insofar as it is valuable to humans (including for non-economic, aesthetic purposes).

‘Eco-centric’ approaches to climate justice often draw on a rich legacy of traditional and Indigenous conceptions of nature and its agency. The Paris Agreement nods to this in preambular recital 13: ‘Noting the importance of ensuring the integrity of all ecosystems, including oceans, and the protection of biodiversity, recognized by some cultures as Mother Earth...’. This approach can also be seen in campaigns for – and some court judgments that recognise – the legal rights or personality of natural objects.⁸³

For policymakers, a continuing focus on human welfare and justice claims is self-evidently necessary. But arguably it would be valuable to also pay more attention to the impacts of climate change on non-human animals and ‘nature’ more broadly, even if the justice claims of these entities are not explicitly recognised. This is because paying attention to such concerns has the potential to improve climate policy by prioritising conservation and less damaging methods of production and consumption. For progressives, who have often championed reforms to improve animal welfare, considering humanity’s ethical responsibilities to non-human animals is also appropriate, consistent with the maxim that a society can be judged by how it treats its most vulnerable members.

Human rights and democracy

A final issue to note regarding climate justice is its relationship with human rights. The climate transition can be seen as an opportunity to secure greater respect for human rights and to reduce the human rights violations that have long been associated with much of the fossil fuel industry.

According to a study for the UN’s Principles for Responsible Investment, ‘typical human rights issues’ in the value chain of fossil fuel production and consumption include hazardous working con-

83 See, generally, Corrigan, Daniel P. and Markku Oksanen (eds), *Rights of Nature: A Re-Examination* (Routledge, 2023).

ditions, denial of the right to collective bargaining, forced and child labour, sex trafficking and displacement of local communities.⁸⁴ Climate policy constitutes a major opportunity to rebalance the economies of resource-rich economies by reducing dependencies on the extractive sector, thereby transitioning workers and communities to safer and more dignified employment. At the same time, of course, it must be ensured that climate projects and programmes do not themselves become a source of human rights violations. The litany of human rights abuses related to some carbon crediting projects, for example,⁸⁵ should dispel any notion that low-carbon economic activity necessarily goes hand in hand with the observance of human rights obligations. Strong standards and enforcement are needed to prevent abuses such as inadequate consent, forced displacement and even violence against communities or individuals in connection with carbon projects.

Democracy is another key aspect of the relationship between climate policy and human rights. Progressives should embrace the climate transition also as a means of strengthening democracy at multiple levels. At the national level, there is a close correlation between an abundant endowment of at least some natural resources (notably oil) and autocratic government (the ‘rentier state’ model).⁸⁶ Obvious counterexamples such as Canada and Australia aside, many resource-intensive economies are autocracies. One central problem with the ‘resource curse’ is that heavy reliance on the export of natural resources tends to hamper the development of the well trained and educated workforce required for higher value-added economic

84 Principles for Responsible Investment (PRI), ‘Digging Deeper: Human Rights and the Extractives Sector’, Outcomes from PRI-coordinated engagement 2015–2017 (2018) 6–7.

85 Olawuyi, Damilola S., *The Human Rights-Based Approach to Carbon Finance* (Cambridge University Press, 2016).

86 Ross, Michael L., ‘The Politics of the Resource Curse: A Review’, in Carol Lancaster and Nicolas van de Walle (eds), *The Oxford Handbook of the Politics of Development* (OUP, 2018) 200; Richter, Thomas, ‘Oil and the rentier state in the Middle East’, in Raymond Hinnebusch and Jasmine Gani (eds), *The Routledge Handbook to the Middle East and North African State and States System* (Routledge, 2019) 225.

sectors, and therefore also of civil society. Falling demand for fossil fuels over time will require exporters to diversify their economies, creating the conditions for the development of civil society. It can at least be hoped in this context that one of the co-benefits of climate policy will be the expansion of political liberties, claimed by societies freed from the stultifying effects of the resource curse.

The climate transition can also be a force for the strengthening of democracy at the local level. Distributed renewables can enable the localisation of energy generation, distribution and consumption. This can create opportunities for communities to claim greater agency in their economic life. Modalities of community organisation such as ‘energy communities’ and ‘energy collectives’ create possibilities for democratic and localised decision-making over energy resources, which is not possible in the traditional fossil fuel model of monolithic energy utilities. Distributed renewable energy can also be a powerful force for strengthening the agency of local communities in developing countries, through secure and affordable energy supplies that reduce drudgery and allow children more time to study. As will be discussed in Chapter 5, EU policy can support and encourage these developments.

Regulation, markets and growth

Markets and market failure

Debates on possible responses to climate change have largely replicated broader and perennial contests over the merits of public regulation versus market or industry self-regulation. Climate change is now broadly acknowledged as a major instance of ‘market failure’. This phenomenon has been defined as ‘conditions of the market that violate one or more of the neoclassical economic assumptions that define an ideal market for products or services, such as rational behaviour, cost of transactions, and perfect information’.⁸⁷ Multiple

87 Brown, Marilyn A., ‘Market Failures and Barriers as a Basis for Clean Energy Policies’ (2001) 29 *Energy Policy* 1197, 1199.

market failures and barriers have been found, for example, to hinder the transition to renewable energy. These include unpriced externalities (as discussed in Chapter 2), information asymmetries, fossil fuel subsidies,⁸⁸ barriers to access to transmission and distribution networks and lack of skilled labour, among many others.⁸⁹

The adoption of market mechanisms in an effort to internalise the negative externalities of greenhouse gas emissions (whether through carbon taxes, carbon crediting, emissions trading or more recently developed policy tools such as carbon border adjustments) continues to grow in both the public and private sectors.⁹⁰ While most participants in climate policymaking do not challenge the necessity for carbon pricing, there are important debates concerning the integrity and efficacy of various mechanisms and approaches. The limits of market approaches are also a topic of debate. Many contend that while carbon pricing can help to reduce emissions, other, complementary policy tools are needed to promote other desired climate outcomes, such as adaptation and technology transfer.

Beyond these debates, some objections to market mechanisms are more fundamental. Some, particularly on the political left, are suspicious of markets in general. Attacks on the legitimacy of market mechanisms in climate policy have been seen both within countries and at the international level (some countries, for example, objected to the inclusion of market approaches in the Paris Agreement and only relented with the inclusion of complementary work on ‘non-market approaches’).⁹¹

88 The IEA estimated global fossil fuel subsidies at USD 440 billion in 2021, a massive increase on the Covid-induced low of USD 180 billion in 2020. International Energy Agency, ‘Energy subsidies: Tracking the impact of fossil-fuel subsidies’, <https://www.iea.org/topics/energy-subsidies>

89 Crossley, Penelope, *Renewable Energy Law: An international assessment* (Cambridge University Press, 2019) 73ff.

90 World Bank, *State and Trends of Carbon Pricing 2022* (2022).

91 Howard, Andrew, ‘Voluntary Cooperation (Article 6)’, in Daniel Klein, et al (eds), *The Paris Agreement on Climate Change: Analysis and Commentary* (OUP, 2017).

There is no doubt that markets have provided plenty of grounds for suspicion, from the ‘casino capitalism’ that culminated in the global financial crisis to the GameStop phenomenon and cryptocurrency bubbles and scams of more recent years.⁹² Regarding climate change, however, the practical question is not whether markets will have a role in the allocation of capital. The question is whether those markets will, or will not, be regulated and incentivised to minimise the financing of climate-harmful activities and to channel finance to climate solutions.

Within advanced democracies, it is quite telling that political opposition to market approaches in climate policy has come not only from the far left but also from the mainstream right. Some (certainly not all) political conservatives have opposed market mechanisms in order to protect emissions-intensive industries and have mounted scare campaigns about the loss of jobs, whole communities and a cherished ‘way of life’. This genre of demagoguery, notable for its cynical departure from orthodox centre-right economics, has in some cases proved very successful politically. Examples include the US Republican blocking of cap-and-trade legislation during the Obama administration and the Australian conservatives’ successful campaign against a Labor government’s ‘carbon tax’, which was repealed following a change of government. On the other hand, the revolt of the *gilets jaunes* in France united both the far left and far right against a surprised and unprepared centre. These examples demonstrate that the progressive centre-left and centrists who typically champion carbon pricing as sound policy need to be vigilant to its sometimes volatile politics and especially to both the reality *and perceptions* of its distributional impacts.

Green growth versus de-growth

Related to the debate on the role of markets in climate policy is the question of whether the pursuit of economic growth can be consistent with the climate transition. The relationship between climate

92 On the earlier period, see Lewis, Michael, *The Big Short: Inside the Doomsday Machine* (W.W. Norton & Company, 2010).

policy (and environmental policy in general) and growth has been the subject of vehement debate, especially on the political left. The various positions staked out include pro-growth, commitment to a ‘steady state’ economy and even ‘de-growth’.

The pro-growth position reflects the long-standing orthodoxy that economic growth is self-evidently good. Progressives have deployed the argument that climate action is pro-growth both as a defensive argument against right-wing scare campaigns and as a positive narrative for an inclusive climate transition. President Biden’s mantra ‘When I think about climate change, I think jobs’ is a prominent example.⁹³ Further to the left, proposals within the United States for a ‘Green New Deal’ were explicitly directed to ‘grow domestic manufacturing’, spur ‘massive growth in clean manufacturing’ and create ‘high-quality union jobs’.⁹⁴

The framing of climate action as pro-growth can also be witnessed within the framework of international cooperation efforts. This position is, for example, the *raison d’être* of a relatively new international organisation, the Seoul-based Global Green Growth Institute (GGGI), which counts two EU Member States among its members.⁹⁵ The GGGI’s founding treaty asserts that ‘the integration of economic growth and environmental sustainability is essential for the future of humankind’ and sets the objective of ‘promot[ing] sustainable development of developing and emerging countries, including the least developed countries, by ... supporting and diffusing a new paradigm of economic growth: green growth, which is a balanced advance of economic growth and environmental sustainability’.⁹⁶

93 <https://thehill.com/policy/energy-environment/550849-biden-touts-climate-investment-as-creating-jobs/>

94 House of Representatives bill, ‘Recognizing the duty of the Federal Government to create a Green New Deal’, 116th Congress (2019–2020), <https://www.congress.gov/bill/116th-congress/house-resolution/109> (accessed 3 July 2023).

95 <https://gggi.org/about/>

96 Agreement on the Establishment of the Global Green Growth Institute (2012), preamble and Article 2.

The notion of ‘green growth’ has similarities with the concept of sustainable development. This is ‘broadly understood’ to include ‘the close linkage between the policy goals of economic and social development and environmental protection’ and ‘the qualification of environmental protection as an integral part of any developmental measure, and vice versa’.⁹⁷ Indeed, Principle 3 of the Rio Declaration provides that the ‘right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations’. While there has been much debate on the legal status (if any) of the sustainable development principle, there is a broad political consensus among states that environmental protection must be pursued in tandem with economic development and not at its expense. Where these two goals conflict, policymakers must somehow ‘balance’ them.

‘Green growth’, while clearly drawing on this conceptual heritage, arguably moves beyond it, or updates the conceptual framework in accordance with changed circumstances. The assumed paradigm in which ‘trade-offs’ are required between economic and environmental goals is no longer (always) appropriate to climate policy. Rather, the pursuit of climate goals can itself produce economic growth and development. The EU’s economic strategies are clearly aligned with this perspective.

There are competing approaches, however. Some have advocated for a ‘steady state’ economy⁹⁸ or, even more radically, ‘degrowth’, as appropriate responses to environmental crises, including climate change.⁹⁹ Proposals for a steady state economy (alternatively referred to as ‘a-growth’ rather than ‘de-growth’) have been advanced

97 Beyerlin, Ulrich, ‘Sustainable Development’, *Max Planck Encyclopedia of Public International Law*, October 2013, para. 11.

98 Rua, Lucia, ‘What is a steady state economy?’, *Clima Talk*, 18 July 2021, <https://climataalk.org/2021/07/18/what-is-a-steady-state-economy/> (accessed 25 April 2023).

99 Masterston, Victoria, ‘Degrowth – what’s behind the economic theory and why does it matter right now?’, World Economic Forum, 15 June 2022, <https://www.weforum.org/agenda/2022/06/what-is-degrowth-economics-climate-change/> (accessed 25 April 2023).

in manifestos for ‘eco-socialism’.¹⁰⁰ The ‘main tenet’ of eco-socialism is said to be that ‘capital accumulation, which is at the heart of the capitalist system, is incompatible with staying within our planetary boundaries’; in this framework, the ‘overthrow’ of capitalism is a necessary precursor to real action on climate change.¹⁰¹

The notion of ‘degrowth’ has been subject to various interpretations and does not easily lend itself to policy prescriptions.¹⁰² It is unclear how it could be put into practice.¹⁰³ It is controversial even on the political left.¹⁰⁴ For progressives dedicated to achieving material improvements in the lives of working people – among other important objectives – a stance in favour of degrowth would be

100 As discussed in ‘Entre Jaurès et Bernstein, Paul Magnette devrait choisir...’, *Gauche ecosocialiste*, 2 November 2022, <https://gauche-ecosocialiste.org/entre-jaures-et-bernstein-paul-magnette-devrait-choisir/> (accessed 3 July 2023).

101 The same author allows that ‘[i]n terms of political realities, however, it is not too clear how the world is to move from capitalism to eco-socialism’. Somerville, Peter, ‘Revisiting Connections between Capital and Nature II: The Case of Climate Change’ (2021) 32 *Capitalism Nature Socialism* 40, 47.

102 Latouche, an advocate of ‘degrowth’, held that ‘there is no theory of de-growth, as it does not correspond to a ready-made system’: paraphrased in Martínez-Alier, Joan et al., ‘Sustainable de-growth: Mapping the context, criticisms and future prospects of an emergent paradigm’ (2010) 69 *Ecological Economics* 1741, 1742.

103 Burton and Somerville conclude their ‘defence’ of degrowth by observing that ‘[h]ow degrowth might happen we don’t know. A fortuitous combination of popular struggle and collapse of the capitalist system is perhaps the only route.’ Burton, Mark and Peter Somerville, ‘Degrowth: A Defence’ (2019) 115 *New Left Review* 95, 104.

104 For example, Tsuda has argued that ‘degrowthers have it backwards: the specific character of the environmental crisis and climate change arises not from out-of-control economic dynamism but its opposite: the politics of stagnation. Where degrowthers posit crazed economic expansion, one looks in vain at the data for evidence of that runaway dynamism and cornucopian excess. It may be that degrowth theory is another case of overstatement from misdiagnosis’. Tsuda, Kenta, ‘Naïve Questions on Degrowth’ (2021) 128 *New Left Review* 111, 130.

problematic, to say the least.¹⁰⁵ Even in developed countries, working people do not typically have the luxury of embracing the post-materialist policies promoted by certain elites and are unlikely to reward their political representatives for doing so.

Degrowth is also potentially a regressive position from the perspective of the vast majority of humanity, namely those living in developing countries. Most people in these countries need economic growth in order to improve their living standards. Granted, economic growth is often inequitable and bypasses ordinary people (such as in the ‘resource curse’ economies discussed above). Historical experience suggests, however, that without economic expansion it is difficult if not impossible to sustain improvements to critical human development indicators such as income, health care and educational attainment. Growth is a necessary if not sufficient condition for economic development. Policymakers in developing countries therefore can be relied upon to reject a degrowth model for their own economies.

Some advocates of degrowth have proposed that wealthy countries should unilaterally engage in degrowth while poorer countries continue to grow their economies. Even if this was a sound policy proposal (and it is not), as a political platform it would be dead on arrival. In a democracy no party advocating degrowth could expect to attract the votes of any more than a tiny sliver of the electorate.

Progressive rejection of degrowth should not result in the uncritical perpetuation of an economic model that has produced climate change, as well as manifold other ills that literally do not count in economic terms.¹⁰⁶ What is required is not degrowth but rather iden-

105 For example, Priewe has observed that the economic scenario entailed in degrowth is ‘unprecedented and highly unlikely to be implementable in democratic societies’. Priewe, Jan, ‘Growth in the ecological transition: green, zero or degrowth?’ (2022) 19 *European Journal of Economics and Economic Policies: Intervention* 19, 37.

106 One is reminded of the late Senator Robert Kennedy’s reflection on the Gross National Product indicator, which ‘counts air pollution and cigarette advertising and ambulances to clear our highways of carnage. It counts special locks for our doors and the jails for the people who break them. It counts the destruction of the redwoods and the loss of our

tifying, measuring and prioritising environmental and social goods. The implementation of the ‘circular economy’ concept is an important development in this respect.¹⁰⁷

More recently, Kate Raworth’s so-called ‘doughnut economics’ framework has been influential in promoting an approach to economic management focused on priorities while remaining within planetary boundaries.¹⁰⁸ Raworth’s ‘doughnut’ is a visualisation of the need to reach an ‘inner boundary’ of minimum social standards, as reflected in the Sustainable Development Goals, while staying within the ‘outer boundary’ of the planetary boundaries (the two circular boundaries, the smaller one within the larger, form a ‘doughnut’).¹⁰⁹ This approach does not favour degrowth but is rather ‘growth-agnostic’.¹¹⁰ Raworth argues that economic theory and policy should replace prioritisation of GDP growth with a vision of ‘regenerative and distributive’ economic transformation.¹¹¹

Economic indicators and climate policy

Economic indicators play an important role in determining which countries are eligible for what kinds of climate finance and also shape expectations regarding the relative contributions that countries should make to climate mitigation. The importance of contemporary economic indicators is likely to increase as the practical

natural wonder in chaotic sprawl. It counts napalm and it counts nuclear warheads and armored cars for the police to fight the riots in our cities ... Yet the Gross National Product does not allow for the health of our children, the quality of their education, or the joy of their play ... It measures everything, in short, except that which makes life worthwhile. And it can tell us everything about America except why we are proud that we are Americans.’ <https://www.americanrhetoric.com/speeches/rfkreclaimingemoralvision.htm>

107 European Commission, ‘Circular economy’, https://environment.ec.europa.eu/topics/circular-economy_en (accessed 26 April 2023).

108 Raworth, Kate, ‘Why it’s Time for Doughnut Economics’, *IPPR Progressive Review* (Winter 2017) 216.

109 Raworth, Kate, ‘A Doughnut for the Anthropocene: humanity’s compass in the 21st century’ (2017b) 1 *The Lancet Planetary Health* e48.

110 Raworth, ‘Why it’s Time for Doughnut Economics’, 221.

111 Raworth, ‘A Doughnut for the Anthropocene’, e49.

importance of the Climate Convention's 'Annex I' and 'non-Annex I' categories continues to diminish.

In general, developing countries are eligible for developmental assistance, including assistance related to climate change. While there is no single accepted definition of 'developing country' and the term is not defined in the Paris Agreement, the World Bank's system of classifying countries by gross national income (GNI) in US dollars per capita remains influential. The World Bank currently defines a 'low income' country as one in which annual GNI per capita is USD 1,135 or less.¹¹²

The World Bank income categories also play a role in defining Least Developed Countries (LDCs), which benefit from specific support and treatment. For example, the Global Environment Facility (GEF) manages the Least Developed Countries Fund as a dedicated fund to assist LDCs in adapting to climate change.¹¹³ The UN criteria for an LDC include GNI per capita at or below the World Bank's low income country threshold, a low score on the 'human assets index' (comprising six health and education indicators), and a high score on the 'economic and environmental vulnerability index' (which has eight indicators, including 'share of population in low elevated coastal zones').¹¹⁴

It should be noted that there are also important non-quantified categories for climate assistance. A major one is 'small island developing state', a category which includes wealthy Singapore along with many other, mostly far poorer places.¹¹⁵ An attribute of grow-

112 World Bank, 'World Bank Group country classifications by income level for FY24 (July 1, 2023–June 30, 2024)', 30 June 2023, <https://blogs.world-bank.org/opendata/new-world-bank-group-country-classifications-income-level-fy24> (accessed 5 July 2023).

113 Global Environment Facility, 'Least Developed Countries Fund – LDCF', <https://www.thegef.org/what-we-do/topics/least-developed-countries-fund-ldcf> (accessed 26 April 2023).

114 United Nations, 'LDC Identification Criteria & Indicators', <https://www.un.org/development/desa/dpad/least-developed-country-category/ldc-criteria.html> (accessed 26 April 2023).

115 United Nations, 'List of SIDS', <https://www.un.org/ohrlls/content/list-sids> (accessed 26 April 2023).

ing importance is that of ‘climate vulnerability’. In 2009, countries self-identifying as climate vulnerable established the Climate Vulnerable Forum¹¹⁶ to champion climate policies in their shared interest, such as more ambitious temperature goals and support for ‘loss and damage’.¹¹⁷ In 2022 the COP agreed to establish ‘new funding arrangements’ on loss and damage ‘for assisting developing countries that are particularly vulnerable to the adverse effects of climate change’.¹¹⁸ At the 2023 COP, the Parties agreed details of the fund’s structure and made initial financial pledges. As the fund begins operations, it will be vital to focus on providing support to truly vulnerable nations that need external assistance.

The role of the private sector

Another economic debate in climate politics concerns the role of the private sector and the profit motive. This issue is related to the question of market mechanisms, as already discussed. Some scholars have drawn attention to the negative environmental and social impacts of for-profit projects under market mechanisms, such as the Clean Development Mechanism.¹¹⁹ Others reject ‘marketisation’ in itself as ‘embedded [in] a paradigm that sees nature as a resource to be exploited’.¹²⁰ More broadly, there are some who object on principle to the possibility that climate action can be a for-profit exercise. This tendency proposes that the climate transition be achieved through centralised state planning and top-down regulatory measures.

116 The Climate Vulnerable Forum, ‘About’, <https://thecvf.org/about/> (accessed 26 April 2023).

117 UNFCCC, ‘Online Guide to Loss and Damage’, <https://unfccc.int/documents/302000> (accessed 26 April 2023).

118 Decision -/CP.27 -/CMA.4, Funding arrangements for responding to loss and damage associated with the adverse effects of climate change, including a focus on addressing loss and damage, advance unedited version, https://unfccc.int/sites/default/files/resource/cma4_auv_8f.pdf (accessed 26 April 2023).

119 See, for example, Olawuyi, *The Human Rights-Based Approach to Carbon Finance*, see n 85.

120 Dehm, Julia, *Reconsidering REDD+: Authority, Power and Law in the Green Economy* (Cambridge University Press, 2021) 352.

The idea that all climate finance should come from public sources is simply unrealistic, however. It ignores the limitations – fiscal and political – on the appropriation of public finance for climate expenditure at home and abroad.

Of course, rejecting the notion that climate action should be confined to state planning and financing does not mean that climate change should be ‘left to the free market’ to sort out. As already discussed, pollution is often the result of market failure. Also, some forms of climate action are more difficult to finance than others without public intervention. Many climate mitigation measures, such as renewable energy or energy efficiency, can now be readily financed in much of the world on a for-profit basis. Conversely, adaptation measures often do not produce any revenue, while other mooted interventions – such as various means of carbon dioxide removal – are still largely experimental or at the stage of pilot projects.

In a mixed or social market economy with both public and private ownership of resources, it is only to be expected that financing the climate transition will be a shared responsibility of the public and private sectors. This necessity is foreseen in the Article 2.1(c) goal of the Paris Agreement, that of ‘[m]aking finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development’. This entails, in addition to direct financing of climate measures, that public authorities introduce systemic reforms to mandate or incentivise the managers of private capital to redirect it from activities that contribute to climate change to activities that contribute to climate solutions.¹²¹ In recent years, the EU has introduced a significant body of legislation for this purpose.

At the level of financing particular programmes or projects, it will often be necessary to utilise public funding to incentivise or ‘crowd-in’ the participation of public finance. This can be done in various ways. Funding from a well-known development bank will often produce a ‘halo effect’, signalling to the private sector that a project has been thoroughly vetted and is creditworthy. Public finance can also

121 Minas, Stephen, ‘The Paris Agreement goal on finance flows’, Briefing paper 3/2021, Legal Response International (2021).

be used to directly reduce the risks to private capital, for example by providing a guarantee or accepting the ‘first loss’ position in a funding consortium.

For some progressives, it is a matter of discomfort and even distaste that private businesses and banks are making a great deal of money from the climate transition. Nevertheless, policy focus should remain on the overarching objective of channelling finance to activities that support climate action and away from activities that do further harm. Private finance and business unquestionably have vital roles to play in this urgent task.

Challenges of multilevel governance

The achievement of climate goals is widely acknowledged to be a challenge of ‘multilevel governance’. Climate policy pertains to ‘governance’ rather than the narrower category of ‘government’ because it necessarily involves not only state authorities but also other actors, such as international organisations, industry confederations and finance actors. There are many definitions of ‘governance’ but an apt one for our topic is John Ruggie’s: ‘authoritative rules, institutions, and practices by means of which any collectivity manages its affairs’.¹²²

The concept of multilevel governance¹²³ originated in studies of the EU. In the EU context, the transfer of competences from Member States to EU institutions, as well as to subnational entities required the elaboration of new explanatory concepts.¹²⁴ The multi-level gov-

122 Ruggie, John G., ‘Reconstituting the Global Public Domain: Issues, Actors, and Processes’ (2004) 10(4) *European Journal of International Relations* 499.

123 Hollingsworth, J Rogers, and Robert Boyer (eds), *Contemporary Capitalism: The Embeddedness of Institutions* (Cambridge University Press, 1997).

124 See Marks, Gary, ‘Structural policy and multi-level governance in the EC’, in Alan Cafruny and Glenda Rosenthal (eds), *The State of the European Community. Vol. 2. The Maastricht Debates and Beyond* (Reinner, 1993) 391; Hooghe, Liesbet (ed.) *Cohesion Policy and European Integration: Building Multi-Level Governance* (Oxford University Press, 1996); Pollack, Mark A., ‘Theorizing the European Union: International Organ-

ernance concept, applied to this purpose, ‘contained both vertical and horizontal dimensions. “Multi-level” referred to the increased interdependence of governments operating at different territorial levels, while “governance” signalled the growing interdependence between governments and nongovernmental actors at various territorial levels’.¹²⁵

The multilevel governance concept has been recognised as a ‘useful starting point’ in accounting for the diffusion of decision-making agency in climate policy, ‘upward’ to international organisations and networks, ‘downward’ to subnational governments and ‘outward’ to non-state actors.¹²⁶ This phenomenon can be observed in the EU but also elsewhere.

As a matter of public international law, the Parties to the Paris Agreement (states plus the EU) are responsible for implementing their commitments in order to achieve the Paris goals. As a matter of practical reality, the implementation of those commitments will often rely on the decisions and actions of actors that the Paris Parties have limited – or no – capacity to direct.

Two examples will suffice. First, in many federal systems of government, subnational states or provinces will have legal competence over matters important to climate policy, such as energy policy or the regulation of vehicle emissions. The national government is held responsible for the actions of the subnational government in international law but may be unable, under domestic constitutional law, to demand that a subnational government change its policies.

Second, some transnational corporations (TNCs) and their supply chains have larger carbon footprints than many countries and their decisions can have major implications for GHG emissions, cli-

ization, Domestic Policy, or Experiment in New Governance?’ (2005) 8 *Annual Review of Political Science* 357.

125 Bache, Ian, and Matthew Flinders, ‘Themes and Issues in Multi-Level Governance’, in Bache and Flinders (eds), *Multi-Level Governance* (Oxford University Press, 2004) 1, 3.

126 Betsill, Michele and Harriet Bulkeley, ‘Cities and the Multilevel Governance of Global Climate Change’ (2006) 12 *Global Governance* 141, 149–151.

mate adaptation and the development of technologies that can help in tackling climate change.¹²⁷ Although typically headquartered in one jurisdiction, transnational corporation decision-making may be distributed across a range of countries (especially if organised as a group of companies), such that in practice a particular transnational corporation is not fully answerable to one national regulator. Transnational corporations can also be mobile, decamping their registration from one country to another to escape regulations and taxes.

These examples show that successful climate policy requires more than simple regulation, or national governments telling other actors what to do. Other tools of multi-level governance are needed. In climate policy there has been a long debate on the respective virtues of top-down and bottom-up approaches. At the international level, the Paris Agreement has de facto settled this debate with its hybrid model. The reality of multi-level governance in climate policy brings both complexity in managing the transition and the potential for impact and policy entrepreneurship from diverse quarters.

The geopolitics of transition

The relationship between climate change and geopolitics is of growing importance and increasingly recognised in policymaking. This relationship is a ‘two-way street’. First, climate change emerged as a major factor in geopolitics, owing to both the consequences of the climate transition for international relations and the tendency of climate impacts to exacerbate security threats.

Second, geopolitics is itself disrupting, reshaping and potentially accelerating the climate transition. While climate change has exerted a creeping impact on geopolitics over years, if not decades, the impact of geopolitics on climate policy has been more sudden, manifested most dramatically by Russia’s invasion of Ukraine and its still

127 López, Luis-Antonio et al, ‘The carbon footprint of the U.S. multinationals’ foreign affiliates’ (2019) 10 *Nature Communications* 1; Zhang, Zengkai et al. , ‘Embodied carbon emissions in the supply chains of multinational enterprises’ (2020) 10 *Nature Climate Change* 1096.

unfolding consequences. The impact of geopolitics on climate policy is discussed below in the case study of Russia's invasion. There are of course many other geopolitical factors that influence the climate transition, such as the constraints that Sino-US competition have imposed on bilateral and multilateral climate cooperation.¹²⁸

The tightening climate–security nexus has major implications for the processes and content of climate policy. Originally, climate policy was framed as a subset of environmental and energy policy. Later, it was recognised to be salient for broader economic policy. Climate policy has traditionally been treated as distinct from security policy and has not been included in the latter until recently. Russia's 2022 full-scale invasion of Ukraine has illustrated the need for an integrated climate–security policy framework.

Climate change as a security threat multiplier

The physical consequences of climate change summarised here are now widely acknowledged to be factors that can exacerbate the potential for conflict between and within countries. These consequences include food insecurity, drought, intensified sudden-onset disasters and the growing uninhabitability of certain regions under pressures such as rising sea levels and temperature increases. Such climate impacts can exacerbate security challenges, including potentially violent competition over increasingly scarce or increasingly important resources, irregular and hazardous migration, state failure and the growth of ungoverned spaces that can be havens for piracy or terrorism. The security salience of climate change was highlighted in a 2007 study for CNA (the US Center for Naval Analyses), which found that climate change 'acts as a threat multiplier for instability in some of the most volatile regions of the world' and 'will add to

128 For an overview of climate change and geopolitics, see Dalby, Simon, *Anthropocene Geopolitics: Globalization, Security, Sustainability* (University of Ottawa Press, 2022); and Falkner, Robert and Barry Buzan, *Great Powers, Climate Change, and Global Environmental Responsibilities* (OUP, 2022).

tensions even in stable regions of the world'.¹²⁹ The United Nations Climate Security Mechanism has found that, in 2020, '[o]f the 20 countries that are the most vulnerable and least prepared for climate change, 12 were in conflict'.¹³⁰

The physical impacts of climate change exacerbate threats to political stability in heavily affected countries and can make conflict more likely between countries. For example, large-scale human displacement from low lying areas of Bangladesh has been identified as a grave threat by that country's leadership. As one senior Bangladeshi general has stated: 'By 2050, millions of displaced people will overwhelm not just our limited land and resources but our government, our institutions and our borders'.¹³¹ By 2050, the population of Bangladesh is expected to be 220 million people.¹³²

Experts disagree on the extent to which climate change has already contributed to security threats. For example, the claim that the armed conflict in Darfur was the 'first climate war' is controversial. More recently, the 'Syrian climate-conflict narrative' has been shown to oversimplify complex causal relationships.¹³³ Nevertheless, policymakers and experts expect climate factors to grow as threat multipliers for security challenges. It is also notable that government agencies responsible for security planning, including military and intelligence services, increasingly factor climate change into publicly available threat assessments and scenarios.

129 CNA Corporation, 'National security and the threat of climate change' (2007) 6–7.

130 European Commission and HR/VP, Joint Communication: 'A new outlook on the climate and security nexus: addressing the impact of climate change and environmental degradation on peace, security and defence', 28 June 2023, JOIN(2023) 19 final, 1.

131 Cited in Gore, *The Future*, 285.

132 UNFPA Bangladesh, 'Population trends', <https://bangladesh.unfpa.org/en/node/24314> (accessed 1 May 2023).

133 Eklund, Lina et al., 'Societal drought vulnerability and the Syrian climate-conflict nexus are better explained by agriculture than meteorology' (2022) 3 *Communications Earth & Environment* 1.

Contests over commodities and territories

Competition over natural resources has been a major factor in fueling conflicts within and between states throughout recorded history.¹³⁴ The climate transition will be no different. Rather, transition to a carbon-constrained economy will increase competition for some resources and decrease it for others. As with the current resource economy, most of this competition will be peaceful and will play out through markets and policymaking. However, some states and other actors are also likely to use force in order to secure commodities and territories valuable because of their utility in the climate transition. A key feature of the geopolitics of renewables is ‘mineral security – that is, assuring reliable supply chains from mine to consumer’.¹³⁵ More broadly, intra- and inter-state competition over fresh water, arable land, fish stocks and other such resources can be expected to intensify as negative climate impacts collide with continued population growth.¹³⁶

The climate transition will also affect competition over territories that are not rich in key raw materials but rather in the space that is itself a key resource for the buildout of renewable energy. Vast swathes of land (and sea) will be needed to build renewable energy installations at ever greater scale to meet the energy demands of a world that must leave fossil fuels behind. Regions that are particularly well-suited to generating solar or wind power will be especially coveted. This dynamic can be expected to intensify existing territorial disputes and may even generate new ones. This applies both to land territories and marine areas, the latter increasingly as technology enables the construction of renewable energy infrastructure at greater scale and further out from the coastline and as ocean-based

134 Klare, Michael and Barry S Zellen, ‘Resource Wars: Energy, Resource Conflict, and the Emerging World Order’ (2008) 7 Strategic Insights, <https://calhoun.nps.edu/handle/10945/11246> (accessed 1 May 2023).

135 Yergin, *The New Map*, 422.

136 Schmidt, Cody J., Bomi K Lee and Sara McLaughlin Mitch, ‘Climate bones of contention: How climate variability influences territorial, maritime, and river interstate conflicts’ (2021) 58 *Journal of Peace Research* 132, 138–139.

forms of renewable energy (such as tidal energy) approach commercialisation.

The geopolitics of the climate transition will also entail changes to countries' force postures with regard to security resources to protect energy transit. New transit routes may create new security dilemmas for certain states.¹³⁷ Ultra-high-voltage electricity transmission infrastructure will attract the same security concerns as oil and gas pipelines do today. New 'transit' states will bargain for their share of the new energy trade.

Geopolitical factors also set limits on the prospects for the development of a 'global grid' of interconnected electricity networks.¹³⁸ Just as certain fossil fuel exporters have used oil and gas pipelines as tools of coercion, reducing or cutting supplies, states that export electricity may have a similar capability to blackmail other states that depend on this electricity.

While some commodities and territories become more keenly contested, others – associated with the 'stranded assets'¹³⁹ of the old fossil fuel economy – will lose their allure. While it might be hoped that this will reduce a precipitating factor for conflict in some regions, the potentially dramatic reduction in wealth of fossil fuel economies will create its own security challenges that will need to be managed (as discussed below).

137 See, for example, Kraska, James, *Arctic Security in an Age of Climate Change* (CUP, 2011).

138 The argument for developing a global grid is that it 'would lower costs for people in all the connected systems, would make war more difficult to wage because of physical interdependence related to energy and would generally improve social welfare'. While such interconnections are possible within a polity such as the EU, the complications inherent in connecting networks more broadly are obvious. Robinson, David, 'Economic and Geopolitical Determinants of Trade in Electricity', in Thomas Cottier and Ilaria Essa (eds), *International Trade in Sustainable Electricity: Regulatory Challenges in International Economic Law* (Cambridge University Press, 2017) 56ff.

139 Caldecott, Ben et al., 'Stranded Assets: A Climate Risk Challenge', Inter-American Development Bank (2016) 5ff.

Security challenges of electrification and digitalisation

The push to ‘electrify everything’ also gives rise to security challenges. Electrification enables activities previously powered by fossil fuels, such as road transport,¹⁴⁰ to be powered by electricity generated from renewables. Concurrent digitalisation¹⁴¹ of electricity systems enables real-time monitoring of and response to demand and therefore greater energy efficiency, reducing electricity curtailment and automating transactions through self-executing ‘smart contracts’.¹⁴² These are valuable technologies that have an important role to play in accelerating and deepening the transition to renewables.

Electrification and digitalisation may heighten existing systemic vulnerabilities, however, which may be exploited by hostile state and non-state actors.¹⁴³ Risks associated with digitalised energy systems include:

- breaches of data security;
- ransom attempts;
- hacking of smart contracts; and
- cyber-attacks’ aimed at causing blackouts or other forms of sabotage.

Digital electricity infrastructure is likely to be targeted by both hostile states and non-state actors, such as terrorists, insurgents and criminal gangs. These digital vulnerabilities overlay and interact with the ongoing physical vulnerabilities of energy infrastructure.

140 Technology Executive Committee, ‘Deep Decarbonization Technologies for Sustainable Road Mobility’, UNFCCC, October 2022, https://unfccc.int/ttclear/misc_/StaticFiles/gnwoerk_static/tec_transport/14e7442c8b464328bfa1ba8683e52d11/f346b9ff710846629a577b9ca410836e.pdf (accessed 10 May).

141 Hötte, Kerstin, ‘Climate Mainstreaming: Climate and Digital Policy’, Policy Brief, FEPS, February 2023.

142 Kirli, Desen et al., ‘Smart contracts in energy systems: A systematic review of fundamental approaches and implementations’ (2022) 158 *Renewable and Sustainable Energy Reviews* 112013.

143 Malicious hacking has been deployed against older electricity infrastructure. ‘Hackers behind Ukraine power cuts, says US report’, BBC News, 2 February 2016, <https://www.bbc.com/news/technology-35667989> (accessed 3 July 2023).

Problematically, cyber-attacks are apparently easier to carry out than physical attacks.¹⁴⁴ The digitalisation of expanding electricity systems will therefore have to be accompanied by appropriate securitisation to defend against digital threats.¹⁴⁵ As with digital threats generally, there is likely to be a never-ending ‘arms race’ between defenders and attackers.

There will be a role for international negotiation in establishing rules for dealing with cyber-attacks on electricity infrastructure, for example, to require transparency or reporting of relevant data, impose international bans on certain malicious practices or capabilities, or create universal jurisdiction for certain crimes.¹⁴⁶ The EU is a natural leader in initiating new multilateral negotiations on collective action problems. Given the limitations on what hostile states are likely to agree to or enforce, however, as well as the potential for non-state actors to engage in cyber-attacks, states (and groups of states) will ultimately have to rely upon their own cyber defence capabilities.

Winners and losers in the climate transition

Overall, a rapid and effective response to climate change is in the interest of every state, as all would be worse off in a world that has failed to achieve the Paris goals. The climate transition will benefit some states more than others, however, thereby altering their relative wealth and power. The climate transition will therefore create

144 Swinhoe, Dan, ‘How much does it cost to launch a cyberattack?’ (12 November 2019) CSO, <https://www.proquest.com/docview/2313804408> (accessed 1 May 2023).

145 The EU action plan on digitalising the energy system includes actions on strengthening cybersecurity and system resilience. EUR-Lex, ‘Digitalising the energy system - EU action plan’ (2022), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52022D-CO552&qid=1666369684560> (accessed 8 May 2023).

146 Moore, Stephen, ‘Cyber Attacks and the Beginnings of an International Cyber Treaty’ (2013) 39 *North Carolina Journal of International Law and Commercial Regulation* 221. On the existing international law applicable to cyber attacks, see chmitt, Michael N. (ed.), *Tallinn Manual on the International Law Applicable to Cyber Warfare* (CUP, 2013).

relative ‘winners’ and ‘losers’, even if every country will be better off in absolute terms.

The reality of relative benefits and detriments is key to the geopolitics of climate change. It helps to explain why some countries adopt leader or laggard positions in international negotiations and domestic policies. It must be taken into account in strategic planning for the decades of transition. Ultimately, it will exacerbate or create new geopolitical tensions as the relative positions of some states are strengthened and other states, seeing their positions weakened, seek to counter the trend or seize ‘windows of opportunity’ to capitalise upon their diminishing geopolitical advantages.¹⁴⁷

In general, the replacement of fossil fuels by zero-emission energy sources will have the following effects. It will be to the relative benefit of states that currently depend on fossil fuel imports to satisfy their energy needs. It will also benefit states rich in critical raw materials for renewables, which can be used for domestic needs and also exported. States with the technical capacity to manufacture renewable energy infrastructure and equipment at scale will also benefit. With the shift from fossil fuels to renewables, advanced manufacturing capacity becomes comparatively more important and the distribution of raw materials less important.¹⁴⁸

The EU, as a net importer of fossil fuels, has much to gain from an accelerated transition to zero-emission energy. Most fundamentally, an EU that can depend on domestic renewables for the bulk of its energy needs will have achieved a far greater level of energy security than is currently possible. This will result in an EU that is impervious to energy blackmail of the kind to which the Russian Federation has repeatedly resorted. Moreover, liberated from the need to source fossil fuels from other autocracies, the EU will be free to adopt stronger positions vis-à-vis such states on issues such as human rights and environmental protection, making the EU’s interna-

147 van Evera, Stephen, *Causes of War: Power and the Roots of Conflict* (Cornell University Press, 1999) 73ff.

148 These issues were examined extensively in IRENA, ‘A New World: The Geopolitics of the Energy Transformation’, Global Commission on the Geopolitics of Energy Transformation (2019).

tional relations more consistent with the values and expectations of European citizens.

The EU can also expect its terms of trade to improve substantially. In 2020, the EU relied on imports for 57 per cent of its energy.¹⁴⁹ With an energy system based on domestic renewables, most of the funds required to pay for these imports could be kept at home, to be invested productively in economic modernisation and spent on the social services that an ageing population will increasingly require. At the same time, the EU will be in a position to expand its export of clean energy goods and services.

The climate transition will not, of course, remove energy from geopolitical calculations. It should not be imagined that a successful transition will result in an energy autarchy, in which the EU's energy system is unmoored from the outside world. International trade and investment will and should continue, consistent with an open, social market economy. The risk of overreliance on external vendors will also remain. Clearly it would be a mistake to replace dependence on fossil fuel autocracies with dependence on other autocracies that have cornered the markets in necessary raw materials and renewable manufacturing.

Indeed, planning is required to compete successfully in what the IEA recently labelled 'a new industrial age – the age of clean energy technology manufacturing'.¹⁵⁰ In building both its domestic capacity and export markets, the EU will need to learn from past experience, such as when the German *Energiewende* 'ended up indirectly providing large subsidies to Chinese solar companies, which became the main low-cost suppliers of solar panels to the world'.¹⁵¹

Overall, fossil fuel phaseout will benefit more states than it disadvantages, because the global distribution of fossil fuels is more con-

149 Eurostat, 'Energy imports dependency', https://ec.europa.eu/eurostat/databrowser/view/nrg_ind_id/default/table?lang=en (accessed 1 May 2023).

150 IEA, 'Energy Technology Perspectives 2023', January 2023, <https://www.iea.org/reports/energy-technology-perspectives-2023> (accessed 1 May 2023).

151 Yergin, *The New Map*, 86.

centrated than are the resources and technological capacity needed for renewable energy sources. The corollary, of course, is that those states that are rich in fossil fuels and derive a significant proportion of their national incomes from their export are exposed to a deterioration in their terms of trade.¹⁵² They therefore risk erosion of their comparative wealth and with it the ability to compete with and influence other states.¹⁵³

The negative consequences experienced by states which are – or which perceive themselves to be – climate ‘losers’ can be expected to result in multiple international security challenges, potentially including:

- attempts to renegotiate other matters with climate ‘winners’;
- attempts to grab resources from neighbours, potentially through armed conflict;
- immiseration of the population leading to revolution, insurrection or secession; and
- disengagement of major security players from certain regions, enabling dormant or suppressed regional conflicts to flare up again.

The concept of a ‘just transition’ also has salience at the international level, both as a matter of justice and to ameliorate such negative security consequences.

Case study: Russia’s war on Ukraine and energy and climate geopolitics

Russia’s full-scale invasion of Ukraine provides a dramatic example of the relationship between geopolitics and climate policy. The events related to climate policy may be summarised as follows. In 2021, the year preceding the launch of the

152 See, for example, Gustafson’s analysis of the bleak prospects of the Russian economy as the global climate transition accelerates into the 2030s: Gustafson, Thane, *Klimat: Russia in the Age of Climate Change* (Harvard University Press, 2021) 207ff.

153 IRENA, ‘A New World’, 72–73.

so-called ‘special military operation’, Russia was the source of 45 per cent of coal imports, 36 per cent of gas imports and 25 per cent of petroleum oil imports into the EU.¹⁵⁴ The 24 February 2022 attacks on Ukraine precipitated global price surges across the fossil fuels.¹⁵⁵ In the EU, the urgent need to end reliance on Russian energy exports was suddenly obvious to all (although some had been drawing attention to it for years).¹⁵⁶ Two days before the bombing of Kyiv began, the German government had suspended certification of the Nord Stream 2 gas pipeline, which had become a physical symbol of reckless dependence on Russian energy. (In September 2022, both Nord Stream pipelines suffered explosions in apparent acts of sabotage, putting them beyond use.)

In March, EU heads of state and government agreed to ‘phase out our dependency on Russian gas, oil and coal imports as soon as possible’.¹⁵⁷ The EU introduced practical measures, including bans on Russian coal and oil imports, with some exceptions, and, under the May 2022 REPowerEU plan, a range of initiatives for supply diversification, demand reduction and energy efficiency, and accelerated renewable deployment.¹⁵⁸ Russian coal was embargoed from August 2022 onwards, crude oil imports from December 2022 and

154 Boehm, Lasse and Alex Wilson, ‘EU energy security and the war in Ukraine: From sprint to marathon’, Briefing, European Parliament, February 2023, 2.

155 See n 154.

156 As early as 2014, for example, then-prime minister of Poland Donald Tusk warned that ‘excessive dependence on Russian energy makes Europe weak’. Tusk, Donald, ‘A united Europe can end Russia’s energy stranglehold’, *Financial Times*, 21 April 2014, <https://www.ft.com/content/91508464-c661-11e3-ba0e-00144feabdco>

157 Informal meeting of the Heads of State or Government, Versailles Declaration, 10 and 11 March 2022, para. 16.

158 Boehm, Lasse and Alex Wilson, ‘EU energy security and the war in Ukraine’, 2.

refined oil products from February 2023 (with some exceptions until the end of 2023).

The full-scale invasion found the EU unprepared to completely cut off energy imports from Russia. The EU continued to buy gas from Russia, albeit in greatly reduced quantities, with the resulting revenue propping up the Russian budget and helping to stabilise the Russian economy following the initial shocks of war and sanctions. In effect, the EU's inability to go immediately to zero Russian energy imports helped to finance Russia's war. By the time of 24 February 2022, it had become too late to avoid this bitter reality.

The EU embarked on a campaign to source liquefied natural gas (LNG) and build the infrastructure necessary for its import, resulting in a massive 89 per cent increase in LNG imports (some 15 per cent of which came from Russia, however) in Q3 2022, year-on-year. In tandem with demand reduction and energy efficiency measures, the LNG ramp-up enabled the EU to reduce pipeline gas imports from Russia by 74 per cent in Q3 2022, year-on-year.¹⁵⁹ In 2022, LNG imports surpassed imports of pipeline gas for the first time.¹⁶⁰ Further measures, such as for joint purchasing of gas, were introduced. The EU surpassed its target of gas storage at 80 per cent capacity before the beginning of the 2022–2023 winter (which fortunately was mild). The EU energy shortages the Kremlin had hoped for did not happen. Nor did a 'coal comeback' to the extent predicted by some. Instead, coal generation was 11 per cent down year-on-year, compared with October 2021–March 2022, and renewables generated more electricity than fossil fuels in the EU during the winter

159 See n 158, 3–4.

160 Rocha, Priscila Azevedo and Anna Shiryayevskaya, 'Europe's LNG Imports Overtake Pipeline Gas for First Time', Bloomberg, 26 June 2023, <https://www.bloomberg.com/news/articles/2023-06-25/europe-s-lng-imports-overtake-pipeline-gas-for-first-time> (accessed 6 July 2023).

period for the first time.¹⁶¹ It is also notable that Russian aggression did not trigger an unravelling of EU climate policy. For example, calls to suspend the ‘cornerstone’ of EU climate policy, the ETS, were rejected.¹⁶²

The colossal changes in the EU energy mix during the 12 months following February 2022 are unprecedented. They show what can be done when the system is mobilised to respond to an overriding policy challenge – in this case, not the climate crisis but a war which rendered continued energy dependence on Russia intolerable.

Despite short-term successes in reducing dependence on Russian exports, however, massive challenges lie ahead. Beginning in 2023, the annual target was for 90 per cent of gas storage capacity to be filled by November. Achieving this could be complicated by both climate and market factors. It is also clear that LNG cannot be a long-term solution to the challenge of energy supply security. In 2022, the United States was by far the largest exporter of LNG to Europe, but Qatar was also a major supplier.¹⁶³ Pipeline gas also increased from exporters, including Azerbaijan. The risks of relying for energy supplies on autocracies that do not share the EU’s values¹⁶⁴ should by now be self-evident.

161 Rosslowe, Chris, Harriet Fox and Sarah Brown, ‘Weathering the winter’, *Ember*, 27 April 2023, 8ff. These are pan-EU figures. In parts of the EU, reliance on coal has increased to make up the energy shortfall. See, for example, DW, ‘Germany: Coal imports increase in 2022 amid Ukraine war’, 25 February 2023, <https://www.dw.com/en/germany-coal-imports-increase-in-2022-amid-ukraine-war/a-64818198> (accessed 8 May 2023).

162 Euractiv, ‘EU’s von der Leyen rebuffs Polish call to suspend carbon market’, 31 August 2022, <https://www.euractiv.com/section/emissions-trading-scheme/news/eus-von-der-leyen-rebuffs-polish-call-to-suspend-carbon-market/> (accessed 8 May 2023).

163 Institute for Energy Economics and Financial Analysis, ‘European LNG Tracker’, <https://ieefa.org/european-lng-tracker> (accessed 27 April 2023).

164 Bouckaert, Reinilde, ‘From the Green Deal to REPower EU: What about the EU’s Southern fossil gas suppliers?’, Policy Brief, FEPS, February 2023.

Alongside improved energy efficiency, the key to EU energy security is of course domestic renewable energy plus storage. This is why Russia's war has reinforced the policy impetus for renewable expansion.¹⁶⁵ Policies to boost technological and manufacturing capacity and secure the supply of critical raw materials are equally necessary to building energy security.¹⁶⁶

EU Member State unity and social cohesion are also implicated in the energy geopolitics of the war. The hardships of soaring inflation reinvigorated populist, anti-EU forces in some Member States, while massive and unsustainable expenditures by governments were required to address energy affordability.¹⁶⁷ It should surprise no one that 'elaborate compromises and exceptions'¹⁶⁸ have been required to achieve Member State unanimity on the EU's energy measures. The fact that Russia has largely failed to divide the EU using energy shortages and price hikes does not diminish the need for vigilance against such strategies. While there are risks and tensions inherent in 'geopolitical security fram-

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- 165 Boehm, Lasse and Alex Wilson, 'EU energy security and the war in Ukraine', 8. The installation of new solar capacity almost doubled from 2021 to 2022, as households and businesses undertook record investments to avoid spiralling electricity prices: <https://www.solarpower-europe.org/press-releases/new-report-reveals-eu-solar-power-soars-by-almost-50-in-2022> (accessed 8 May 2022).
- 166 Krukowska, Ewa, Bryce Baschuk and Richard Bravo, 'China Takes the Trade Fight to Europe, Targeting the Green Transition', Bloomberg, 4 July 2023, <https://www.bloomberg.com/news/articles/2023-07-04/china-eu-trade-fight-puts-green-transition-at-risk> (accessed 6 July 2023).
- 167 The IEA reported USD 350 billion in 'extra spending to reduce energy bills' in the EU in 2022: <https://www.iea.org/reports/fossil-fuels-consumption-subsidies-2022> (accessed 8 May 2023).
- 168 Mišík, Matúš and Andrej Nosko, 'Post-pandemic lessons for EU energy and climate policy after the Russian invasion of Ukraine: Introduction to a special issue on EU green recovery in the post-Covid-19 period' (2023) 117 *Energy Policy* 113546, 2.

ings' of energy,¹⁶⁹ the strong support from EU citizens to reduce dependency on Russian energy can complement and reinforce popular support for climate action. This narrative can succeed, however, only if the transition to renewables is seen as relieving the economic pressure on citizens rather than exacerbating it.

The energy geopolitics of the Russian war on Ukraine are of course not limited to the European continent. Overall, the war has sparked what the IEA has called 'the first global energy crisis – a shock of unprecedented breadth and complexity', which is disproportionately burdening the poorest nations.¹⁷⁰ The EU's policy responses also have international consequences, both intended and unintended. To take an example of the latter, the huge increase in the EU's LNG purchases priced some developing countries out of the market, exacerbating domestic energy crises or prompting switches back to coal and thereby undermining climate mitigation targets.¹⁷¹ In contrast, the G7 and Australia price cap on Russian oil is intended to have global effect and is framed explicitly, while reducing Russian revenues, 'to minimise negative economic spillovers of Russia's war of aggression, especially on low- and middle-income countries'.¹⁷² Just as the EU is working to accelerate its climate transition at home in re-

169 Kuzemko, Caroline et al, 'Russia's war on Ukraine, European energy policy responses & implications for sustainable transformations (2022) 93 *Energy Research & Social Science* 102842.

170 IEA, *World Energy Outlook 2022*, revised version, November 2022, 19.

171 Kuzemko, et al, 'Russia's war on Ukraine, European energy policy responses & implications for sustainable transformations', 5; Maulia, Erwida, 'LNG "inequality" bites as Europe takes supply from Asia', *Financial Times*, 6 July 2023, <https://www.ft.com/content/d71def1b-6bdf-4375-81d9-7a1853a9a291> (accessed 6 July 2023).

172 Statement of the G7 and Australia on a price cap for seaborne Russian-origin crude oil, Berlin, Brussels, Canberra, London, Ottawa, Paris, Rome, Tokyo, Washington, 2 December 2022, <https://www.auswaertiges-amt.de/en/newsroom/news/g7-australia-price-cap-seaborne-russian-origin-crude-oil/2567026> (accessed 27 April 2023).

sponse to Russian aggression, international policy needs continually to take account of feedbacks between the Russia crisis and global climate mitigation efforts.

The EU has experienced the dramatic negative consequences of reliance for fossil fuels on a hostile, autocratic and lawless state. It has also experienced the difficulty and expense of attempting to replace Russian imports with fossil fuels sourced from other third states, among other emergency measures. The crisis has thus brought to the fore the strategic and economic benefits of accelerated transition to a renewable-based energy system powered predominantly by domestic energy sources. It has also exposed the vulnerabilities of an energy policy underpinned by ‘liberal market dogma’, pushing policymakers to prioritise security and resilience over competitiveness and efficiency.¹⁷³ While the Kremlin strategy of ‘weaponising winter’ to break EU solidarity with Ukraine has failed, the EU faces a long and complex struggle to eliminate these vulnerabilities while accelerating decarbonisation efforts.

Geoengineering

The continuing failure to mount a sufficient global response to climate change has paved the way for new policy dilemmas, of a different order to those discussed above. As the physical impacts of climate change intensify, some are advocating for measures to directly interfere with Earth systems in order to treat the symptoms of climate change rather than its causes. These are proposals for ‘geoengineering’, which the Royal Society defines as ‘deliberate large-scale manipulation of the planetary environment to counteract anthropogenic climate change’.¹⁷⁴

173 Proedrou, Filippou, ‘EU Decarbonization under Geopolitical Pressure: Changing Paradigms and Implications for Energy and Climate Policy’ (2023) 15 *Sustainability* 5083.

174 The Royal Society, ‘Geoengineering the climate: Science, governance and uncertainty’, September 2009, 1.

Geoengineering was put on the agenda by the late Nobel laureate Paul Crutzen, who proposed research into it in 2006 as a backup option in case emission reductions proved insufficient.¹⁷⁵ A recent survey of the relevant technologies divides geoengineering into two categories: (i) solar radiation management (SRM); and (ii) carbon dioxide removal (CDR).¹⁷⁶ Solar radiation management ‘seeks to address the energy imbalance that is at the heart of the global warming challenge’.¹⁷⁷ The relevant techniques have been summarised as: stratospheric aerosol albedo modification (‘to mimic the natural cooling effect of volcanoes by spreading sulphurous particles in the atmosphere’); solar sunshades, which would be launched to orbit either the earth or the sun; marine cloud brightening; cirrus cloud seeding; and albedo modification techniques at the earth’s surface.¹⁷⁸

Carbon dioxide removal methods, by contrast, ‘are generally of lower risk and of almost certain benefit given what is currently known of likely global emissions trajectories and the climate change future’.¹⁷⁹ (Indeed, so different are the risk profiles of solar radiation management and carbon dioxide removal that some experts have cautioned against ‘[l]umping them together’).¹⁸⁰ CDR methods include: direct air capture and storage; bioenergy with carbon capture and storage; storage or utilisation of CO₂; ocean fertilisation; biochar; and enhanced weathering.¹⁸¹ In 2021, the IPCC stated that

175 Which Crutzen dismissed as a ‘pious wish’. Crutzen, Paul J., ‘Albedo Enhancement by Stratospheric Sulfur Injections: A contribution to resolve a policy dilemma?’ (2006) 77 *Climatic Change* 211, 217.

176 Kintisch, Eli, ‘Technologies’, in Michael B. Gerrard and Tracy Hester, *Climate Engineering and the Law: Regulation and liability for solar radiation management and carbon dioxide removal* (Cambridge University Press, 2018) 28ff.

177 See n 176, 28.

178 See n 176, 29–40.

179 Committee on Geoengineering Climate, *Climate Intervention: Carbon Dioxide Removal and Reliable Sequestration* (National Academies Press, 2015).

180 Chemnik, Jean, ‘U.S. Blocks U.N. Resolution on Geoengineering’, *Scientific American*, 15 March 2019, <https://www.scientificamerican.com/article/u-s-blocks-u-n-resolution-on-geoengineering/>

181 Kintisch, ‘Technologies’, 42–51. See n 176.

carbon dioxide removal ‘has the potential to remove CO₂ from the atmosphere and durably store it in reservoirs’ and that CDR ‘leading to global net negative emissions would lower the atmospheric CO₂ concentration and reverse surface ocean acidification’.¹⁸² However, the same report cautioned that ‘CDR methods can have potentially wide-ranging effects on biogeochemical cycles and climate, which can either weaken or strengthen the potential of these methods to remove CO₂ and reduce warming, and can also influence water availability and quality, food production and biodiversity’.¹⁸³

In 2010, the COP of the Convention on Biological Diversity issued non-binding guidance to states to ‘[e]nsure ... that no climate-related geo-engineering activities that may affect biodiversity take place, until there is an adequate scientific basis on which to justify such activities and appropriate consideration of the associated risks’.¹⁸⁴ The International Maritime Organization addresses marine geoengineering under a 2013 amendment (yet to enter into force) to the 1996 London Protocol on the prevention of marine pollution by the dumping of wastes and other matter.¹⁸⁵

Beyond these steps, there has been international disagreement over whether and how to address geoengineering. In 2019, the United States under the Trump administration, Saudi Arabia and other

182 IPCC, 2021: Summary for Policymakers. In: *Climate Change 2021: The Physical Science Basis*, 29–30.

183 See n 182, 29.

184 Conferences of Parties to the Convention on Biological Diversity, Decision X/33. Biodiversity and Climate Change (2010), para. 8(w).

185 The amendment defines marine geoengineering as ‘a deliberate intervention in the marine environment to manipulate natural processes, including to counteract anthropogenic climate change and/or its impacts, and that has the potential to result in deleterious effects, especially where those effects may be widespread, long-lasting or severe’. ‘Marine geoengineering’, IMO, <https://www.imo.org/en/OurWork/Environment/Pages/geoengineering-Default.aspx>; for more recent developments in the IMO, see London Protocol/London Convention, ‘Statement on Marine Geoengineering’, 10 October 2022, <https://www.imo.org/en/MediaCentre/PressBriefings/Pages/Marine-geoengineering.aspx> (accessed 28 June 2023).

nations successfully blocked a proposal for the UN Environment Assembly to prepare an assessment of geoengineering technologies.¹⁸⁶

Concerns over geoengineering arise from our current limited knowledge and uncertainties regarding its consequences, as well as the risk that it could be plausibly attempted by individual countries or corporations. In addition, solar radiation management is said to raise a ‘moral hazard’: ‘the belief it could work could induce some people to be less diligent in pursuing the far superior (but more expensive) pathway of mitigation’.¹⁸⁷ Despite these concerns, the ongoing inadequacy of emission reductions means that geoengineering will remain on the agenda as a potential emergency measure.¹⁸⁸ The currently fragmented and unclear international governance of geoengineering is deeply inadequate to address the challenges ahead.

186 ‘Perspectives on the Geoengineering Resolution’, Harvard’s Solar Geoengineering Research Program, 29 March 2019, <https://geoengineering.environment.harvard.edu/blog/perspectives-unea-resolution>

187 Gerrard, Michael B. ‘Introduction and Overview’, in Michael B. Gerrard and Tracy Hester, *Climate Engineering and the Law: Regulation and liability for solar radiation management and carbon dioxide removal* (Cambridge University Press, 2018) 11.

188 See, for example, the Biden administration’s ‘scientific assessment of solar and other rapid climate interventions in the context of near-term climate risks and hazards’. <https://www.whitehouse.gov/ostp/legal/>

4 The international community's climate goals

Contemporary EU climate law and policy takes as its starting point the achievement of climate objectives set through international negotiation. These objectives are expressed principally in the three climate treaties – the 1992 United Nations Framework Convention on Climate Change, the 1997 Kyoto Protocol and the 2015 Paris Agreement – but also in decisions of the UNFCCC Conference of Parties (COP), UN General Assembly resolutions and other relevant international documents.

The content and form of international climate goals have undergone substantial change since the negotiation of the Climate Convention in the early 1990s. Grounded in the principles of sustainable development expressed at the 1972 Stockholm and 1992 Rio conferences, the Convention set a general ‘ultimate objective’, with more specific and quantified targets to be set in the later Kyoto Protocol and Paris Agreement.

The overarching objectives set out in the climate treaties are pursued through the collective and individual actions mandated in the treaties and related COP decisions, such as the meeting of quantified emissions limitation or reduction obligations under the Kyoto Protocol or the communication of a Nationally Determined Contribution under the Paris Agreement. There are a host of other procedural and substantive commitments that must be implemented domestically.

There have been some qualified successes, as well as notable failures in this international process.¹⁸⁹ The overall trajectory, however,

189 An example of the latter is the expectation that Annex I Parties would collectively reduce their emissions by 2000 to 1990 levels. UNFCCC, ‘What is the United Nations Framework Convention on Climate Change?’, <https://unfccc.int/process-and-meetings/the-convention/>

has been one of failure to arrest climate change, the upshot of which is that the timescales for achieving particular goals have become compressed.

Of course, the relationship between international and EU climate law is not simply a matter of implementing international goals. The EU has consistently been a protagonist for more ambitious and progressive international frameworks and a major driver of developments at the international level, such as the adoption of the Paris Agreement at the 2015 UNFCCC conference under the French presidency.¹⁹⁰ In fact, strengthening international climate frameworks has been a long-term objective of EU climate policy and is pursued through multilateral climate negotiations, bilateral relations and other fora. Simultaneously, the EU works to achieve international climate objectives domestically and to create the conditions for other UNFCCC parties to do likewise, providing climate finance, technical assistance and other measures.

This chapter will summarise the climate goals adopted by the international community through multilateral negotiation over the course of three decades. It will also set out the main procedures for implementing these goals and identify the relationship between these goals and the development of EU climate law and policy.

International climate law in context

International climate law did not emerge in a vacuum but is rather the product of a broader effort to address major international challenges, such as climate change, through international cooperation, while simultaneously providing space for sustainable development and supporting developing countries to work towards these objec-

what-is-the-united-nations-framework-convention-on-climate-change (accessed 1 May 2023).

190 Walker, Hayley and Katja Biedenkopf, 'The historical evolution of EU climate leadership and four scenarios for its future', in Stephen Minas and Vassilis Ntousas (eds), *EU Climate Diplomacy: Politics, Law and Negotiations* (Routledge, 2018); Gonda, Blaise, *Négociier pour la planète. Récits de la COP21*, Les carnets du CAPS, February 2016, 45.

tives. There are of course tensions between the goals of climate action and sustainable development, which must be managed at each level of policy and implementation.

Contemporary international climate goals and principles have been heavily influenced by the legacy of the campaign by pursued by developing countries in the 1970s and 1980s to introduce a 'New International Economic Order' (NIEO). This programme, promoted through the UN and especially through the General Assembly and the UN Conference on Trade and Development (UNCTAD), had the broad objective of reshaping the global economy to favour redistribution to the Global South.¹⁹¹ Although the most ambitious NIEO initiatives, such as an attempt to introduce a mandatory code of conduct requiring technology transfer to developing countries, went unrealised,¹⁹² the broad bloc of developing countries had greater success in introducing principles and procedures for differentiated treatment of developing countries in specific agreements, such as the UN Climate Convention. This differentiated treatment, in accordance with the Rio Principles, is a central element of the international climate regime.

The EU has traditionally accepted the legitimacy of developing country concerns and has sought to be a constructive actor, building bridges between developed and developing countries in negotiations and identifying possibilities for achieving consensus outcomes. Progressive governments, parties and politicians have played an important role in maintaining this balance in EU positioning and keeping adherence to the imperative of just outcomes vis-à-vis the world's poorest at the forefront of EU stances. This can be seen in European Parliament resolutions and in the positions adopted by the Council of the EU, as well as the outputs of more informal processes.¹⁹³

191 Brown, C. and Ainley, K, *Understanding International Relations* (Palgrave Macmillan, 2005) 201–206.

192 UNCTAD, 'Draft International Code of Conduct on the Transfer of Technology as of 5 June 1985' (TD/CODE/TECHNOLOGY TRANSFER/47, 1985).

193 See, for example, the FEPS UNited for Climate Justice initiative: <https://feeps-europe.eu/publication/692-united-for-climate-justice-decla->

A practical understanding of international climate goals also requires that the realities of implementation and enforcement be taken into consideration. In common with international law generally, UNFCCC Parties typically have a broad margin of discretion in implementing their climate commitments. The climate treaties have set collective goals and have established processes for the identification or communication of individual targets. They have also established various processes for international reporting, cooperation and assistance. Nevertheless, the main locus of implementation is domestic. It is for each party to elaborate its own climate policies, introduce necessary laws and regulations and provide for their implementation and enforcement.

At the international level, typically only weak mechanisms are in place for the enforcement of international legal commitments. This holds true for the international climate regime, which is ultimately reliant on self-enforcement by member states. The political consequence of this *de facto* self-enforcement regime is that proponents of climate action must always take care that adequate steps are being taken to fulfil climate commitments that the EU has freely accepted. The EU prides itself on being a ‘good international citizen’ that abides by its international commitments. Unfortunately, however, the EU is not immune to internal challenges to the rule of law. Vigilance is needed regarding the climate commitments of the EU and Member States, and oversight bodies, civil society and European citizens all have key roles to play.

UN Climate Convention

The 1992 UN Climate Convention established the overall goal of the international climate regime. Article 2 sets out the ‘objective’ of the Climate Convention:

The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Con-

ration-with-guiding-proposals-for-progressive-climate-action/

vention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

This is primarily a mitigation objective. It is stated in qualitative terms only; the level of greenhouse gas concentration that ‘would prevent dangerous anthropogenic interference with the climate system’ is not specified. The goal targets a certain level of GHG concentration, rather than any particular consequence of climate change, such as average global temperature increase. In keeping with the negotiating history discussed above, the goal is framed in such a way that it must be achieved at a pace consistent with sustainable economic development.

To work towards this objective, parties accepted differentiated sets of commitments, set out primarily in Article 4 of the Convention. All parties, regardless of their development status, accepted a set of universal commitments. These include publication of national inventories of GHG emissions and development and implementation of national programmes to mitigate climate change and facilitate adaptation, among other things.¹⁹⁴ Additionally, Annex I parties (that is, developed countries plus some post-communist ‘economies in transition’) committed to undertaking policies and measures to mitigate climate change that ‘demonstrate that developed countries are taking the lead in modifying longer-term trends in anthropogenic emissions consistent with the objective of the Convention’.¹⁹⁵ This commitment of developing countries to ‘taking the lead’ is an expression of the CBDR-RC principle and is also included in the Paris Agreement.

Alongside these differentiated commitments to domestic action, the developed parties (but not the ‘economies in transition’) also

194 UN Climate Convention, Article 4.1.

195 See n 194, Article 4.2(a).

committed to providing developing countries with various kinds of support. These include supplying 'such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of implementing measures' of climate action.¹⁹⁶ Implementation of these support commitments 'shall take into account the need for adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among the developed country Parties'.¹⁹⁷ In addition, developed parties 'shall also assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects'.¹⁹⁸ Finally, developed parties are to 'take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly developing country Parties, to enable them to implement the provisions of the Convention'.¹⁹⁹

The Convention also records the practical reality that the degree of climate action implemented in developing countries will depend upon the amount of support that they receive: 'The extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties of their commitments under the Convention related to financial resources and transfer of technology and will take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties'.²⁰⁰

In addition to its differentiation of commitments between developing countries, developed countries and economies in transition, the Convention also recognises certain categories of countries, such as '[s]mall island countries' and countries with low lying coastal areas, and provides that the Parties 'shall give full consideration to

196 See n 194, Article 4.3.

197 See n 194.

198 See n 194, Article 4.4.

199 See n 194, Article 4.5.

200 See n 194, Article 4.7.

what actions are necessary under the Convention, including actions related to funding, insurance and the transfer of technology, to meet the specific needs and concerns of developing country Parties arising from the adverse effects of climate change and/or the impact of the implementation of response measures'.²⁰¹ It also pledges to 'take full account of the specific needs and special situations of the least developed countries in their actions with regard to funding and transfer of technology'.²⁰²

Finally, the Convention also recognises the special situation of parties 'with economies that are vulnerable to the adverse effects of the implementation of measures to respond to climate change', such as those whose national income is dependent on fossil fuels, and commits to taking their situation into account.²⁰³ This provision on 'response measures' recognises that the climate transition presents greater challenges for some parties than others. At the intergovernmental level, it may be considered an early expression of the need for a just transition, which is made more explicit in the Paris Agreement.

The UN Climate Convention remains in force and the Parties continue to work through the processes established under it. Nevertheless, the most important international climate goal is currently the one expressed in the Paris Agreement, discussed below.

Kyoto Protocol

The 1997 Kyoto Protocol is '[i]n pursuit of the ultimate objective of the [UN Climate] Convention as stated in its Article 2'.²⁰⁴ For its first commitment, ending in 2012, the Protocol set the target of reducing the overall emissions of those developed countries with Kyoto targets by at least 5 per cent below 1990 levels.²⁰⁵ This quantified collective target complemented the unquantified objective of the Climate Convention.

201 See n 194, Article 4.8.

202 See n 194, Article 4.9.

203 See n 194, Article 4.10.

204 Kyoto Protocol (1997), preambular recital 2 (emphasis original).

205 See n 204, Article 3.1.

The Kyoto Protocol allowed parties to agree to ‘jointly fulfil their commitments’, enabling the European Union to accept a collective target for its then member states.²⁰⁶ The EU’s quantified emission limitation or reduction commitment (QELRC) for the first commitment period was 8 per cent below 1990 emissions levels. Other developed parties had substantially less ambitious commitments, in some cases even allowing the level of emissions to increase.²⁰⁷ In addition to implementing internal policies and measures to achieve their commitments, the Protocol provided for parties to cooperate through three market mechanisms. The inclusion of market mechanisms in the Kyoto Protocol, which prompted the development of the EU ETS, has been replicated in the Paris Agreement, albeit with important differences.

Both the overall and the EU 2012 Kyoto mitigation targets were achieved.²⁰⁸ In late 2012, parties agreed to a second commitment for the Kyoto Protocol, ending in 2020, with a new overall target of emissions reduction of at least 18 per cent below 1990 levels by 2020.²⁰⁹ However, the number of participating developed countries decreased as Canada, Japan, New Zealand and the Russian Federation declined to accept 2020 targets. The EU accepted an unconditional target of a 20 per cent emissions reduction by 2020, which was significantly overachieved.²¹⁰

There is no third Kyoto commitment period and as a practical matter the Kyoto Protocol no longer expresses the international community’s climate objectives. It has been superseded by the Paris Agreement, politically if not also legally.

206 See n 204, Article 4.

207 See n 204, Annex B.

208 European Commission, ‘Kyoto 1st commitment period (2008–12)’, https://climate.ec.europa.eu/eu-action/climate-strategies-targets/progress-made-cutting-emissions/kyoto-1st-commitment-period-2008-12_en (accessed 1 May 2023).

209 Kyoto Protocol (1997; amended 2012) Article 3.1bis.

210 ‘Continued drop in EU’s greenhouse gas emissions confirms achievement of 2020 target’, European Environment Agency, 31 May 2022, <https://www.eea.europa.eu/highlights/continued-drop-in-eus-greenhouse>

Paris Agreement

The Paris Agreement was adopted in 2015 and entered into force only one year later, in 2016. This presents a striking contrast with both the Kyoto Protocol (adopted in 1997, entered into force in 2005) and its Doha Amendment (adopted in 2012, entered into force in 2020). This contrast is indicative of a stronger international consensus on the Paris model of climate cooperation, compared with the controversial Kyoto model.²¹¹ It should be noted, however, that this stronger consensus was achieved by replacing individual Party targets prescribed in a treaty annex with bottom-up nationally determined targets, which ‘allowed the international community to sidestep the thorny distributional conflict that had bedevilled the UNFCCC process for over two decades’.²¹²

The aim of the Paris Agreement is set out in Article 2, paragraph 1 of which provides:

This Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by: (a) Holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change; (b) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production; and (c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.

211 Mayer, Benoit, *The International Law on Climate Change* (Cambridge University Press, 2018) 41–42;

212 Falkner, Robert, ‘The unavoidability of justice – and order – in international climate politics: From Kyoto to Paris and beyond’ (2019) 21(2) *British Journal of Politics and International Relations* 270, 274.

Paragraph 2 of the same article specifies that implementation must take certain principles into account: ‘This Agreement will be implemented to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.’ The clause ‘in the light of different national circumstances’ was new to international climate law and originated in the 2014 joint statement on climate change of China and the United States. Together with the fact that the Paris Agreement does not refer to the Convention annexes but only to ‘developed’ and ‘developing’ parties (terms which are not defined in the text), this language allows the agreement to move beyond the 1992 developmental status of states and account for changing national circumstances.

Article 3 links Party efforts under specified articles of the Paris Agreement with the achievement of the Article 2 goals:²¹³

As nationally determined contributions to the global response to climate change, all Parties are to undertake and communicate ambitious efforts as defined in Articles 4 [mitigation/Nationally Determined Contributions], 7 [adaptation], 9 [finance], 10 [technology development and transfer], 11 [capacity-building] and 13 [enhanced transparency framework] with the view to achieving the purpose of this Agreement as set out in Article 2. The efforts of all Parties will represent a progression over time, while recognizing the need to support developing country Parties for the effective implementation of this Agreement.

Article 3 thereby makes clear that the Paris goals are to be achieved not just through domestic mitigation and adaptation measures but also through support to developing countries (through the provision of ‘means of implementation’, namely finance, technology development and transfer, and capacity-building) and transparent information-sharing on all of these actions.

213 Bodle, Ralph and Vicky Noens, ‘Climate Finance: Too Much on Detail, Too Little on the Big Picture?’ (2018) *Carbon & Climate Law Review* 248, 250.

The mitigation goal

The Paris mitigation goal introduces into international climate law, for the first time, a clear temperature target. The terms used, with ‘well below 2 °C’ as the nominated target while ‘pursuing efforts to limit the temperature increase to 1.5 °C’, are a compromise that reflects preceding negotiations on the appropriate long-term global goal. Despite the compelling evidence that limiting temperature increase to 1.5 °C would be far preferable to 2 °C, some parties opposed the more ambitious target.²¹⁴ Following the adoption of the Paris Agreement, Parties asked the IPCC to produce a special report on the impacts of global warming of 1.5 °C above pre-industrial levels. This report confirmed that there would be multiple advantages to limiting the temperature increase to 1.5 °C, as opposed to 2 °C.²¹⁵

The mitigation target laid down in Article 2 of the Paris Agreement must be read together with the following clause in Article 4:

In order to achieve the long-term temperature goal set out in Article 2, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second

214 Mathiesen, Karl and Diego Arguedas Ortiz, ‘India and Saudi Arabia reject science for 1.5 degrees goal’, *Sci Dev Net*, 7 December 2015, <https://www.scidev.net/global/news/india-saudi-arabia-reject-science-degrees-goal/> (accessed 3 July 2023).

215 IPCC, 2018: Summary for Policymakers. In: *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 3–24. <https://doi.org/10.1017/9781009157940.001>.

half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty.

This clause ties the temperature goal to Party efforts to collectively peak GHG emissions in order to achieve climate neutrality (the term itself was controversial among Parties and could not be included). While the term ‘in the second half of this century’ is hopelessly vague, the wave of commitments made in 2020 and 2021 to climate neutrality or ‘net zero’ by or soon after 2050 make clear that Parties are aiming for a collective peaking of emissions closer to the middle than the end of the century.

In 2021, the COP addressed the Paris temperature target while expressing ‘*alarm and utmost concern* that human activities have caused around 1.1 °C of warming to date’.²¹⁶ While reaffirming the Paris target, the COP recognised ‘that the impacts of climate change will be much lower at the temperature increase of 1.5 °C compared with 2 °C and *resolve[d]* to pursue efforts to limit the temperature increase to 1.5 °C’.²¹⁷ Importantly, the COP also identified the practical ramifications of resolving to pursue the more ambitious target, recognising ‘that limiting global warming to 1.5 °C requires rapid, deep and sustained reductions in global greenhouse gas emissions, including reducing global carbon dioxide emissions by 45 per cent by 2030 relative to the 2010 level and to net zero around mid-century as well as deep reductions in other greenhouse gases’.²¹⁸

In 2023, the COP was finally able to link the transition from fossil fuels to the mid-century goal by calling on all Parties to contribute to ‘[t]ransitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner, accelerating action in this critical decade, so as to achieve net zero by 2050 in keeping with the science’.²¹⁹ This is compromise language which the EU and likeminded Parties negotiated hard to secure against the opposition of some major fossil fuel exporters. While not ideal, the text represents a global con-

216 Glasgow Climate Pact (2021), Decision 1/CMA.3, para. 3 (emphasis original).

217 See n 216, para. 21.

218 See n 216, para. 22.

219 Decision -/CMA.5, Outcome of the first global stocktake, para. 28(d).

sensus and should be used as a minimum standard to judge mitigation commitments and efforts.

The adaptation goal

The adaptation goal of the Paris Agreement is notable for putting adaptation on a par with mitigation. Whereas the Kyoto Protocol was almost entirely concerned with mitigation, the Paris Agreement attributes equal importance to mitigation and adaptation goals and is therefore more balanced between the respective priorities of developed and developing parties. Moreover, as the impacts of climate change continue to intensify in poorer and wealthier nations alike, we can expect more intense focus on adaptation policy in practice.

The Paris Agreement set a new global goal on adaptation, which is dedicated to ‘enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal referred to in Article 2’.²²⁰ Parties initiated a two-year work programme (2022–2023) to ‘[e]nhance understanding’ of this goal and strengthen implementation.²²¹

Finance flows and support

Financial support for developing countries remains a key element of international climate governance. As early as 2009, developed countries promised to mobilise USD 100 billion per year to help developing countries to deal with climate change, beginning in 2020. This target is not included in the Paris Agreement but has been consistently reaffirmed by developed countries. The target had still not been met by 2020, however.²²² This led to accusations of a breach

220 Paris Agreement, Article 7.1.

221 Decision 7/CMA.3 (2021).

222 OECD, ‘Climate Finance Provided and Mobilised by Developed Countries in 2016–2020: Insights from disaggregated analysis’ (2022)4.

of trust on the part of developed countries and made climate negotiations more difficult. The international community is now in the position of both trying to make good on the USD 100 billion target and identifying a new collective quantified goal on climate finance for the period beginning in 2025.

Together with the ongoing need to support developing countries financially, the Paris Agreement has set a broader goal that pertains to finance in general. The goal of '[m]aking finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development' is one of the most innovative elements of the Paris Agreement. While the Agreement, like its predecessors, provides for developed countries and others to financially support the climate efforts of developing countries,²²³ this Article 2.1(c) goal targets the broader and necessary alignment of the financial system *as a whole* with the requirements of a climate-friendly future. No guidance for the implementation of this goal has yet been provided at the UNFCCC level, but it is already clear that multiple processes of financial regulation, monetary and fiscal policy, and development finance will be necessary to realise this unprecedented transition.²²⁴

Social and human rights elements

In addition to the goals included in its operative provisions, the Paris Agreement's preamble introduced text on several aspects of climate justice into international climate treaty law for the first time, including just transition (preamble recital 10), human rights and equality (recital 11) and climate justice per se (recital 13).

Generally speaking, text in treaty preambles often originates in language originally proposed for a treaty's operative provisions but which was opposed by some Parties. This was the case in the Paris Agreement's preamble reference to human rights.²²⁵ Also, the lack

223 Paris Agreement, Article 9.

224 Minas, 'The Paris Agreement goal on finance flows'. See n 121.

225 Biniaz, Susan, 'Comma but Differentiated Responsibilities: Punctuation and 30 Other Ways Negotiators Have Resolved Issues in the Interna-

of party consensus on ‘climate justice’ is indicated by the reference to ‘importance *for some* of the concept’.²²⁶ The possible functions of a treaty preamble have been summarised as ‘interpretative, supplementary, incorporative, and binding’, despite which most preambular material is not binding on Parties as a matter of international law.²²⁷ Although the word ‘should’ in recital 11 indicates an unusual “soft” obligation’, most of the text reproduced above is ‘exhortative, ... without the intent to create substantive norms’.²²⁸

The Paris Agreement’s preamble was rightly hailed by one negotiation facilitator as an ‘immensely revolutionary Preamble’.²²⁹ Despite the cautious wording on human rights, ‘its very inclusion is novel, and may signal enhanced receptivity to rights concerns and discourses’.²³⁰ With its references to just transition, human rights and climate justice, the Paris Agreement can be regarded as the most ‘social’ of the international climate agreements.

The primary practical value of the preamble is as an aid to interpreting the operative provisions of the Paris Agreement. In implementing aspects of the treaty, such as developing national climate targets, cooperating with other Parties and providing climate support, Parties should construe the treaty’s requirements in a manner consistent with just transition, human rights, climate justice and other values highlighted in the preamble.

The preamble’s significance is not limited to conditioning interpretation of the Paris Agreement. The preamble also provided a for-

tional Climate Change Regime’ (2016) 6(1) *Michigan Journal of Environmental & Administrative Law* 37, 52.

226 Emphasis added. Carazo, María Pía, ‘Contextual Provisions (Preamble and Article 1)’ in Daniel Klein, et al. (eds), *The Paris Agreement on Climate Change: Analysis and Commentary* (Oxford University Press, 2017) 118.

227 Mbengue, Makane Moïse, ‘Preamble’ in Rüdiger Wolfrum (ed.), *Max Planck Encyclopedia of Public International Law* (2006).

228 Carazo, ‘Contextual Provisions (Preamble and Article 1)’, 114. See n 226.

229 Cited in Carazo (2017), 109.

230 Bodansky, Brunnée and Rajamani, *International Climate Change Law*, 228.

mula of agreed language on human rights that has been incorporated directly into the decisions of the Conference of the Parties to the Paris Agreement. For example, in their 2021 Glasgow conference decision to adopt rules for the new carbon crediting mechanism under Article 6.4 of the Paris Agreement, Parties directed the mechanism's supervisory body to '[e]stablish the requirements and processes necessary to operate the mechanism, relating to ... [t]he eleventh preambular paragraph of the Paris Agreement'.²³¹

Nationally determined contributions

The goals of the Paris agreement are to be achieved through an iterative pledge-and-review model that differs significantly from the previous Kyoto model. Each party must 'prepare, communicate and maintain successive nationally determined contributions [NDCs] that it intends to achieve'. NDCs are to be communicated every five years and '[e]ach Party's successive nationally determined contribution will represent a progression beyond the Party's then current nationally determined contribution and reflect its highest possible ambition'.²³²

The European Union's initial NDC committed to reduce emissions by 40 per cent by 2030, compared with 1990 levels. The updated EU NDC, submitted in 2020, strengthened the 2030 target to 'at least' 55 per cent.²³³

UNFCCC analysis of NDCs indicates that, while the collective level of ambition has improved in new or updated NDCs, it still falls far short of meeting the Paris temperature goals, even in the unlikely case of universal success in meeting in national NDC targets.²³⁴

231 Decision 3/CMA.3, Annex: Rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement, 8 March 2022, para. 24(a)(ix).

232 Paris Agreement, Article 4.

233 https://unfccc.int/sites/default/files/NDC/2022-06/EU_NDC_Submission_December%202020.pdf

234 Nationally determined contributions under the Paris Agreement: Revised synthesis report by the secretariat, UNFCCC (25 October 2021).

Progressive implementation of international goals

Progressives share a fundamental commitment to multilateralism. International negotiation is not an end in itself but rather an indispensable tool for international cooperation and coordination, without which the world stands no chance of responding adequately to climate change. Progressive internationalism requires both a consistent commitment to working towards the goals that have been established under international agreements and a complementary commitment to working through international processes to strengthen collective action. Progressives also share a deep commitment to solidarity with the Global South and therefore to strengthening practical support for the world's poorest countries to enable them to respond to climate change. Such support is not just a matter of altruism but is key to unlocking better global outcomes.

PART B:

POLICIES FOR CLIMATE PROGRESS

5 EU climate law and policy

This chapter provides an introduction to EU climate law and policy. It begins by setting out the treaty framework that gives the EU competences, either exclusive or shared with Member States, to work on climate policy and also identifies key institutional actors in EU climate policy processes. The chapter continues by introducing major areas of EU climate policy. The chapter both describes current EU policy and identifies opportunities for the progressive further development of policy.

Climate law and policy in the EU

EU climate policy is a product not only of negotiations, cooperation and competition among institutions and Member States but also of the ebbs and flows of the major political families, with their different priorities and approaches to policy. Progressive political parties have often displayed greater climate ambition than their conservative counterparts. Based on a series of Member State case studies, for example, Ladrech concluded that, compared with centre-right parties, ‘centre-left parties have ... stronger pro-climate policy positions’ and that ‘there is certainly an effect that partisanship [has] on sustaining a country’s position as a climate leader’.²³⁵ The influence

²³⁵ Ladrech, Robert, ‘Party politics and EU climate policy’, in Stephen Minas and Vassilis Ntousas (eds), *EU Climate Diplomacy: Politics, Law*

of individual leaders – whether politician, official or activist – should also not be excluded.²³⁶

The EU derives its competence to regulate climate matters from the same source as all EU competences, namely the EU treaties, which are the highest form of EU law. Article 191 of the Treaty on the Functioning of the European Union (TFEU) provides that ‘Union policy on the environment shall contribute to pursuit of the following objectives’, including ‘promoting measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change’. Regarding the international dimension, the same article provides: ‘Within their respective spheres of competence, the Union and the Member States shall cooperate with third countries and with the competent international organisations. The arrangements for Union cooperation may be the subject of agreements between the Union and the third parties concerned.’

Article 194 of the TFEU sets out the aim of EU energy policy:

In the context of the establishment and functioning of the internal market and with regard for the need to preserve and improve the environment, Union policy on energy shall aim, in a spirit of solidarity between Member States, to: (a) ensure the functioning of the energy market; (b) ensure security of energy supply in the Union; (c) promote energy efficiency and energy saving and the development of new and renewable forms of energy; and (d) promote the interconnection of energy networks.

The same article notes that the measures mandated at EU level to achieve these objectives ‘shall not affect’ each Member State’s ‘choice between different energy sources and the general structure of its energy supply’.

and Negotiations (Routledge, 2018) 17ff.

236 For example, Viñuales records that in a ‘textbook example of “norm entrepreneurship”’, ‘the impulsion that eventually led to the creation of [the International Renewable Energy Agency] came from one man, Hermann Scheer’, an SPD politician. Viñuales, Jorge *The International Law of Energy* (Cambridge University Press 2022) 371.

Articles 191 and 194 TFEU are by no means the only bases for EU climate regulation. Various EU laws relevant to climate change are grounded in other treaty provisions. For example, the sustainable finance taxonomy has a basis in Article 114 TFEU (the internal market), while the Just Transition Fund finds a basis in Article 175 TFEU (cohesion policy). Beneath the EU treaties, a ‘vast, dynamic and complex’ body of EU law relevant to climate change has developed.²³⁷ Summarising it is beyond the scope of this primer.

While the legal basis for EU climate policy is long established, the political basis has undergone rapid change. The youth, civil society and political mobilisations of 2019 vaulted climate change, hitherto of acknowledged importance but very much one dossier among many, to the very top of the EU agenda. As European Commission Executive Vice-President for the European Green Deal Frans Timmermans later recalled, ‘[t]he fact that we put sustainability and the climate crisis front and centre [of the Social Democrats’ 2019 European Parliament campaign] is to a large extent the result of our interaction with the young people then and the discussions we had with young people’.²³⁸ The depth of citizen concern over the climate crisis was reflected in the new composition of the European Parliament and ultimately in the von der Leyen Commission’s commitment to a ‘European Green Deal’.²³⁹ Today the European Green Deal is the key statement of EU climate policy intent. It has resulted in several packages of proposed legislation and other measures, including the ‘Fit for 55’ package.

In overview, EU climate policy consists of a mixture of targets and markets. Reaching targets requires both public and private invest-

237 Peeters, Marjan, ‘EU Climate Law: Largely Uncharted Legal Territory’ (2019) 9 *Climate Law* 137, 143. In the same article, Peeters claims that the EU’s ‘complex and frequently amended climate legislation has become increasingly difficult to understand’ and asks: ‘Can the legislation be simpler, yet more ambitious?’.

238 Cited in Minas, ‘Financing climate justice in the European Union and China’, 380. See n 53.

239 Andor, László, *Europe’s Social Integration: Welfare Models and Economic Transformations* (FEPS, 2022) 143–144.

ment. The effective and equitable operation of markets requires policy design and intervention to correct market failures. Major sectoral focuses (relevant to mitigation and/or adaptation) include energy, industry, transport and buildings, as well as agriculture, forestry and land use. A cross-cutting element is the need for compensation mechanisms to prevent the climate transition from burdening the most vulnerable households, workers and regions. The social dimension has become more prominent, especially during the negotiation of the ‘Fit for 55’ legislation, coinciding as it has with energy and cost-of-living crises.²⁴⁰ There is also an international dimension to much of climate policy, as well as dedicated external action to achieve climate outcomes (including through diplomacy and development assistance).

One key regulation giving legal effect to EU climate policy is the European Climate Law Regulation, adopted in 2021.²⁴¹ This regulation amounts to a framework climate law, which the EU enacted considerably later than other leading jurisdictions, such as the United Kingdom.²⁴² The regulation ‘establishes a framework for the irreversible and gradual reduction of anthropogenic greenhouse gas emissions by sources and enhancement of removals by sinks regulated in Union law’. It ‘sets out a binding objective of climate neutrality in the Union by 2050’, ‘provides a framework for achieving pro-

240 Markkanen, Sanna, Krisztina Zálnoky and Francesco Giannelli, ‘The path towards a socially just Fit for 55 package: How have social elements of the Fit for 55 Package evolved in the context of the climate, energy, and cost-of-living crises?’ Policy Study, February 2023, FEPS, 53–55.

241 EUR-Lex, Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 (‘European Climate Law’), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32021R1119> (accessed 2 May 2023).

242 Scotford, Eloise, Stephen Minas and Andrew Macintosh, ‘Climate change and national laws across Commonwealth countries’ (2017) 43 *Commonwealth Law Bulletin* 318, 324ff; Sridhar, Anirudh et al, ‘Climate Governance Functions: Towards Context-Specific Climate Laws’, Policy Brief, Centre for Policy Research/Grantham Research Institute on Climate Change and the Environment/Climate Legal, October 2022.

gress in pursuit of the global adaptation goal’ of the Paris Agreement and ‘sets out a binding Union target of a net domestic reduction in greenhouse gas emissions for 2030’.²⁴³

Article 2 sets out a target to the effect that ‘Union-wide greenhouse gas emissions and removals regulated in Union law shall be balanced within the Union at the latest by 2050, thus reducing emissions to net zero by that date, and the Union shall aim to achieve negative emissions thereafter’. It also obliges relevant EU institutions and Member States to ‘take the necessary measures’ to achieve this target. The ‘intermediate’ target of emissions reductions of at least 55 per cent by 2030 compared with 1990 is given in Article 4, which also provides for the setting of a further intermediate target for 2040. On adaptation, the regulation requires the Commission to adopt and regularly review an adaptation strategy and Member States to adopt and implement national adaptation plans and strategies.²⁴⁴

The regulation tasks the European Scientific Advisory Board on Climate Change to provide advice on EU measures and targets and their ‘coherence’ with the regulation’s objectives and the EU’s Paris commitments.²⁴⁵ It establishes five-yearly processes, beginning in 2023, for assessing EU progress and measures, as well as the consistency of national measures with the regulation’s objectives.²⁴⁶ The regulation also creates a link with the Paris Agreement’s global stocktake by requiring that the Commission report to the Parliament and Council within six months of each GST on the operation of the regulation.²⁴⁷ In sum, the European Climate Law converts the EU’s objective to become the first climate-neutral continent from political aspiration to legal obligation and provides for an iterative process to work towards the achievement of this objective, consistent with the governance model of the Paris Agreement.

²⁴³ European Climate Law Regulation, Article 1.

²⁴⁴ See n 243, Article 5.

²⁴⁵ See n 243, Article 3.

²⁴⁶ See n 243, Article 6-7.

²⁴⁷ See n 243, Article 11.

Making the economy climate-friendly

Carbon pricing

Carbon pricing is a means of internalising the negative externality of greenhouse gas emissions. In the EU, implementation of carbon pricing through the EU Emissions Trading System (ETS) has long been at the centre of climate policy. The ETS was introduced to enable the EU to meet its Kyoto Protocol emission reduction commitment and entered into force in the same year as Kyoto, 2005.²⁴⁸

The ETS is a ‘cap-and-trade’ system. It works by establishing a legally binding cap on overall emissions from sectors included in the ETS. Emitters in the covered sectors are obliged to ‘surrender’ enough EU allowances (EUAs, each representing a tonne of carbon dioxide equivalent) to cover their emissions. The EUAs are tradable permits, meaning that emitters with insufficient EUAs can buy the excess allowances of emitters which, by reason of their own emission reductions, have amassed excess allowances. This ‘trade’ is meant to incentivise least cost abatement.

As the ‘world’s first international emissions trading system’,²⁴⁹ the EU ETS has been steadily reformed (‘learning by doing’) to improve its operation and in response to several crises. Currently in its fourth phase (2021–2030), the ETS covers CO₂ emissions from electricity and heat generation, energy-intensive industries, such as steelworks and iron production and commercial aviation within the European Economic Area, as well as some other GHG emissions.²⁵⁰

248 Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, Article 4.

249 European Commission, ‘EU Emissions Trading Systems (EU ETS)’, https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets_en (accessed 2 May 2023).

250 A full list of covered sectors and gases is available at https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets_en.

The ETS has been progressively strengthened over time, with expansion of its scope of coverage, accelerated reduction of the annual emissions ‘cap’ and a shift to the auctioning of allowances (as opposed to free allocation) as the default means of allocation. The Market Stability Reserve, adopted in 2015, enables surplus EUAs to be absorbed and thereby works to ‘bring flexibility to a mechanism that is otherwise very rigid’.²⁵¹ Together with other factors, the tightening of the ETS has resulted in much higher EUA prices (trading at over €80 for most of the period since late 2021) than were achieved in any earlier period, creating a stronger price signal for decarbonisation in the sectors covered. The ETS has achieved significant emissions reductions. In covered sectors (accounting for around 40 per cent of total EU emissions), emissions fell by 41 per cent from 2005 to 2020.²⁵²

In December 2022, the Council of the EU and European Parliament agreed to further strengthen the ETS. Both the Council and the Parliament formally adopted the revised ETS directive in April 2023 and the revisions have since entered into force.²⁵³ The reforms include a more ambitious 2030 emissions target for ETS sectors (62 per cent reduction from 2005 levels, up from 43 per cent), almost doubling the pace of cap reduction, extending the ETS to the maritime transport sector and phasing out free allowances as the Carbon Border Adjustment Mechanism (discussed below) is implemented. In addition, a second and distinct trading system (ETS II) will be cre-

251 Le Page, Jérôme, ‘Towards a New Deal for the Integration of Renewable Power Generation in the Internal Energy Market: A Regulatory Perspective on European Climate and Energy Policy’ in Thomas Cottier and Ilaria Essa (eds), *International Trade in Sustainable Electricity: Regulatory Challenges in International Economic Law* (Cambridge University Press, 2017) 114.

252 Council of the EU, ‘Infographic - Fit for 55: reform of the EU emissions trading system’, <https://www.consilium.europa.eu/en/infographics/fit-for-55-eu-emissions-trading-system/> (accessed 2 May 2023).

253 Directive (EU) 2023/959, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32023L0959> (accessed 3 July 2023).

ated to cover emissions from buildings, road transport and fuels.²⁵⁴ To prevent regressive distributional impacts from the strengthened ETS and the new ETS II, the reform package includes an increase in the Innovation Fund, further support under the Modernisation Fund for Member States with per capita GDP below the EU average, and a new Social Climate Fund (discussed below). As Vanrykel has cautioned, however, this ‘high reliance ... on revenue redistribution to ensure the acceptability and fairness of the reform requires sufficiently strong funding mechanisms’.²⁵⁵

Other economic measures

Beyond the ETS, the EU is harnessing a growing set of economic levers to hasten the climate transition. Measures included in the European Green Deal include an EU industrial strategy, a circular economy action plan and proposals to increase ‘climate mainstreaming’ in the EU budget and climate financing from InvestEU and the European Investment Bank.²⁵⁶ The Commission has also called for public authorities to ensure ‘green’ procurement.²⁵⁷ In addition to these policies are the sustainable finance, energy and carbon border adjustment measures, which will be discussed separately below.

Climate mainstreaming in public expenditure was a central feature of the EU’s economic response to the Covid-19 pandemic. The major milestone came in July 2020 when the European Council approved both the 2021–2027 EU budget and the Next Generation EU (NGEU) pandemic response instrument. Some 30 per cent of

254 Council of the EU, ‘Fit for 55’: Council and Parliament reach provisional deal on EU emissions trading system and the Social Climate Fund’, 18 December 2022, <https://www.consilium.europa.eu/en/press/press-releases/2022/12/18/fit-for-55-council-and-parliament-reach-provisional-deal-on-eu-emissions-trading-system-and-the-social-climate-fund/> (accessed 2 May 2023).

255 Vanrykel, Fanny, ‘Fairness and acceptability of environmental externalities pricing in Europe’, Policy Study, FEPS, May 2023, 29.

256 European Green Deal Communication (2019), 7–8, 15–16.

257 See n 256, 8.

the budget must be spent to ‘fight climate change’.²⁵⁸ The centre-piece of the €750 billion NGEU is the €672.5 billion Recovery and Resilience Facility (RRF), which supports national recovery and resilience plans. At least 37 per cent of each such plan’s financing is required to be dedicated to climate action, which the Commission must assess.²⁵⁹

While fiscal policy has long been employed to promote climate action, the application of monetary policy is a newer development. In 2021, the European Central Bank (ECB) adopted an action plan ‘to include climate change considerations in its monetary policy strategy’.²⁶⁰ The ECB’s climate agenda has three ‘strategic objectives’: managing and mitigating financial risks of climate change; promoting sustainable finance to support an ‘orderly transition’; and sharing ECB expertise to foster wider behavioural change. The ECB’s climate work is grouped into six priority areas.²⁶¹

258 https://commission.europa.eu/strategy-and-policy/eu-budget/long-term-eu-budget/2021-2027/whats-new_en

259 Minas, Stephen, ‘Financing climate justice in the European Union and China: common mechanisms, different perspectives’ (2022) 20 *Asia Europe Journal* 377, 394–395, see n 53. In 2022, the Commission announced that the remaining €225 billion of loans under the RRF could be used for energy projects as part of the RepowerEU response to Russia’s war in Ukraine: European Commission, ‘RepowerEU: making full use of NextGenerationEU RRF loans’, 24 June 2022, <https://ec.europa.eu/newsroom/budget/items/750995/> (accessed 2 May 2023).

260 ECB, ‘ECB presents action plan to include climate change considerations in its monetary policy strategy’, 8 July 2021, https://www.ecb.europa.eu/press/pr/date/2021/html/ecb.pr210708_1-f104919225.en.html (accessed 2 May 2023). For an explanation of the relationship between EU climate law and the ECB’s mandate, see ECB, ‘The European Climate Law and the European Central Bank’, 1 December 2022, https://www.ecb.europa.eu/press/key/date/2022/html/ecb.sp221201_1-435e6ea81a.en.html (accessed 2 May 2023).

261 ECB, ‘ECB climate agenda 2022’, 4 July 2022, https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.pr220704_annex-cb39c2dcbb.en.pdf (accessed 2 May 2023).

International dimensions

There are multiple international dimensions to the EU's economic climate policies. The EU ETS – as the largest such system globally – has had various direct and indirect influences on climate developments in other jurisdictions. The EU ETS is implemented in the non-EU European Economic Area (EEA) states and is linked via a bilateral agreement with the Swiss emissions trading scheme. Further bilateral linkages are contemplated in the CBAM regulation and are a likely form of 'cooperative approach' under Article 6.2 of the Paris Agreement.

As the EU ETS was the largest source of demand for carbon credits produced by the Kyoto Protocol's Clean Development Mechanism, EU requirements had a significant influence on the development of CDM projects. The decision to accept CDM credits only from Least Developed Countries in the third phase of the ETS impacted a CDM market dominated by projects in China and other large emerging economies. The EU decision not to use Paris Agreement Article 6 credits to help achieve the EU NDC mitigation target is equally significant for the development of the new UN carbon markets.²⁶²

The changing scope of the ETS has also had significant international repercussions. The controversy over the EU's unilateral decision to subject international aviation to the ETS proved to be a major spur to the development of multilateral carbon pricing for international aviation under the International Civil Aviation Organization (ICAO). Similarly, the December 2022 decision to extend the ETS to the maritime transport sector is likely to encourage the International Maritime Organization to adopt its own market-based measures for regulating the emissions of international shipping.

Because of the EU's standing as an early mover in carbon pricing other jurisdictions have sought EU expertise in the course of developing their own carbon pricing schemes. For example, the EU has advised both the Republic of Korea and China on the development of

262 However, some EU Member States have announced that they will purchase Article 6 credits for mitigation outcomes that exceed the EU NDC target.

domestic emissions trading systems. Even where the EU has played no direct role in assisting other jurisdictions, the example of the EU ETS has demonstrated that broad-based carbon pricing can be implemented without sabotaging economic competitiveness or energy affordability. This example has encouraged the increasing adoption of carbon pricing in developed and developing countries. In 2022, the World Bank reported that carbon pricing had grown to cover 23 per cent of global GHG emissions, with 68 carbon pricing instruments (including both carbon taxes and emissions trading systems) in operation.²⁶³ (Following Brexit, the United Kingdom established its own ETS, which ‘replicates’ the EU ETS.)²⁶⁴

Shifting finance flows

The EU was the key advocate for including in the Paris Agreement a long-term goal to make finance flows consistent with climate objectives. This negotiating stance was complementary to the EU’s domestic agenda to make finance sustainable, which has been gathering pace since the mid-2010s. The sustainable finance agenda acknowledges the reality that finance is not just one sector among others but is rather a central determinant of economic activity. Policy to channel finance away from harmful activities and towards climate solutions therefore has the potential to be especially impactful. The objective, as I have written elsewhere, is that ‘[a]ll finance flows will have become “climate finance”, in the sense that they are consistent with climate-safe outcomes instead of exacerbating climate change’.²⁶⁵ Obviously, there is a long way to go to meet this goal, both because ‘sustainable’-aligned finance remains a minority and

²⁶³ World Bank, ‘State and Trends of Carbon Pricing 2022’ (2022) 9.

²⁶⁴ May, Caroline et al, ‘Review of the UK Emissions Trading Scheme (ETS) and potential future’, Norton Rose Fulbright, June 2022, <https://www.nortonrosefulbright.com/en/knowledge/publications/b8b8271f/review-of-the-uk-emissions-trading-scheme-ets-and-potential-future-developments> (accessed 3 July 2023).

²⁶⁵ Minas, ‘The Paris Agreement goal on finance flows’, 4. See n 121.

because there are serious questions over many sustainability claims in finance.

In the wake of the Paris conference, the Juncker Commission developed an initial action plan on financing sustainable growth. In developing sustainable finance proposals, the Commission consulted closely with EU financial regulators, including the European Securities and Markets Authority and the European Insurance and Occupational Pensions Authority.²⁶⁶ The 2018 action plan set out the key building blocks of the EU's sustainable finance architecture. These included a classification scheme for sustainability activities (generally known as the 'taxonomy'), green labelling including a green bond standard, sustainability benchmarks and new rules on sustainability disclosure.²⁶⁷

The 2020 taxonomy regulation is the central measure to which other sustainable finance measures refer. The regulation aims to combat greenwashing by creating an objective framework for evaluating whether a given economic activity is 'sustainable'. An activity's sustainability is evaluated against whether it contributes to certain environmental objectives (including climate mitigation and adaptation) and whether it does 'significant harm' to any of these objectives. Delegated acts provide detailed 'technical screening criteria' to evaluate specific activities (such as electricity generation from hydropower).²⁶⁸ Controversially, in 2022 the Commission introduced a

266 Busch, Danny, Veerle Colaert and Geneviève Helleringer, 'An "Assist-Your-Customer Obligation" for the Financial Sector?' In Veerle Colaert, Danny Busch and Thomas Incalza, *European Financial Regulation: Levelling the Cross-Sectoral Playing Field* (Hart 2019) 351–352.

267 EUR-Lex, 'Communication from the Commission to the European Parliament, the European Council, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions Action Plan: Financing Sustainable Growth', <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0097> (accessed 2 May 2023).

268 Minas, 'Financing climate justice in the European Union and China', 384–385, see n 53; for the technical screening criteria for climate mitigation and adaptation, see <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R2139>

delegated act recognising as sustainable some forms of investment in gas and nuclear power.²⁶⁹ This development has led some to claim that although the EU has been a trailblazer in sustainable finance, its taxonomy is now significantly weaker from an environmental perspective than the taxonomies of some other jurisdictions.

Other sustainable finance measures include the 2019 climate benchmarks regulation, which makes it easier to invest in Paris-aligned or climate transition assets, and the 2019 regulation on sustainability-related disclosures in the financial sector.²⁷⁰ The co-legislators reached agreement in 2022 on a corporate sustainability reporting directive,²⁷¹ and in 2023 on a voluntary European green bond standard.²⁷² The Commission released a new package of measures in June 2023, including a proposed regulation on Environmental, Social and Governance (ESG) rating activities and a recommendation on transition finance.²⁷³

269 EUR-Lex, 'Commission Delegated Regulation (EU) 2022/1214 of 9 March 2022 amending Delegated Regulation (EU) 2021/2139 as regards economic activities in certain energy sectors and Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities (Text with EEA relevance)', <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022R1214> (accessed 2 May 2023).

270 Minas, 'Financing climate justice in the European Union and China', 384–385. See n 53.

271 Council of the EU, 'Council gives final green light to corporate sustainability reporting directive', 28 November 2022, <https://www.consilium.europa.eu/en/press/press-releases/2022/11/28/council-gives-final-green-light-to-corporate-sustainability-reporting-directive/> (accessed 2 May 2023).

272 European Commission, 'Sustainable Finance: Commission welcomes political agreement on European green bond standard', 1 March 2023, https://ec.europa.eu/commission/presscorner/detail/en/mex_23_1301 (accessed 2 May 2023).

273 European Commission, 'Sustainable Finance Package', https://finance.ec.europa.eu/publications/sustainable-finance-package-2023_en (accessed 7 July 2023).

International dimensions

There are multiple international dimensions to the EU's sustainable finance work. At the UNFCCC level, the EU continues to champion a dedicated process concerning work towards the Paris Agreement Article 2.1(c) goal, so far with modest results. The EU and certain Member States have been instrumental in the creation of plurilateral bodies, including the International Platform on Sustainable Finance²⁷⁴ and the Coalition of Finance Ministers for Climate Action.²⁷⁵ There has also been work under the G20, including on the promotion of interoperability of different jurisdictions' taxonomies.²⁷⁶ The proliferation of potentially inconsistent taxonomies is a challenge that the EU is also addressing bilaterally, for example, through the development with China of a 'common ground taxonomy' that identifies overlaps and divergences between EU and Chinese sustainable finance frameworks.²⁷⁷

Transitioning to clean energy

The period since the adoption of the Paris Agreement has seen near-constant reform of EU energy law, with the aim of making it fit for purpose to achieve increasingly stringent climate mitigation targets. More recently this agenda has had to accommodate reforms

274 European Commission, 'International Platform on Sustainable Finance', https://finance.ec.europa.eu/sustainable-finance/international-platform-sustainable-finance_en (accessed 2 May 2023).

275 The Coalition of Finance Ministers for Climate Action, 'About the Coalition', <https://www.financeministersforclimate.org> (accessed 2 May 2023).

276 G20 Sustainable Finance Working Group, <https://g2osfwg.org> (accessed 2 May 2023).

277 International Platform on Sustainable Finance, 'Common Ground Taxonomy – Climate Change Mitigation: Instruction report', IPSF Taxonomy Working Group Co-chaired by the EU and China, 3 June 2022, https://finance.ec.europa.eu/system/files/2022-06/220603-international-platform-sustainable-finance-common-ground-taxonomy-instruction-report_en.pdf (accessed 2 May 2023).

designed to strengthen energy security in the wake of Russia's full-scale invasion of Ukraine.

The EU famously has its origins, as the European Coal and Steel Community, in cooperation on energy and resources. Prior to the current focus on climate change, much of EU energy law was driven by the goals of liberalising energy markets and integrating the markets of different Member States. Legislation provided customers with the right to choose their energy suppliers, third-party access to energy systems, vertical unbundling of electricity and gas infrastructure to encourage competition and provision for trans-European energy networks. Separate legislation provided for security of gas and electricity supply and for the maintenance of minimum oil stocks.²⁷⁸

The decarbonisation imperative rose up the agenda in the 2000s, with the Council adopting emissions reduction, renewable energy share and energy efficiency improvement objectives in 2007. The energy targets were implemented under a 2009 renewable energy directive and an energy efficiency directive and related instruments in 2012.

Sectoral decarbonisation laws had been extensively developed both in certain EU Member States and in other jurisdictions. There are many law and policy tools that can be used to encourage the uptake of renewable energy. In her comprehensive study, Penelope Crossley identified the following regulatory support mechanisms for renewable energy: feed-in tariffs of various models; feed-in premiums; renewable portfolio standards with tradeable green certificates; competitive tendering and auction bidding; net metering; renewable energy targets; subsidies; clean energy loans; rebates; tax incentives; public benefit funds; research and development support; and green power schemes.²⁷⁹

Renewable policies at EU level have been constrained by each Member State's competence to determine its own energy mix and how to exploit its own energy resources under Article 194 of the

²⁷⁸ For an overview, see Talus, Kim, *Introduction to EU Energy Law* (OUP 2016).

²⁷⁹ Crossley, *Renewable Energy Law*, 176ff. See n 89.

TFEU. Therefore, the cooperative measures included in the first (2001) and second (2009) renewable energy directives stopped short of harmonising EU renewable support measures.²⁸⁰

The EU used the adoption of the Paris Agreement as an opportunity to overhaul the decarbonisation aspects of EU energy law, notably by more closely integrating climate and energy governance. This was done via the adoption of the ‘2030 framework’ legislative package, which included measures directed towards each of the five ‘dimensions’ of the EU’s ‘Energy Union’:²⁸¹ energy security; internal energy market; energy efficiency; decarbonisation; and research, innovation and competitiveness. The package included, among other things, amended renewable energy and energy efficiency directives and the adoption of a new instrument: the Regulation on the Governance of the Energy Union and Climate Action.

The Governance Regulation integrates national energy and climate planning by requiring each Member State to formulate and submit to the Commission successive National Energy and Climate Plans (NECPs) covering ten-year periods. Each NECP must include national objectives and contributions concerning each of the five Energy Union dimensions. The Commission reviews draft NECPs and can recommend changes, while Member States must submit progress reports every two years, beginning in 2023.²⁸²

The Renewable Energy Directive sets the EU’s ‘binding overall’ 2030 renewable energy share target and provides for Member States to ‘set national contributions’ to collectively meet the EU target.²⁸³

280 See n 89, 232–235.

281 European Commission, ‘Energy union’, https://energy.ec.europa.eu/topics/energy-strategy/energy-union_en (accessed 2 May 2023).

282 Minas, Stephen, ‘The Energy Community as a Mechanism of Legal Transition and European Integration in the Western Balkans’ (November 2019) *Law Review Iustinianus Primus* 2–3.

283 EUR-Lex, ‘Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast) (Text with EEA relevance.)’, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:O-J.L_.2018.328.01.0082.01.ENG&toc=OJ:L:2018:328:TOC, Article 3 (accessed 2 May 2023).

Although the legislation does not itself prescribe national targets (unlike for the 2020 EU target), it provides a formula for setting national contributions and for the Commission to respond to ‘insufficient’ national ambition.²⁸⁴ Various other matters are dealt with, such as guarantees of origin for renewable-sourced energy, joint support schemes and joint projects between Member States and between Member States and third countries.

The 2018 version of the Renewable Energy Directive was the first to provide incentives for ‘renewables self-consumers’ (or ‘prosumers’) and ‘renewable energy communities’.²⁸⁵ Prosumers and energy communities are both relatively novel forms of activity, enabled by legislation and technological development, which have the potential to contribute to the goals of decarbonisation, local economic development and energy democracy. As scholars have commented, they ‘are voluntary structures of participation in the energy sector, which may involve a number of roles and responsibilities such as financing, managing, maintaining, operating in developing the energy production and consumption of the individual, household or community’.²⁸⁶

With the adoption of the 55 per cent emissions reduction target for 2030 in the European Climate Law, it became necessary to reform the renewable and energy efficiency laws again. The ‘Fit for 55’

284 See also EUR-Lex, ‘Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council (Text with EEA relevance.)’, https://eur-lex.europa.eu/legal-content/EN/TXT/?toc=OJ:L:2018:328:TOC&uri=uriserv:OJ.L_.2018.328.01.0001.01.ENG, Article 9, 31 (accessed 2 May 2023).

285 Renewable Energy Directive (2018), Articles 21–22. Both terms are defined in Article 2.

286 Fleming, Ruven, Kaisa Huhta and Leonie Reins, ‘What Is Sustainable Energy Democracy in Law?’, in Fleming, Huhta and Reins, *Sustainable Energy Democracy and the Law* (Brill, 2021) 10.

legislative package included a revised RED and recast energy efficiency directive.²⁸⁷

Addressing energy poverty

The scourge of energy poverty, which was extensively reported on during the years of the financial and eurozone crises, is beginning to be addressed at the EU level. While there is no universally accepted definition of ‘energy poverty’, the European Commission has stated that it ‘occurs when energy bills represent a high percentage of consumers’ income, or when they must reduce their household’s energy consumption to a degree that negatively impacts their health and well-being’.²⁸⁸ In 2016, an EU Energy Poverty Observatory was established to assist Member States in combating energy poverty. The observatory was later replaced by the Energy Poverty Advisory Hub, established to be the ‘leading EU initiative aiming to eradicate energy poverty and accelerate the just energy transition of European local governments’.²⁸⁹

At the Member State level, the Energy Union Governance Regulation requires each Member State to ‘assess the number of households in energy poverty’ and, where there is a ‘significant’ number, to include in its NECP ‘a national indicative objective to reduce energy poverty’.²⁹⁰ The regulation also provides for integrated reporting on energy poverty.²⁹¹ Following agreement by the co-legislators in De-

287 Council of the EU, ‘Council and Parliament strike deal on energy efficiency directive’, 10 March 2023, <https://www.consilium.europa.eu/en/press/press-releases/2023/03/10/council-and-parliament-strike-deal-on-energy-efficiency-directive/>; and Council of the EU, ‘Council and Parliament reach provisional deal on renewable energy directive’, 30 March 2023, <https://www.consilium.europa.eu/en/press/press-releases/2023/03/30/council-and-parliament-reach-provisional-deal-on-renewable-energy-directive/> (both accessed 2 May 2023).

288 European Commission, ‘Energy poverty in the EU’, https://energy.ec.europa.eu/topics/markets-and-consumers/energy-consumer-rights/energy-poverty-eu_en (accessed 2 May 2023).

289 Energy Poverty Advisory Hub, ‘About us’, https://energy-poverty.ec.europa.eu/about-us_en (accessed 2 May 2023).

290 Energy Union Governance Regulation, Article 3.3(d).

291 Ibid, Article 24.

ember 2022, a new Social Climate Fund will be a major new tool to tackle energy (and transport) poverty.²⁹² The purpose of the new fund is to support vulnerable households in view of the extension of emissions trading to the building and road transport sectors.²⁹³

Energy poverty was already a major problem before Russia's full-scale invasion of Ukraine triggered massive energy price rises. According to Eurostat, some 35 million EU citizens 'were unable to keep their homes adequately warm in 2020'.²⁹⁴ The energy consequences of the invasion are threatening hundreds of millions of additional people with energy poverty globally, according to researchers.²⁹⁵ Although the energy poverty 'narrative' was already gaining prominence in EU initiatives prior to 2022,²⁹⁶ an intensified focus on energy poverty risks will be required as the EU continues the process of removing Russian fossil fuels from its energy system.²⁹⁷ The fight

292 Regulation (EU) 2023/955 of the European Parliament and of the Council of 10 May 2023 establishing a Social Climate Fund and amending Regulation (EU) 2021/1060, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32023R0955> (accessed 3 July 2023).

293 European Parliament, 'Deal on establishing the Social Climate Fund to support the energy transition', 18 December 2022, <https://www.europarl.europa.eu/news/en/press-room/20221212IPR64528/deal-on-establishing-the-social-climate-fund-to-support-the-energy-transition> (accessed 2 May 2023).

294 European Commission, 'Energy poverty in the EU'.

295 Guan, Yuru et al., 'Burden of the global energy price crisis on households' (2023) 8 *Nature Energy*, <https://doi.org/10.1038/s41560-023-01209-8>

296 Vandyck, Toon et al., (2023): 'EU climate action through an energy poverty lens' (2023) 13 *Scientific Reports* 6040.

297 See, for example, the Commission's March 2023 proposal to oblige Member States to appoint electricity 'suppliers of last resort' to ensure that 'vulnerable customers' are protected from electricity disconnection. European Commission, 'Proposal for a Regulation of the European Parliament and of the Council amending Regulations (EU) 2019/943 and (EU) 2019/942, as well as Directives (EU) 2018/2001 and (EU) 2019/944 to improve the Union's electricity market design' (2023), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52023PC0148&qid=1679410882233> (accessed 8 May 2023).

against energy poverty is therefore an imperative of European security as well as of social justice.

Protecting communities from climate impacts and response measures

Adaptation and disaster risk reduction

The recent spate of extreme weather events in the EU, ranging from floods to wildfires, has demonstrated the need for climate change adaptation and disaster risk reduction (DRR). In 2019, Europe's summer heatwave was reportedly the single most deadly disaster globally.²⁹⁸ Such disasters intensified popular mobilisations for stronger climate action and prompted the European Parliament and some Member States to declare a 'climate emergency'.²⁹⁹

Adaptation is an especially complex area for EU policy. Unlike mitigation policy, the objective of which is pan-EU emission reduction and energy targets, adapting to climate change is essentially context-specific, requiring different strategies in different Member States, regions and localities. It is therefore not surprising that major differences have been identified in the adaptation policies of EU Member States.³⁰⁰ Given this diversity, the EU can add value by enabling coordination and the sharing of information, good practices and lessons learned. The EU adopted an initial adaptation strategy

298 Red Cross Red Crescent Climate Centre, 'European summer heatwaves the most lethal disaster of 2019, says international research group', Reliefweb, 5 May 2020, <https://reliefweb.int/report/world/europe-an-summer-heatwaves-most-lethal-disaster-2019-says-international-research-group> (accessed 3 May 2023).

299 European Parliament, 'The European Parliament declares climate emergency', 29 November 2019, <https://www.europarl.europa.eu/news/en/press-room/20191121IPR67110/the-european-parliament-declares-climate-emergency>

300 Russel, Duncan et al., 'Policy Coordination for National Climate Change Adaptation in Europe: All Process, but Little Power' (2020) 12 *Sustainability* 5393.

in 2013.³⁰¹ This strategy, in the form of a Commission communication and therefore not legally binding on Member States, sought to achieve ‘EU-wide cooperation and coherence’, including by encouraging all Member States to adopt and implement adaptation strategies and through EU funding and initiatives.³⁰² In light of the crucial role in adaptation of local decision-making, the Covenant of Mayors has been an enduring adaptation policy initiative.³⁰³

Following a 2018 evaluation of the adaptation strategy,³⁰⁴ in 2021 the Commission published a new EU strategy on adaptation, which has been endorsed by the Council of the EU. The strategy proposes actions under four headings: smarter adaptation: improving knowledge and managing uncertainty; more systemic adaptation: support policy development at all levels and sectors; faster adaptation: speeding up adaptation across the board; and increasing support for international climate resilience and preparedness.³⁰⁵

301 Schwarte, Christoph, ‘EU Climate Policy under the Paris Agreement’ (2021) 11 *Climate Law* 157, 173.

302 EUR-Lex, ‘An EU Strategy on adaptation to climate change’ (2013), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52013DC0216> (accessed 3 May 2023).

303 Climate ADAPT, ‘Covenant of Mayors’, <https://climate-adapt.eea.europa.eu/en/eu-adaptation-policy/covenant-of-mayors> (accessed 3 May 2023).

304 EUR-Lex, ‘Report from the Commission to the European Parliament and the Council on the implementation of the EU Strategy on adaptation to climate change’ (2018), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0738>; EUR-Lex, ‘Commission Staff Working Document Evaluation of the EU Strategy on adaptation to climate change Accompanying the document Report from the Commission to the European Parliament and the Council on the implementation of the EU Strategy on adaptation to climate change’ (2018) <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018SC0461> (both accessed 3 May 2023).

305 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, ‘Forging a climate-resilient Europe - the new EU Strategy on Adaptation to Climate Change’, (2021) <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2021:82:FIN> (accessed 3 May 2023).

The European Climate Law requires the Commission to regularly review the EU adaptation strategy and tasks Member States with adopting and implementing national adaptation strategies and plans, taking the EU strategy into account. EU institutions and Member States must ‘ensure that policies on adaptation in the Union and in Member States are coherent, mutually supportive, provide co-benefits for sectoral policies, and work towards better integration of adaptation to climate change in a consistent manner in all policy areas, including relevant socioeconomic and environmental policies and actions, where appropriate, as well as in the Union’s external action’. Such policies must also ‘focus, in particular, on the most vulnerable and impacted populations and sectors, and identify shortcomings in this regard in consultation with civil society’.³⁰⁶ Adaptation is also included in many other EU climate laws and policies – for example, in the sustainable finance taxonomy – as one of the six environmental objectives that can qualify an activity as sustainable.³⁰⁷

The 2021 adaptation strategy more closely integrates disaster risk reduction (DRR) into the EU’s domestic and international adaptation actions.³⁰⁸ Commission actions under the strategy include the development of an EU-wide climate risk assessment and strengthening ‘climate considerations’ in EU disaster risk prevention and management, among other measures.³⁰⁹

306 European Climate Law (2021) Article 5.

307 For a recent overview of EU and Member State adaptation actions, see Submission by Slovenia and the European Commission on behalf of the European Union and its Member States, ‘Adaptation Communication of the European Union’, 7 October 2021.

308 For a discussion of DRR within the EU, see Ponce, Julie, ‘Disaster, Land Use, European Union Law and the Impact on EU Member States: The Relevance of the 2019 Decision of the Dutch Supreme Court Ordering Cuts in Greenhouse Gas Emissions’, in John Travis Marshall, Ryan Rowberry and Susan S. Kuo (eds), *The Cambridge Handbook of Disaster Law and Policy: Risk, recovery and redevelopment* (Cambridge University Press, 2022).

309 For the climate risk assessment, see https://climate-adapt.eea.europa.eu/en/eu-adaptation-policy/key-eu-actions/climate_risk_assessment (accessed 3 May 2023).

Just transition

Just transition is perhaps the aspect of EU climate policy that most clearly bears the mark of progressive politics. At the intra-EU level, it aims to put into practice the justice claim that the costs of the climate transition should not fall disproportionately on the most vulnerable in society. Just transition policy also responds to the political reality that the climate transition cannot be accomplished in democracies if its outcomes are widely perceived to be unfair. As Frans Timmermans has repeatedly observed: ‘The transition to climate neutrality has to happen in a fair way, or it just will not happen’.³¹⁰

The EU is the first major economy to operationalise the just transition principle in climate policy and law, building on Member State experiences and earlier programmes, such as the Initiative for Coal Regions in Transition.³¹¹ The key measure is the Just Transition Mechanism (JTM), which is mandated to ‘focus on the regions and sectors that are most affected by the transition because they depend on fossil fuels or carbon-intensive processes’.³¹² Established in 2021, the JTM consists of three pillars: the Just Transition Fund (JTF), an InvestEU guarantee scheme aiming to ‘crowd in’ public and private investment, and a public sector concessional loan facility provided by the EIB.

To access the JTF, Member States must submit a ‘territorial just transition plan’ (JTTP) concerning each region for which support is sought.³¹³ Plans must include, among other things, information

310 European Commission, ‘EU Cohesion Policy: €354 million for Estonia to phase out oil shale in energy production’, 10 October 2022, https://ec.europa.eu/commission/presscorner/detail/en/IP_22_5963 (accessed 2 May 2023).

311 Minas, Kennedy and Krause, ‘Navigating a Just Transition through the Climate Emergency’; European Commission, ‘Initiative for coal regions in transition’, https://energy.ec.europa.eu/topics/oil-gas-and-coal/eu-coal-regions/initiative-coal-regions-transition_en (accessed 2 May 2023). See n 68.

312 Minas, ‘Financing climate justice in the European Union and China’, 383. See n 53.

313 Stapper, Michiel, ‘The road to a just transition: A comparative analysis of Territorial Just Transition Plans’, Policy Brief, FEPS, April 2023.

on the national ‘transition process’ towards climate neutrality and on regional ‘transition challenges’, as well as a ‘description of the expected contribution of the JTF support to addressing the social, demographic, economic, health and environmental impacts of the transition to a climate-neutral economy of the Union by 2050, including the expected contribution in terms of job creation and preservation’.³¹⁴

The JTM is intended to be ‘bottom-up’ policy, working with affected communities on the basis of consultation and partnership. It includes a Just Transition Platform,³¹⁵ established ‘to enable bilateral and multilateral exchanges of experience on lessons learnt and best practices across all affected sectors’.³¹⁶ Early experience indicates that the quality of TJTPs and their implementation depend heavily on local capacity and political will, so capacity-building is important.

The novelty of the JTM means that it is too early to assess its effectiveness. Its implementation should take into account the apparent shortcomings of previous attempts to contribute to socio-economic and energy transition in coal regions, as identified by the European Court of Auditors.³¹⁷ It should also be noted that the rollout of the mechanism gives rise to important questions about climate policy that progressives should engage with. First, the lived experience of transition regions highlights that just transition is not ‘simply’ about retraining or attracting new businesses to a location, but is an aspect of the broader societal transformational change required to achieve the Paris goals.³¹⁸ Second, just transition is a transversal requirement

314 Minas, ‘Financing climate justice in the European Union and China’, 384. See n 53.

315 European Commission, ‘About the Just Transition Platform’, https://ec.europa.eu/regional_policy/funding/just-transition-fund/just-transition-platform/about_en (accessed 2 May 2023).

316 JTF Regulation, preambular recital 18.

317 European Court of Auditors, ‘EU support to coal regions: Limited focus on socio-economic and energy transition’, Special report 22/2022, <https://op.europa.eu/webpub/eca/special-reports/support-coal-regions-22-2022/en/> (accessed 2 May 2023).

318 Minas, Stephen, ‘The Paris Agreement’s Technology Framework and the Need for “Transformational Change”’ [2020] 4 *Carbon and Climate*

rather than a distinct pillar of climate policy. Although the just transition principle is also integrated into other aspects of EU climate policy, such as the Clean Energy Package and the Modernisation Fund established under the ETS Directive,³¹⁹ some have flagged the risk that just transition may become compartmentalised into the JTM. Third, just transition plans can be ‘just’ only if they are based on genuinely inclusive consultation with the communities affected. Progressives should work to ensure an appropriate gender balance and inclusion of underrepresented or disadvantaged stakeholders, such as the disabled.

Making the climate transition inclusive

Just as climate change impacts different social groups differently, climate policy must respond to diverse needs and challenges. Social groups should also be included in the development of climate policy, both as a matter of justice and in order to harness the broadest range of ideas, experiences and expertise. Progressive political movements, which have always sought to represent the vulnerable in society, must champion a climate transition that is inclusive, as well as ambitious.

Inclusion encompasses territorial just transition planning³²⁰ but is also related to climate impacts on social demographics across the EU as a whole, such as young people, the elderly, people with disabilities and Indigenous peoples.³²¹ For example, it is important that policy responds to climate change’s disproportionate impact on women,³²²

Law Review 241, 242–244.

319 Minas, Kennedy and Krause, ‘Navigating a Just Transition through the Climate Emergency’, 138–139. See n 68.

320 See preambular recital 16 of the JTF Regulation.

321 Regarding efforts to include Indigenous peoples in EU and Member State climate policy, see Submission by Croatia and the European Commission on behalf of the European Union and its Member States, ‘Subject: Response to following calls for submission, related to indigenous peoples’ and local communities’ participation’, Zagreb, 13 May 2020.

322 Minas, Stephen, ‘How climate action and gender equality are linked in the pursuit of justice’, *South China Morning Post*, 21 May 2021, <https://>

especially following the negative impacts of the pandemic on women's and girls' rights.³²³ Gender mainstreaming has been introduced into the planning and implementation of climate policies in a range of Member States, while the identification of relevant sex-disaggregated data has been identified as a persistent challenge.³²⁴ While gender inequalities are addressed mainly at the Member State level, EU law is beginning to respond to the gender-mainstreaming challenge. For example, the Social Climate Fund regulation requires that Member States include in their Social Climate Plan, 'where relevant, an explanation of how the measures and investments aim to address gender inequality'.³²⁵

The encouragement of public participation in climate policy is mandated by aspects of EU climate law. The Governance Regulation requires Member States to enable public participation in the preparation of draft National Energy and Climate Plans, as well as to 'establish a multilevel climate and energy dialogue ... in which local authorities, civil society organisations, business community, investors and other relevant stakeholders and the general public are able actively to engage and discuss the different scenarios envisaged for energy and climate policies'.³²⁶ The European Climate Law requires

www.scmp.com/comment/opinion/article/3134053/how-climate-action-and-gender-equality-are-linked-pursuit-justice (accessed 4 May 2023); Allwood, Gill, 'Climate Mainstreaming: Climate and Gender Policy', Policy Brief, FEPS, February 2023.

323 Submission by France and the European Commission on behalf of the European Union and its Member States. 'Subject: Submission for the mid-term review of the progress of implementation of the activities contained in the GAP', Paris, 31 March 2022, 3–4.

324 See n 323, 5ff.

325 Regulation of the European Parliament and of the Council establishing a Social Climate Fund and amending Regulation (EU) 2021/1060, 20 April 2023, Article 6.1(q).

326 Eur-LEX, Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the

the Commission to ‘facilitate an inclusive and accessible process at all levels, including at national, regional and local level and with social partners, academia, the business community, citizens and civil society, for the exchange of best practice and to identify actions to contribute to the achievement of the objectives of this Regulation’.³²⁷ It also requires the Commission to ‘use all appropriate instruments, including the European Climate Pact, to engage citizens, social partners and stakeholders, and foster dialogue and the diffusion of science-based information about climate change and its social and gender equality aspects’.³²⁸

These legal requirements should be seen as *minimum* standards for inclusion in policymaking. While experiments with participatory democracy in climate policymaking may have yielded mixed results,³²⁹ progressives should continue to seek opportunities to empower the disadvantaged in climate policy. The call of the ‘UNited for Climate Justice’ initiative to ‘[e]nsure gender parity at all levels of decision-making’ and to achieve ‘[e]qual access for all under-represented groups to decision making by removing hurdles to participation of women, youth, indigenous and traditional communities at all levels’ remains relevant.³³⁰

Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council (Text with EEA relevance.), Articles 10–11, https://eur-lex.europa.eu/legal-content/EN/TXT/?toc=OJ:L:2018:328:TOC&uri=uriserv:OJ.L_.2018.328.01.0001.01.ENG (accessed 4 May 2023).

327 European Climate Law, Article 9.1.

328 See n 327, Article 9.2.

329 See, for example, Phalnikar, Sonia, ‘France’s citizen climate assembly: A failed experiment?’, DW, 16 February 2021, <https://www.dw.com/en/frances-citizen-climate-assembly-a-failed-experiment/a-56528234> (accessed 4 May 2023).

330 FEPS, ‘UNited for Climate Justice: Policy paper with declaration and guiding proposals for progressive climate action’ (2019) 35.

Greening trade and investment

Climate and international economic agreements

The EU has exclusive competence over ‘common commercial policy’, including with regard to foreign direct investment.³³¹ Nevertheless, in practical terms, shared competence over other aspects of investment policy requires Member State approval of the EU’s international investment agreements.³³²

The potentially global regulatory significance of the EU in international investment may be seen from the fact that the bilateral investment treaties of EU Member States ‘account for almost half of the global IIA [international investment agreement] network’.³³³ The transition³³⁴ from bilateral investment treaties entered into by individual Member States to international investment agreements between the EU as a whole and third parties is an opportunity to make future investment flows consistent with EU climate policy.

EU economic agreements with third states are addressing climate change in progressively more concrete terms, advancing beyond the hortatory language on sustainable development typically seen in other such agreements.³³⁵ Stefanie Schacherer has observed that, ‘[c]ompared to other international actors’ treaty practice, EU IIAs are innovative in creating ... specific linkages between investment and climate change mitigation through the promotion of renewable en-

331 TFEU Articles 3(1)(e); 207(1).

332 Schacherer, Stefanie, *Sustainable Development in EU Foreign Investment Law* (Brill, 2021), 6.

333 See n 332, 156.

334 Regulation (EU) No 1219/2012 of the European Parliament and of the Council of 12 December 2012 establishing transitional arrangements for bilateral investment agreements between Member States and third countries.

335 See, for example, the provision for cooperation on standards, technical regulations and conformity assessments for renewable energy and energy efficiency in the EU-Mexico trade agreement: https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/mexico/eu-mexico-agreement_en (accessed 17 June 2024).

ergies'.³³⁶ However, the same author highlights that there is more to be done for EU investment agreements to 'systematically' address climate change.³³⁷

The ongoing saga over the Energy Charter Treaty (ECT) is another key focus of efforts to make international investment law consistent with climate imperatives. The ECT protects energy investments in its contracting parties, including fossil fuel investments. It is also the legal basis for a 'flood' of arbitration cases against EU Member States by investors complaining about changes in renewable support schemes.³³⁸ A lengthy negotiation among ECT parties to 'modernise' the treaty³³⁹ concluded in 2022 with outcomes that were unacceptable to many EU Member States and to the European Parliament, which has urged 'the Commission to initiate immediately the process towards a coordinated exit of the EU from the ECT'.³⁴⁰

By April 2023, eight EU Member States had initiated withdrawal procedures or announced their intent to do so.³⁴¹ In a leaked non-paper, the Commission advised that EU withdrawal 'appears to be unavoidable'.³⁴² ECT withdrawal can be an opportunity to remove an impediment to EU Member States' right to regulate energy emis-

336 Schacherer, *Sustainable Development in EU Foreign Investment Law*, 259. See n 332.

337 See n 332, 261.

338 Talus, *Introduction to EU Energy Law*, 141ff. See n 278.

339 Mauro, Maria Rosaria, 'Investment Disputes and Fight Against Climate Change in Light of the Energy Charter Treaty: The Delicate Position of the European Union' (2023) 1 *Transnational Dispute Management*, www.transnational-dispute-management.com/article.asp?key=2992 (accessed 2 May 2022).

340 European Parliament, 'Joint motion for a resolution on the outcome of the modernisation of the Energy Charter Treaty', 23 November 2022, para. 20, https://www.europarl.europa.eu/doceo/document/RC-9-2022-0498_EN.html (accessed 2 May 2022).

341 Braun, Stuart, 'EU exit from climate-killing energy treaty looms', DW, 17 April 2023, <https://www.dw.com/en/eu-exit-from-climate-killing-energy-treaty-loom/a-65323709> (accessed 2 May 2022).

342 'LEAK: Exit from Energy Charter Treaty "unavoidable", EU Commission says', Euractiv, 8 February 2023, <https://www.euractiv.com/section/energy/news/exit-from-energy-charter-treaty-unavoidable-eu-commission-says/> (accessed 2 May 2022).

sions but will require careful management and diplomacy to limit the effect of the ECT's 'sunset clause' on EU and Member State energy policy.

The 'Brussels Effect'

In addition to bilateral and multilateral agreements, the EU seeks to regulate international trade and investment through the enforcement of domestic norms. It does this by harnessing the desire of foreign companies to access the massive EU market and therefore their willingness to conform to EU standards even when not legally required to do so, a phenomenon that Anu Bradford has dubbed the 'Brussels effect'.³⁴³

Concerning climate change, the EU applies a diverse set of regulatory tools that have been described as 'internal environmental measures with extraterritorial implications', defined as 'unilateral trade-related measures, which address global or transboundary environmental problems'.³⁴⁴ One example of such a measure is the Renewable Energy Directive's set of sustainability criteria for bio-fuels.³⁴⁵ Although not without controversy, unilateral EU measures have had a significant influence on the development of multilateral climate initiatives. For example, the decision to include international aviation emissions in the ETS provoked an international backlash, following which the EU suspended application of the ETS to international aviation. However, the suspension was conditional on international action on aviation emissions, which 'exerted pressure' on the international community to create the ICAO Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). Furthermore, the EU reserves the right to revisit this provisional exclusion.³⁴⁶

343 Bradford, Anu, *The Brussels Effect: How the European Union Rules the World* (Oxford University Press, 2019).

344 Hadjiyianni, Ioanna, *The EU as a Global Regulator for Environmental Protection: A legitimacy perspective* (Hart, 2019), 1.

345 See n 344, 24.

346 See n 344, 37–38.

Carbon border adjustment

The Carbon Border Adjustment Mechanism (CBAM) is a new test of the EU's ability to use the scale of the single market to influence policy and business decisions in third countries. The CBAM is a response to two policy challenges. The first of these is the growing risk of 'carbon leakage' as EU climate targets and regulations are progressively strengthened. Carbon leakage refers to the practice of relocating business activities (such as factories) to jurisdictions where GHG emissions are regulated less stringently. The rapid and sustained increase in the EU carbon price (that is, the price per European Union Allowance in the ETS) has increased the economic incentive for carbon leakage, as most neighbouring economies either have no carbon price or a far lower price than that of the EU. This carbon price gap also results from a perverse incentive for governments to keep their carbon price low or non-existent in order to give an advantage to their domestic producers in international trade.

The second policy challenge is related to ETS reform. Within the EU ETS, covered installations have been compensated through the allocation of free EUAs for having to pay a higher carbon price than their foreign competitors. However, free allocation limits the ETS's effectiveness by blunting the incentive to reduce emissions. Phasing out free allowances was conditional on the identification of another means of ensuring a level playing field for EU undertakings and their third-country competitors.

The CBAM responds to these policy challenges by requiring EU importers of third-country goods in covered sectors to pay the shortfall between the EU carbon price and whatever carbon price (if any) the goods were produced under. In theory, this would remove the incentive for carbon leakage by effectively applying the full EU carbon price to imported goods, with the result that these goods are no longer able to undercut EU goods in the single market on the basis of carbon pricing.

The CBAM regulation entered into force following co-legislator agreement in December 2022.³⁴⁷ Reporting under the CBAM was supposed to begin in 2023, with payments under the system falling due from 2026.³⁴⁸ The CBAM will initially be applied to imports of iron and steel, cement, fertilisers, aluminium, electricity and hydrogen, sectors in which there is high risk of carbon leakage. The Commission will assess whether the CBAM should be expanded to other sectors.

By providing a means of internalising the carbon externalities of imported goods, the CBAM is a tool for incentivising third countries to adopt robust carbon pricing. Indeed, the ideal scenario is that the complex permissions system prescribed in the regulation does not actually have to be implemented, because third countries introduce emissions trading or carbon taxes that are acceptable to the EU. To an extent, this is already happening. While the announcement of the CBAM was met with predictable expressions of outrage and claims of ‘extraterritorial’ law-making, various countries have engaged in consultations with the EU and, as the World Bank has reported, ‘[s]everal jurisdictions ... have already cited the CBAM proposal as a driver for their efforts to adopt a direct carbon price’.³⁴⁹

The CBAM regulation foresees carbon pricing agreements with third countries resulting in a ‘forum of countries with carbon pricing instruments or other comparable instruments (“Climate Club”)', paving the way for a ‘global carbon pricing framework’.³⁵⁰ Whether

347 Council of the EU, ‘EU climate action: provisional agreement reached on Carbon Border Adjustment Mechanism (CBAM)’, 13 December 2022, <https://www.consilium.europa.eu/en/press/press-releases/2022/12/13/eu-climate-action-provisional-agreement-reached-on-carbon-border-adjustment-mechanism-cbam/> (accessed 2 May 2023).

348 Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32023R0956> (accessed 3 July 2023).

349 Minas, Stephen, ‘Crossing the carbon border’, *The Interpreter* (Lowy Institute), 11 January 2023, <https://www.lowyinstitute.org/the-interpreter/crossing-carbon-border> (accessed 2 May 2023).

350 CBAM regulation, preambular recital 72.

these ambitions are realistic remains to be seen, but the CBAM is an important attempt to regulate international trade as if climate change mattered. The Commission is confident of the legality of the CBAM, which is likely to be challenged under international trade law.

Just as important as legality, the *legitimacy* of the CBAM will need to be defended. This will depend in large part on whether the mechanism unfairly disadvantages the EU's poorest trading partners. The regulation notes that the EU should provide technical assistance to developing countries and Least Developed Countries in connection with the CBAM.³⁵¹ In addition, prior to the end of the transitional period, the Commission must report on the CBAM's impact on goods 'imported from developing countries, with special interest to the least developed countries as identified by the United Nations (LDCs) and on the effects of the technical assistance given'.³⁵² Some have suggested that the EU should also dedicate some of the CBAM-generated revenue to support clean technology take-up in developing countries.³⁵³ Progressives in particular will need to monitor the CBAM's implementation from the perspective of inter-state climate justice.

Building strategic autonomy

Ending energy dependence

The relationship between climate policy and the realisation of a more autonomous EU is, at its core, quite straightforward. As the EU is a net importer of fossil fuels, transition to an energy mix dominated by renewable energy will reduce dependency on foreign actors. So much has long been understood. As one of the three corners of the

351 See n 350, preambular recital 71.

352 See n 350, Article 30.2(f).

353 See, for example, UNCTAD, 'A European Union Carbon Border Adjustment Mechanism: Implications for developing countries', United Nations Conference on Trade and Development (2021), 24.

‘energy trilemma’, energy security has long been factored into EU law and policy.³⁵⁴

It is undeniable, however, that the Russian invasion of Ukraine found the EU dangerously unprepared. The EU’s dependence on Russian gas necessitated an unprecedented scramble in 2022 to source alternative energy supplies. There has also been speculation that EU energy dependence factored into Russian war planning, in the sense that Kremlin decisionmakers anticipated a weak and manageable EU response to its aggression.

As it happened, Russia’s attempt to blackmail the EU with the withdrawal of energy supply backfired. Russia has now lost its energy leverage over the EU. By conducting its criminal war, Russia has lost its main customer. The EU was galvanised into ‘phas[ing] out its dependency on Russian gas, oil and coal imports as soon as possible’.³⁵⁵ Diversification from Russian energy supplies has been more successful than many predicted.

However, the lessons from this experience should not be confined to Russia – or to fossil fuels. Dependence for energy on third states that do not share the EU’s values is risky whether the energy involved is based on fossil fuels or renewables. Security of renewable energy supply can be threatened by overdependence on critical raw materials and manufactured products from third states.³⁵⁶ As the IEA recently noted, ‘[f]or mass-manufactured technologies like wind, batteries, electrolyzers, solar panels and heat pumps, the three largest producer countries account for at least 70% of manufacturing capacity for each technology – with China dominant in all of them’.³⁵⁷

354 Roeben, Volker, *Towards a European Energy Union: European Energy Strategy in International Law* (Cambridge University Press, 2018), 144–148.

355 European Council meeting (24 and 25 March 2022) – Conclusions, <https://data.consilium.europa.eu/doc/document/ST-1-2022-INIT/en/pdf> (accessed 2 May 2023).

356 See, for example, <https://www.irena.org/publications/2019/Jan/A-New-World-The-Geopolitics-of-the-Energy-Transformation>

357 IEA, ‘Energy Technology Perspectives 2023’, 21.

As the initial phase of the EU's response to Russia's full-scale invasion has demonstrated, ending energy dependencies cannot be left to market forces. Urgent and coordinated EU and Member State action has been crucial and will continue to be necessary. The measures proposed in the 'Green Deal Industrial Plan' are an attempt to systematise this approach to ending energy dependencies, with analysis to 'identify goals for industrial capacity by 2030', including cross-border value chains, and a 'Critical Raw Materials Act' to diversify sourcing of CRMs and reduce import demand by promoting recycling.³⁵⁸ While policymakers should always be careful not to stifle private sector initiative or 'crowd out' commercial actors, the EU cannot afford to be an island of *naïveté* in global resource markets increasingly characterised by sovereign competition.

Pursuing innovation missions

Technological innovation has a key role to play in bringing the Paris goals within reach.³⁵⁹ In turn, policy can be instrumental in creating the frameworks necessary for both innovation and the acceleration and scaling of their implementation.³⁶⁰ EU innovation policy has un-

358 European Commission, 'A Green Deal Industrial Plan for the Net-Zero Age', 1 February 2023, 4–6.

359 The IPCC has defined innovation as '[b]oth the processes of research and development and the commercialization of the technology, including its social acceptance and adoption'. Cited in United Nations Environment Programme Copenhagen Climate Centre (UNEP-CCC) and United Nations Framework Convention on Climate Change (UNFCCC) Technology Executive Committee (TEC) (2022). *Climate Technology Progress Report 2022*. Copenhagen, Denmark, iv.

360 Technology Executive Committee, 'Technological innovation for the Paris Agreement: implementing nationally determined contributions, national adaptation plans and mid-century strategies', TEC Brief #10 (2017), https://unfccc.int/ttclear/misc_/StaticFiles/gnwoerk_static/brief10/8c3ce94c20144fd5a8b0c06feff6633/57440a5fa1244fd8b8cd13eb-4413b4f6.pdf; Technology Executive Committee, 'Innovative approaches to accelerating and scaling up climate technology implementation for mitigation and adaptation', (2020), https://unfccc.int/ttclear/misc_/StaticFiles/gnwoerk_static/innovative_approaches/07a2f73969c945928f-fa1ec74285f356/235654758e1343f788b1f1132bb109b8.pdf (both accessed 4 May 2023).

dergone significant change in recent years. Mariana Mazzucato, who advised the Commission on the development of a ‘mission-oriented’ approach, has explained that ‘while innovation policy was focused on outcomes ... the policies together were not producing the transformational shifts needed for growth. I argued that this was because the logic needed to reverse: the focus should be on problems that innovation can solve, and the technology and start-ups would follow’.³⁶¹

The approach, formalised in the Horizon Europe research and innovation programme for the years 2021–2027, involves the pursuit of ‘EU Missions’. These missions are to ‘put emphasis on demonstrating, scaling up and replicating existing and new solutions including social innovations’, in order to ‘ensure a tailor-made innovation approach including social innovation’.³⁶² Two of the five EU Missions are focused on climate change: (i) Adaptation to Climate Change: support at least 150 European regions and communities to become climate resilient by 2030; and (ii) 100 Climate-Neutral and Smart Cities by 2030. Besides Horizon, various other measures are being pursued to improve the EU’s innovation capacity, such as dedicated initiatives for hydrogen³⁶³ and batteries³⁶⁴ and the possible establishment of ‘regulatory sandboxes’ under the Green Deal Industrial Plan.³⁶⁵

³⁶¹ Mazzucato, *Mission Economy*, 111.

³⁶² European Commission, ‘Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on European Missions’ (2021), https://research-and-innovation.ec.europa.eu/system/files/2021-09/ec_com_heu_randi_missions_29092021.pdf (accessed 4 May 2023).

³⁶³ European Commission, ‘Hydrogen’, https://energy.ec.europa.eu/topics/energy-systems-integration/hydrogen_en (accessed 4 May 2023).

³⁶⁴ European Commission, ‘European Battery Alliance’, https://single-market-economy.ec.europa.eu/industry/strategy/industrial-alliances/european-battery-alliance_en (accessed 4 May 2023).

³⁶⁵ European Commission, ‘A Green Deal Industrial Plan for the Net-Zero Age’, 1 February 2023, 5.

Innovation, broadly conceived, must be a central focus of EU climate policy, in order to develop and scale climate solutions, to build social resilience in the face of climate impacts and to secure EU prosperity in a changing and competitive global economy. These objectives can be pursued not just within the EU but also through international collaborations for research, development and demonstration.³⁶⁶ As well as promoting beneficial innovations, policy must also have regard to technologies' potentially negative environmental or social impacts. As the IPCC has noted, '[e]ffective governance and policy has the potential to avoid and minimise such misalignments'.³⁶⁷ The quickly developing field of 'artificial intelligence' (AI) is a case in point. Experts have already pointed to governments' capacity to both support the development of AI applications in climate mitigation and adaptation and reduce AI's negative impacts on the climate.³⁶⁸

Building a broader European climate policy space

EU strategic autonomy also relies on the consolidation of a broader European climate policy space based on EU norms and compatible with EU interests. In this context, harmonisation of neighbouring third states with EU climate policy has emerged as an important objective. The construction of this broader European climate policy space leverages the attraction of EU market access and the stated desire of third states for eventual EU accession. It is a means of both exporting climate policy settings adopted within the EU and

366 Technology Executive Committee, 'Compilation of good practices and lessons learned on international collaborative research, development and demonstration initiatives of climate technology', UNFCCC, February 2021, <https://unfccc.int/ttclear/tec/rdandr/#Compilation> (accessed 10 May).

367 Blanco, G. et al., 'Innovation, technology development and transfer', in Shukla, P.R. et al. (eds), *IPCC, 2022: Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, 2022), 2674–2814, <https://www.ipcc.ch/report/ar6/wg3/>

368 Global Partnership on AI Report, 'Climate Change & AI: Recommendations for Government' (November 2021), 7ff.

collaborating with neighbouring states to assist with their sustainable development and implementation of the Paris Agreement. As the climate crisis has risen up the EU policy agenda, climate policy harmonisation has assumed a higher profile in relations with neighbouring third states.

Aside from the European Economic Area and bilateral relations with Switzerland, the primary mechanism for climate policy harmonisation with regard to the EU's immediate neighbours is the Energy Community (EnC). Founded on the basis of the EnC Treaty (in force since 2006), the EnC is an EU initiative to create a 'single regulatory space' for energy encompassing the EU and post-communist states in the Western Balkans and the former Soviet Union.³⁶⁹ The core of the EnC process is regulatory harmonisation: EnC contracting parties adopt the EU energy *acquis* and related laws through the transposition of appropriately modified legislation.³⁷⁰

The objective of promoting compliance with EU climate policy is made more urgent by the fact that other major powers have been expanding their influence in the Western Balkan states, including in the energy sector. For example, regional complaints about EU neglect have gone hand in hand with local courting of Chinese financing and investment,³⁷¹ sometimes for projects that violate EU and EnC norms. The EU therefore needs not only to step up the process of legal harmonisation but also to increase its support for building capacity for genuine integration.

Although the Energy Community did not originally include climate legislation, it adopted transposed versions of the renewable energy and energy efficiency directives. In the past few years, the EnC has been working on adopting a modified form of the EU's

369 Energy Community, 'Who we are', <https://www.energy-community.org/aboutus/whoweare.html> (accessed 3 May 2023).

370 Minas, Stephen, 'EU climate law *sans frontières*: The extension of the 2030 Framework to the Energy Community contracting parties' (2020) 29 *Review of European, Comparative and International Environmental Law* 177, 178–179.

371 Frankopan, Peter, *The New Silk Roads: The present and future of the world* (Bloomsbury, 2018), 208–209.

2030 climate and energy framework.³⁷² In December 2022, the EnC adopted 2030 climate, renewables and energy efficiency targets and a transposed governance regulation. It also began preparations for emissions trading within the Energy Community.³⁷³ Although emissions trading had been under discussion in the EnC for many years, the introduction of the CBAM effectively set a deadline to adopt carbon pricing.

The strategic value of the Energy Community has also been demonstrated in the context of the Russian war on Ukraine. The EnC Secretariat's deep and long-standing engagement with Ukraine on energy and related matters has formed a valuable basis for the provision of emergency material and technical support, particularly as Russia has targeted Ukraine's civilian energy infrastructure for destruction, contrary to the laws of war.³⁷⁴ Remarkably, Ukraine not only continued its own energy reforms following the invasion but also chaired the EnC Ministerial Council, which adopted the 2030 reform package. It is vital that the EU not only continues to support Ukraine's energy sector but also prepares to assist in 'building back better' when the reconstruction of Ukraine becomes possible. Rebuilding Ukraine's energy system with zero-carbon energy as the 'cornerstone' can both contribute to the climate transition and strengthen the system's resilience to any future Russian aggression.³⁷⁵

Integrating climate into defence and security policy

The EU has also initiated the broader work of integrating climate factors into its defence and security policy and operations. Relevant

372 Minas, 'EU climate law *sans frontières*', 179ff. See n 370.

373 Energy Community, 'Energy Community Ministerial Council adopts ambitious 2030 energy and climate targets and electricity market package', 15 December 2022, <https://www.energy-community.org/news/Energy-Community-News/2022/12/15.html> (accessed 3 May 2023).

374 Energy Community, 'About Ukraine support activities', <https://www.energy-community.org/Ukraine/overview.html> (accessed 3 May 2023).

375 Schonhardt, Sara, 'Ukrainians Shift to Renewable Power for Energy Security amid War', *Scientific American*, 1 March 2023, <https://www.scientificamerican.com/article/ukrainians-shift-to-renewable-power-for-energy-security-amid-war/> (accessed 3 May 2023).

considerations include, in addition to the feedback between climate change and conflict, the fact that militaries are large GHG emitters and so reducing their reliance on fossil fuels can simultaneously benefit climate mitigation and operational resilience.³⁷⁶ The climate–security nexus has long been acknowledged by EU policymakers, including in 2008 by the then High Representative for Foreign Affairs and Security Policy and the Commission, as well as in the 2016 EU Global Strategy on Foreign and Security Policy. Individual Member States have also advanced this agenda, for example, Germany during periods of membership of the UN Security Council.³⁷⁷

In 2020, at the invitation of the Council of the EU, the European External Action Service (EEAS) released a Climate Change and Defence Roadmap.³⁷⁸ This document sets out actions to address the climate–security nexus, including in areas of the EU’s Common Security and Defence Policy (CSDP). Actions at both EU and Member State levels are divided into three areas: the operational dimension, capability development and strengthening multilateralism and partnerships.³⁷⁹ In 2021, in response to a further invitation from the Council, the EEAS released a complementary planning tool, the ‘Concept for an Integrated Approach on Climate Change and Security’.³⁸⁰ The Concept applies a ‘human rights based approach’ to the climate–security nexus and aims to support multilateralism and partnerships. A proactive approach to the climate–security nexus was also included

376 This is equally applicable to multinational operations such as UN peacekeeping: UNEP has reported that ‘[p]eacekeeping operations account for over 56% of the UN system’s total climate footprint’. UNEP, ‘Addressing the Role of Natural Resources in Conflict and Peacebuilding: A Summary of Progress from UNEP’s Environmental Cooperation for Peacebuilding Programme 2008–2015’ (2015), 21.

377 Davis, Austin, ‘Germany pushes climate change as security risk’, DW, 6 April 2019, <https://www.dw.com/en/germany-pushes-climate-change-as-security-risk/a-49056370> (accessed 3 May 2023).

378 EEAS, ‘Climate Change and Defence Roadmap’, Working document of the European External Action Service of 06/11/2020, EEAS(2020)1251.

379 See n 378, 2–3.

380 EEAS, ‘Concept for an Integrated Approach on Climate Change and Security’, 12537/21, 5 October 2021.

in the ‘Strategic Compass’ document, which the European Council endorsed in March 2022.³⁸¹

In late 2022, the EEAS took stock of the implementation of these climate security policies.³⁸² It found progress on the ‘first practical measures’ to mainstream climate in CSDP operations, as well as work under way to integrate climate aspects into analysis and to reduce dependency on fossil fuels ‘for the benefit of the strategic freedom of action of the armed forces’.³⁸³ The document also reported that co-operation was under way with partner organisations and states, including the African Union, the OSCE, NATO, the United States and Canada.³⁸⁴ Cooperation on the climate–security agenda with NATO, the EU’s vital security partner, will be especially important. In 2021 NATO adopted its own Climate Change and Security Action Plan.³⁸⁵ In early 2023, a joint declaration on EU–NATO cooperation committed to ‘expand and deepen our cooperation to address’ issues, including ‘the security implications of climate change’.³⁸⁶ Further actions were announced in a June 2023 joint communication of the Commission and HR/VP on the climate–security nexus.³⁸⁷

381 Council of the EU, ‘A Strategic Compass for Security and Defence - For a European Union that protects its citizens, values and interests and contributes to international peace and security’, 7371/22, 21 March 2022.

382 EEAS, ‘Joint Progress Report on Climate Change, Defence and Security (2020-2022)’, WK 15770/2022 INIT, 16 November 2022.

383 See n 382, 2.

384 See n 382, 22.

385 NATO, ‘Environment, climate change and security’, https://www.nato.int/cps/sn/natohq/topics_91048.htm; see also NATO’s 2022 Climate Change and Security Impact Assessment: https://www.nato.int/cps/en/natohq/news_197241.htm (both accessed 3 May 2023).

386 Council of the EU, ‘Joint Declaration on EU–NATO Cooperation’, 10 January 2023, para. 12, <https://www.consilium.europa.eu/en/press/press-releases/2023/01/10/eu-nato-joint-declaration-10-january-2023/pdf> (accessed 3 May 2023). A NATO Climate Change and Security Centre of Excellence is in the process of being established in Montreal: https://www.nato.int/cps/en/natohq/topics_68372.htm (accessed 8 May 2023).

387 European Commission and HR/VP, Joint Communication: ‘A new outlook on the climate and security nexus: Addressing the impact of

Overall, the EU's work on the climate–security nexus is at quite an early stage, but it will only grow in importance for multiple areas of EU policy, including defence preparedness, energy security and international development assistance. As noted above, the challenges that climate change presents to intra-state and inter-state stability and to human security are predicted to intensify. Although it will be necessary to react to crises as they occur, the EU and Member States should also work to get ahead of climate change's impacts on both military capabilities and operations, as well as on international security more broadly.

Practising international solidarity

The international dimension of EU climate policy is fundamental to its success. This is because the EU accounts for a relatively small (around 8 per cent) and declining share of global GHG emissions. The achievement of the EU's climate neutrality objective will count for little if the rest of the world does not also rapidly transition to low-carbon development.

Recognising this, the EU has long worked to be a leader in the global fight against climate change through its external actions, as well as through the strength of its example.³⁸⁸ This leadership has ranged from the development of climate governance through multilateral negotiations to the provision of assistance to other countries to help them develop and implement domestic climate measures. This work is underpinned by the Treaty on European Union (TEU), which commits the EU to 'promote multilateral solutions to common problems, in particular in the framework of the United Nations'.³⁸⁹ Its external action must include work to 'foster the sustainable economic, social and environmental development of devel-

climate change and environmental degradation on peace, security and defence', 28 June 2023, JOIN(2023) 19 final.

388 See, for a general view, Minas, Stephen and Vassilis Ntousas (eds), *EU Climate Diplomacy: Politics, Law and Negotiations* (Routledge, 2018).

389 TEU Article 21(1).

oping countries, with the primary aim of eradicating poverty'.³⁹⁰ The 'primary objective' of EU development cooperation policy is 'the reduction and, in the long term, the eradication of poverty'.³⁹¹

The European Green Deal identifies multiple actions in both multilateral and bilateral settings, including diplomacy, trade policy and development support.³⁹² At the level of diplomacy, the EU continues to play a leading role in the UNFCCC and other forums. The EU regularly acts as a bridgebuilder between developed and developing Party positions and has formed 'high ambition coalitions' with the most climate-vulnerable developing states. At the COP27 conference in 2022, the EU advanced a principled position in favour of financing for 'loss and damage', a key priority of SIDS and LDCs.

In the area of development assistance, the EU and its Member States are collectively the largest contributor to international climate funding for developing states, 'providing at least a third of the world's international public climate finance and contributing in the order of over EUR 20 billion per year since 2018'.³⁹³ The 2021–2027 Global Europe: Neighbourhood, Development and International Cooperation Instrument, with a budget of around €80 billion, is the largest channel for external action funding and 30 per cent of its spending is targeted for climate action.³⁹⁴ Other partnership formats

390 See n 389, Article 21(2)(d).

391 TFEU, Article 208(1).

392 European Commission, 'The European Green Deal', 11 December 2019, <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX-52019DC0640&from=EN> (accessed 3 May 2023).

393 Submission by the Czech Republic and the European Commission on behalf of the European Union and its Member States, 'Subject: EU Submission on information to be provided by Parties in accordance with Article 9, paragraph 5, of the Paris Agreement', 13 October 2022, <https://www4.unfccc.int/sites/SubmissionsStaging/Documents/202211291347--EU%20Submission%20on%20information%20to%20be%20provided%20by%20Parties%20in%20accordance%20with%20Article%209%20paragraph%205%20of%20the%20PA.pdf> (accessed 3 May 2023).

394 Regulation (EU) 2021/947 of the European Parliament and of the Council of 9 June 2021 establishing the Neighbourhood, Development and International Cooperation Instrument – Global Europe, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02021R0947-202106>

such as ‘Team Europe’ (consisting of the EU, participating Member States, the EIB and the EBRD) can be used to extend the reach of EU climate development work.³⁹⁵

The EU has also been working with partners to pioneer novel forms of climate assistance, such as the Just Energy Transition Partnerships (JETPs).³⁹⁶ Naturally, these partnerships do not entail simply exporting the EU’s just transition policies. Rather, the EU, Member States and other partners are working with individual developing countries to give practical expression to the just transition concept in very different national contexts. JETPs are high-level political declarations³⁹⁷ that register the intention of groups of partner countries plus the EU (referred to as the ‘International Partners Group’) to work with individual developing countries to mobilise finance for an accelerated and just energy transition. For example, Indonesia’s JETP aims to lower the peak of national power sector emissions. This and other energy objectives are to be pursued by developing a ‘comprehensive investment plan’ with the aim of mobilising over USD 20 billion, including from the private sector.³⁹⁸

14&qid=1688653644o68 (accessed 6 July 2023); European Commission and HR/VP, Joint Communication: ‘A new outlook on the climate and security nexus’, 9.

395 https://international-partnerships.ec.europa.eu/policies/team-eu-roppe-initiatives_en

396 Kramer, Katherine, ‘Just Energy Transition Partnerships: An opportunity to leapfrog from coal to clean energy’, IISD, 7 December 2022, <https://www.iisd.org/articles/insight/just-energy-transition-partnerships> (accessed 3 May 2023).

397 JETPs are not binding under international law. For example, the JETP of Indonesia states that ‘[t]he Joint Statement constitutes political commitments of the Government of Indonesia and the members of the International Partners Group and is not a binding international agreement’, https://ec.europa.eu/commission/presscorner/detail/en/statement_22_6892

398 ‘Joint Statement by the Government of the Republic of Indonesia and International Partners Group members on the Indonesia Just Energy Transition Plan’, European Commission, 15 November 2022, https://ec.europa.eu/commission/presscorner/detail/en/statement_22_6892

JETPs are clearly complicated undertakings and meeting their objectives is likely to be challenging (as the early experience of the JETP in the extremely difficult context of South Africa's power sector indicates).³⁹⁹ They nevertheless illustrate the need to experiment with new ideas and modalities in order to bring more ambitious climate targets within reach.

Ongoing EU leadership in international climate solidarity is not just vital to the success of the global climate transition. It is also a practical expression of the EU's commitment to inter-state climate justice. As the impacts of climate change worsen, but also as technological change brings new tools to bear on climate mitigation and adaptation, the EU will be called upon to assist the world's poorest and most vulnerable nations. For ethical as well as pragmatic reasons, the EU should make constant efforts to support them in getting to grips with the climate crisis.

399 Pilling, David, 'The cost of getting South Africa to stop using coal', *Financial Times*, 2 November 2022, <https://www.ft.com/content/3c64950c-2154-4757-bf25-d93c7850be8f> (accessed 25 April 2023).

6 Towards a progressive and European climate transition

Progressive principles for strengthening climate policy

This primer has introduced the climate crisis, identified key debates in climate politics, set out the international goals for climate action and discussed important areas of EU climate law and policy. It concludes with some observations on the principles needed to guide a *progressive and European* climate transition.

The following comments are not policy prescriptions but rather brief statements of the normative priorities that should guide the formulation of progressive climate policy. While the necessities and capabilities of policy change constantly, policy formulation should be guided by immutable principles. While policy outcomes are rightly determined by negotiation in a multi-party democracy of 27 Member States, the onus is on progressives to advocate for those principles.

There are multiple advantages to keeping principles front and centre in climate policymaking. It encourages coherence across policies and reduces the risk that different policies will operate at cross-purposes. It acts as a check against being led down the path of excessively technocratic measures that do not express progressive values. There is also political value in formulating often necessarily complex climate policies on the basis of explicit political principles: this makes it more likely that the whole will be more than the sum of its parts, promoting a compelling narrative that can engage citizens and stakeholders.

The principles for climate policy proposed here are ambition, inclusion, justice, freedom and international solidarity. There is some overlap between them and other principles would doubtless

also make sense. Nevertheless, these principles represent a working summary of what progressives should be trying to achieve in proposing, negotiating and implementing climate policy in the critical years ahead.

Ambition: Ambition is the fundamental principle for progress in climate policy. Without ambitious goals and implementation, none of the other important climate policy principles – such as justice or international solidarity – can be realised in practice. Ambition is best defined with reference to the goals set by the Paris Agreement. As has been seen, the three long-term goals of the Paris Agreement are interdependent: transition of finance flows is a key enabler of the desired mitigation and adaptation outcomes, while successful mitigation keeps workable climate adaptation within reach. Policy and its implementation should be evaluated according to whether it is consistent with global achievement of the Paris goals.

The principle of ambition must be applied to climate policy in relation to all three long-term Paris goals – mitigation, adaptation and finance – and to domestic and international dimensions of policy. Ambition in mitigation starts, but cannot end with setting appropriate targets. Sufficiently ambitious mitigation, adaptation and finance policies entail the mainstreaming of climate objectives in all relevant sectors and areas of regulation.

Ambition also means recognition that the climate transition requires nothing less than transformational change, unlike more discrete environmental problems. As Mazzucato has noted of the SDGs, '[t]hey involve much more than technological change. They are problems without straightforward solutions, and so they require a better understanding of how social issues interact with political and technological ones, behavioural changes and critical feedback processes.'⁴⁰⁰ It is also important to engage citizens with a narrative of achievable steps that improve quality of life while getting us closer to the Paris targets.

Ambition as applied to climate policy's international dimensions entails a negotiating stance that is perpetually creating conditions

400 Mazzucato, *Mission Economy*, 110.

for outcomes that bring us closer to the Paris goals. This often requires the formation of alliances and coalitions with States and non-State actors beyond the EU's closest and traditional partners. Seen through the prism of ambition, increased and more effective support for poorer nations is not just a question of international solidarity (as important as that is) but a vital enabler of global ambition.

The international expression of ambition can be intensely controversial, as the debate around the CBAM or the concept of 'climate clubs' illustrate. Climate ambition can also come into conflict with other important priorities in a complex geopolitical environment. Nevertheless, an effective response to climate change is the ultimate shared interest and this should constantly guide engagement with third States.

Accepting the principle of ambition entails a constant search for enablers to strengthen climate goals and their implementation. These will often be in the domain of economics. One example might be the agenda of complementing GDP with other indicators that better measure the effects of economic activity on climate outcomes.⁴⁰¹ Arguments in favour of a 'circular' or 'doughnut' economy also fall into the category of attempts to reframe economic policy as if climate and other sustainability objectives mattered. At the international level, proposals to reform the international financial architecture to make it more fit for purpose for current challenges also merit consideration, although trade-offs between time-consuming institutional change and the urgent need to deliver climate action should be weighed carefully.⁴⁰²

The politics of climate ambition have shifted dramatically in recent years. Owing to the changing economics of climate response measures and worsening climate impacts, the days when most mainstream parties assumed that a trade-off was necessary between eco-

401 Mason, Ehsan, 'GDP is getting a makeover — what it means for economies, health and the planet', *Nature*, 8 November 2022, <https://www.nature.com/articles/d41586-022-03576-w>

402 See, for example, the 'Bridgetown Agenda' proposed by Barbados: <https://pmo.gov.bb/wp-content/uploads/2022/10/The-2022-Bridgetown-Initiative.pdf> (accessed 17 June 2024).

conomic and environmental outcomes are gone. The need for climate ambition is now overwhelmingly accepted within the centre-right, centre-left, liberal and green camps, though naturally to different degrees and with different emphases. Climate has moved to the centre of economic and international policy (at least in declaratory form). However, progressive, reformist politics should always be alert to competing approaches that dilute climate ambition to protect sectional, special interests, as well as approaches that recklessly disregard the economic or social consequences of climate policy.

Inclusion: For progressives it is axiomatic that the climate transition should leave nobody behind. This commitment to inclusion in climate policy requires attention to the different impacts of climate change and responses to it on different groups in society. Progressives should reject a majoritarian approach to climate policy that ignores the particular needs and concerns of different social groups. Instead, they must make it their vocation to advocate for the interests of vulnerable members of society, which can be marginalised or overlooked even in liberal democracies.

It is well established that climate change puts a disproportionate burden on women and also on particular social and demographic groups, including the elderly, poor people, the disabled and Indigenous communities. Climate policy needs to reflect these realities by striving for outcomes that not only do not entrench existing disadvantages, but also contribute to the systemic changes needed to make society more inclusive.

The need to make climate action gender-responsive, mainstreaming gender considerations across climate policy, is a case in point. Although, on average, women are more affected than men by climate change across a range of measures, climate policy and technologies have typically ignored gender considerations and women have been greatly underrepresented in climate decision-making. This has been changing but not fast enough.

Inclusion is also a means of strengthening climate policy in general. Policymakers should proactively seek out and leverage the diversity of perspectives and wisdom that our diverse societies hold with regard to climate change. For example, factoring in gender can

result in more equitable climate policy, while there is evidence that empowering women to participate in leadership can result in more ambitious climate plans in the public and private sectors.⁴⁰³ It has also been demonstrated that harnessing Indigenous and traditional knowledge can be of great value to both climate mitigation and adaptation.

Genuine inclusion means going beyond consultation to the active participation of social groups in climate decision-making. Progressives must avoid the soft disenfranchisement of policy that purports to benefit social groups but denies them agency in its creation. What is needed is not just policy *for*, but policy co-created *with* and *by* segments of society disproportionately impacted by climate change.

The principle of inclusion applies equally to climate action at the international level. The EU has traditionally advocated for civil society groups to have access to UN climate negotiations, a position not always shared by some other parties. The EU should continue to push for greater transparency in international climate processes and for expanded participation by civil society groups and other non-party stakeholders, both to promote inclusive processes and because of these groups' immense knowledge and creativity. This includes putting safeguards in place to protect climate activists from harassment, intimidation and surveillance at international climate conferences.

Justice: Insistence that the climate transition be consistent with principles of social justice has been and must continue to be the progressives' non-negotiable condition for climate policy. This is because, even among the political tendencies that take climate change seriously, there is no unanimity on the need to ensure that climate action does not come at the disproportionate expense of the already vulnerable in our societies. This creates the risk that climate action will be pursued through regressive policies that deepen inequality, as a variant on the 'shock therapy' and 'austerity' prescriptions that Europeans have become so familiar with. Sensible, progressive climate

403 Minas, 'How climate action and gender equality are linked in the pursuit of justice', SCMP. See n 322.

policy that puts people first must therefore navigate between the Scylla and Charybdis of a ‘green new austerity’ from the neoliberal right and a ‘de-growth’ agenda from the deep-green left. Although from opposite ends of the political spectrum, what these tendencies have in common is that they would risk consigning the livelihoods of millions of working people to the scrapheap.

If the unemployment queue becomes the symbol of the climate transition in industrialised economies, the transition will fail. Progressives must insist that the climate transition be simultaneously a social transition. This does not mean slowing climate action but rather devoting equal attention to the social dimensions and consequences of climate action, while investing in the adaptation and disaster risk reduction necessary to prepare communities for the difficulties ahead.

This requires putting the fundamental building blocks of social well-being – education and training, health care, aged care and housing, to name but a few – at the centre of climate policy and reforming them to better support society in achieving the Paris goals. For example, climate change’s myriad impacts on human health call for systemic interventions to address the ‘health-climate-inequality nexus’.⁴⁰⁴ Getting the social dimensions of climate policy right is a massive undertaking that ranges from retraining workers in fossil fuel-dependent industries or regions to preparing health systems to treat the disease burden of climate change, while also finding decent housing solutions for low-income communities forced to relocate by sea-level rises and other climate consequences. This work is necessary to ensure that the climate transition does not come at an unsustainable social cost – or is not derailed by social backlash – and should be pursued in a systemic, evidenced-based manner rather than through ad hoc measures.

We need to build upon recent policy advances that have secured such measures as the Just Transition Mechanism and the Social Climate Fund. Much work remains to be done to systematise the appli-

404 Haas, Willi et al., ‘Climate mainstreaming: Climate and health policy’, Policy Brief, FEPS, February 2023.

cation of social criteria to the climate transition. The introduction of social indicators within the EU taxonomy – as other jurisdictions have already done or are in the process of doing – could be a meaningful step forward in this regard. Progressive governments and parties will need to work closely with the trade union movement and other stakeholders to co-design policies that advance the climate transition while maximising social well-being and agency. The goal is to avoid the social dislocation of previous economic transitions and make climate policy an engine of urban and rural regeneration, enabling the creation of quality jobs in sustainable sectors.

The EU's domestic work on the social dimensions of the climate transition will have an increasingly important international dimension. By showing, not merely telling, that ambitious climate targets are consistent with social justice and economic prosperity, the EU can influence other countries to commit to stronger climate measures. In addition, the EU should always be alert in its external actions to the social justice implications of climate projects and programmes. The enforcement of rigorous environmental and social standards is a minimum requirement in this regard.

Freedom: Climate policy should be guided by the principle of freedom. This proposition will be counterintuitive to some, given persistent right-wing claims that climate policy is an instance of the so-called 'nanny state' run amok or that 'climate totalitarianism' is taking hold. Such demagoguery could not be further from the truth, however. Climate policy can be not only consistent with democratic freedoms but a powerful force for enlarging individual and collective freedoms. Progressives should both craft and defend climate policies that enable rather than constrain individual and social autonomy.

The co-benefits of climate policy should include the enhancement of both negative and positive liberties. Regarding the former, climate policy is central to freeing the EU from dependence on fossil fuel-exporting autocracies. This applies not only to Russia but also to other authoritarian regimes that do not share our values. Freedom from such energy dependence reduces the leverage that such third States can wield over the EU and strengthens the EU's foreign policy au-

tonomy. In turn, this frees the EU to pursue a more values-based foreign policy.

By the same token, climate policy should always be crafted so as to avoid the creation or perpetuation of other dependencies, such as an overreliance on renewable and battery manufacturers from China. While industrial policy should never aim for the illusory goal of autarchy, investment in domestic capabilities and enhanced cooperation with other democracies should be pursued with urgency.

Climate adaptation policy can also play a critical role in freeing communities from burdensome conditions. In many parts of the world, adaptation measures will be needed to preserve space for 'normal' life by preventing or ameliorating negative social impacts of climate change, such as disasters, famine and international or domestic armed conflict.

The relationship between climate policy and positive liberty should also be emphasised. In countries stalked by energy poverty, the introduction of distributed renewable energy has transformational potential, enabling access to education, health care and other services that require electricity.

In various places, 'prosumers' and renewable energy communities are enabling households and businesses to exert greater control over their energy bills while contributing directly to advancing the climate transition. Cutting off the power of households that could not pay their electricity bills was one of the hallmarks of the neoliberal 'austerity' response to the financial crisis of the previous decade.⁴⁰⁵ It is not surprising, then, that the concept of 'energy democracy' has its origins in the European left and emphasises the potential for renewable self-production to liberate individuals and collectives from the threat of energy poverty.⁴⁰⁶

Internationally, the climate transition can be a force for democratisation by weakening the foundations of autocratic regimes that

405 Petrova, Saska, 'Illuminating austerity: Lighting poverty as an agent and signifier of the Greek crisis' (2017) 25 *European Urban and Regional Studies* 360.

406 Szulecki, Kacper, 'Conceptualizing energy democracy' (2018) *Environmental Politics* 27(1): 21, 23ff.

are reliant on fossil fuel revenues. As countries experience sharp reductions in national income, only leaders with a democratic mandate will have the legitimacy to make the painful decisions necessary to secure their nations' future in a carbon-constrained economy. Democratisation of neighbours and trading partners is in the interest of the EU and should be encouraged, while respecting the international principles of self-determination and non-interference.

International solidarity: International solidarity is a bedrock principle of progressive political movements. The application of this principle to climate policy is multifaceted and needs to be responsive to contemporary and changing conditions.

For decades, international climate politics has been conducted primarily through negotiations between loosely formed camps of developed versus developing countries. In one sense, this faultline is unfortunate, as it promotes antagonistic interaction and constrains the potential for the creative, collaborative identification of solutions. It is nevertheless a reality. Its negative aspects can be ameliorated by a negotiating approach that prioritises solidarity with developing countries. This means not simply engaging transactionally in the search for consensus outcomes, but also seeking to understand, accept and work with the priorities of developing country partners.

We have repeatedly seen how international solidarity – or the sense of its absence – has conditioned international climate negotiations. The 'high ambition coalition' formed with Small Island Developing States made the Paris Agreement's 1.5 °C degree target possible by putting the existential concerns of such states at the centre of the negotiating agenda. The collective failure to secure USD 100 billion in annual climate finance for developing countries by 2020 created a crisis of trust that held negotiations back. More recently, assent to dedicated funding arrangements for loss and damage demonstrated a preparedness to support poorer nations in realising their priorities regardless of the EU's own view concerning optimal funding approaches.

Of course, practicing international solidarity does not mean uncritical acceptance of obsolete interpretations of concepts such as 'common but differentiated responsibilities and respective capabil-

ities'. The international distribution of climate efforts and support cannot depend on national circumstances as they were in 1992. The Paris Agreement created a framework for distributional choices to be made with reference to contemporary conditions and to evolve based on changing circumstances. From an EU perspective, genuine, practical solidarity with countries and peoples most in need of climate support makes it easier (although never easy) to argue that more wealthy and emerging economies should contribute to that support.

The EU's internal climate policy is its key point of departure for its international climate assistance. EU climate policy documents routinely include proposed actions concerning 'international dimensions'. More importantly, concepts and programmes developed for implementation within the EU (often with decisive input from progressive political currents) also have applications in the pursuit of international solidarity. The just transition concept is a case in point. Concurrent with the rollout of the Just Transition Mechanism, implementation of this concept is being internationalised through agreement on 'just energy transition partnerships' (JETPs) with a growing number of developing countries.

Effective international climate assistance requires conceptual and programmatic innovations rather than just business as usual. As the impacts of climate change worsen, it is likely to be necessary periodically to reassess which nations are most in need of particular kinds of assistance. An early example of this is the International Monetary Fund's (IMF) Resilience and Sustainability Trust which, following a G20 mandate, made climate vulnerability a criterion for access alongside traditional income-based metrics.⁴⁰⁷

Progressive political parties should participate directly in the construction of international solidarity. Party-to-party relations and

407 IMF, 'Resilience and Sustainability Trust Frequently Asked Questions', <https://www.imf.org/en/About/FAQ/Resilience-and-Sustainability-Trust>; Task Force on Climate, Development and the International Monetary Fund, 'Designing a Resilience and Sustainability Trust', February 2022, <https://www.bu.edu/gdp/files/2022/02/TF-PB-002-FIN.pdf> (both accessed 10 May 2023).

engagement with transnational social movements are opportunities for the EU's progressives to learn directly from those on the front-lines of the climate crisis. In practical terms, this international work should include the identification of figures and movements that share basic progressive values and have the potential to be key allies and partners in the climate struggle. A transnational progressive politics, drawing on a rich heritage of internationalism but contemporary in outlook and methods, can be a critical enabler of the practice of international climate solidarity.

ANNEX

Key documents

International

Energy Charter Treaty

<https://www.energychartertreaty.org/treaty/energy-charter-treaty/>

Kyoto Protocol

<https://unfccc.int/process-and-meetings/the-kyoto-protocol/>

[history-of-the-kyoto-protocol/text-of-the-kyoto-protocol](https://unfccc.int/process-and-meetings/the-kyoto-protocol/text-of-the-kyoto-protocol/)

and its Doha Amendment

<https://unfccc.int/process/the-kyoto-protocol/the-doha-amendment>

Paris Agreement

<https://unfccc.int/process-and-meetings/the-paris-agreement>

Rio Declaration on Environment and Development

<https://www.cbd.int/doc/ref/rio-declaration.shtml>

Treaty establishing the Energy Community

<https://www.energy-community.org/legal/treaty.html>

United Nations Framework Convention on Climate Change

<https://unfccc.int/resource/docs/convkp/conveng.pdf>

EU

Energy Efficiency Directive

[https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3AA02012L0027-20210101)

[CELEX%3AA02012L0027-20210101](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3AA02012L0027-20210101)

Energy Union Governance Regulation

[https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3AA02018R1999-20230516)

[CELEX%3AA02018R1999-20230516](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3AA02018R1999-20230516)

EU climate adaptation strategy communication

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2021:82:FIN>

European Climate Law

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32021R1119>

European Green Deal communication

https://commission.europa.eu/publications/communication-european-green-deal_en

ETS Directive

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02003L0087-20230301>

‘Fit for 55’ communication

<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021DC0550>

Just Transition Fund regulation

<https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32021R1056&from=EN>

Renewable Energy Directive

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02018L2001-20220607>

Taxonomy regulation

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32020R0852>

Treaty on the Functioning of the European Union

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A12016ME%2FTXT>

Key institutional actors

Council of the EU

<https://www.consilium.europa.eu/en/policies/climate-change/>

European Central Bank

<https://www.ecb.europa.eu/ecb/climate/html/index.en.html>

European Council

<https://www.consilium.europa.eu/en/policies/climate-change/>

European Investment Bank

<https://www.eib.org/en/about/priorities/climate-action/index.htm>

European Parliament

<https://www.europarl.europa.eu/topics/en/topic/climate-change>

European political parties:

European People's Party

<https://www.epp.eu/>

Party of European Socialists

<https://pes.eu/>

Alliance of Liberals and Democrats for Europe Party

<https://www.aldeparty.eu/>

European Greens

<https://europeangreens.eu/>

European Conservatives and Reformists Party

<https://ecrparty.eu/>

Party of the European Left

<https://www.european-left.org/>

EU Member States

G7

Intergovernmental Panel on Climate Change

<https://www.ipcc.ch/>

International Energy Agency

<https://www.iea.org/>

NATO

<https://www.nato.int/cps/en/natohq/index.htm>

UN General Assembly

<https://www.un.org/en/ga/>

UNFCCC Conference of Parties

<https://unfccc.int/process/bodies/supreme-bodies/conference-of-the-parties-cop>

UNFCCC Secretariat

<https://unfccc.int/about-us/about-the-secretariat>

World Bank Group

<https://www.worldbank.org/en/topic/climatechange>

Some key European figures in climate policy

Laurent Fabius: Former French foreign minister and Socialist whose superb management of the Paris climate conference, as COP president, enabled the adoption of the Paris Agreement.

Kristalina Georgieva: Managing director of the International Monetary Fund, under whose leadership the IMF has greatly expanded its work on climate change.

António Guterres: Former Socialist prime minister of Portugal who, as UN secretary-general, has mobilised the world's main intergovernmental organisation to respond to the climate crisis across numerous fronts.

Francesco La Camera: Italian civil servant who, as director-general of the International Renewable Energy Agency (IRENA), leads one of the major intergovernmental organisations working on climate change, which has led thinking on the geopolitics of renewables.

Christine Lagarde: Former centre-right French minister and managing director of the International Monetary Fund. As president of the European Central Bank she has championed the ECB's recent work on tackling climate change.

Emmanuel Macron: As President of France he rallied support for the Paris Agreement following the election of President Trump and spearheaded numerous climate initiatives, such as the 'One Planet' summit and the proposal for a global climate pact.

Mariana Mazzucato: Academic and adviser to the European Commission and governments whose concept of an ‘entrepreneurial state’ leading climate action has influenced policy in the EU and internationally.

Angela Merkel: Chaired the first meeting of the UNFCCC Conference of Parties as German environment minister. As chancellor of Germany she was a key decision-maker in the EU and represented the strand of the centre-right that accepts climate science and is in favour of proactive responses.

Ed Miliband: UK Labour politician who, as UK climate secretary at the 2009 Copenhagen conference, played an important role in salvaging an outcome, which prevented the UNFCCC process from being completely derailed.

Teresa Ribera: A long-term contributor to climate policy in multiple capacities who has led developments in Spanish, EU and international climate frameworks as Spanish deputy prime minister, ecological transition minister and climate negotiator, including during the Spanish Presidency of the Council of the EU in 2023.

Johan Rockström: Scientist who, with colleagues, introduced the concept of ‘planetary boundaries’ and has been a thought-leader on climate and broader sustainability challenges ever since, participating actively in international climate processes.

Maroš Šefčovič: As vice president of the European Commission for energy (2014–2019) he coordinated the development of the Energy Union and the integrated governance framework for the implementation of both the Energy Union and Paris Agreement goals within the EU.

Greta Thunberg: Swedish activist whose ‘school strike for the climate’ initiative galvanised European and global movements for climate justice, exerting pressure for stronger climate policies.

Frans Timmermans: Former Dutch foreign minister and first vice president of the European Commission who campaigned strongly on climate action as the 2019 PES *spitzenkandidat* and subsequently led the introduction of the European Green Deal as the Commission executive vice president responsible for it (2019–2023).

Laurence Tubiana: CEO of the European Climate Foundation. As French climate ambassador she was a key contributor to the success of the Paris climate conference, COP21.

Climate change and the EU timeline

1941: Trail Smelter Arbitration

Milestone in the early development of international environmental law, from which developed the principle that states should not allow activities on their territories that harm the environment of other states.

1964, June: The G77 is formed

77 developing countries formed the Group of 77 (G77) with a joint declaration at the first session of the UN Conference on Trade and Development. Now with 134 Member States, the G77 and China negotiate with a common position on climate change.

1972, June: The Stockholm Declaration

The UN Conference on the Human Environment produced the Stockholm Declaration on environmental principles, including safeguarding natural resources for the benefit of present and future generations.

1972, December: UNEP is established

The UN General Assembly established the United Nations Environment Programme (UNEP).

1974, May: a 'New International Economic Order'

The UN General Assembly declared the establishment of a 'New International Economic Order' to rebalance the global economy in favour of developing countries, including through access to finance and technology transfer.

1987: Brundtland Report

The World Commission on the Environment and Development, established by the UN General Assembly, issued the Brundtland Report, defining and promoting ‘sustainable development’.

1988, December: Intergovernmental Panel on Climate Change

The UN General Assembly endorsed the establishment of the IPCC, whose regular reports on the scientific consensus on climate change have become a major factor in climate politics.

1992, May: UN Climate Convention

The UN Framework Convention on Climate Change was adopted.

1992, June: Rio Principles

The UN Conference on Environment and Development issued the Rio Declaration on Environment and Development, which built on the Stockholm Declaration with an updated statement of sustainable development principles, including the ‘common but differentiated responsibilities’ of states. Also at Rio, the UN Climate Convention was opened for signature.

1994, March: UN Climate Convention came into force

The UN Climate Convention entered into force, launching an international legal regime for collective action on climate change.

1995, March: COP meets

The UNFCCC Conference of Parties met for the first time, in Berlin, and agreed the mandate for negotiating the Kyoto Protocol.

1997, December: Kyoto Protocol adopted

The UNFCCC COP adopted the Kyoto Protocol at its third meeting. EU Member States and other developed countries accept quantified climate targets, but the United States never joins.

1998, April: Energy Charter Treaty

The Energy Charter Treaty, signed in 1994, entered into force, providing international legal protection for energy investments.

2005, January: EU ETS

The EU Emissions Trading System (ETS) was launched as the cornerstone of EU climate mitigation policy.

2005, February: Kyoto Protocol in force: The Kyoto Protocol entered into force, eight years after its adoption and following tough negotiations on rules for its implementation.

2009, December: EU climate and energy powers; Copenhagen cliff-edge

The Treaty of Lisbon entered into force, creating an EU shared competence on energy and setting the objective of combating climate change. The Copenhagen climate conference, COP15, almost resulted in the collapse of the UNFCCC process. The situation was salvaged through the non-binding Copenhagen accord. In 2010, the COP adopted many of the elements that were negotiated at Copenhagen, such as the new Green Climate Fund.

2014, November: ‘G2’ climate leadership

A US-China joint statement identified common ground on climate change, laying the groundwork for the Paris Agreement.

2015, December: Paris breakthrough

At the Paris climate conference, COP21, the COP adopted a new climate treaty, years in the making, the Paris Agreement, which establishes a new global consensus on climate action.

2016, November: Paris Agreement in force, Trump elected

The Paris Agreement entered into force in record time, less than a year after its adoption. However, Donald Trump was narrowly elected president of the United States on a platform of withdrawal from the Paris Agreement.

2017, June: US leaving Paris

President Trump announced that the US would withdraw from the Paris Agreement and renege on its pledge to the Green Climate Fund, triggering successful diplomatic efforts by the EU and other parties to defend the Paris Agreement and dissuade further withdrawals.

2018, August: School strike starts

Greta Thunberg began her ‘school strike for the climate’ outside the Swedish parliament, triggering a global ‘Fridays for future’ movement of young people protesting for climate action and climate justice.

2019, December: European Green Deal and climate neutrality by 2050

The new von der Leyen Commission proposed a ‘European Green Deal’ to respond to the demands of EU citizens for more ambitious climate and environmental policy. The European Council agreed on the target of EU climate neutrality by 2050.

2020, January: Pandemic

The Covid-19 pandemic began, resulting in a sudden but short-lived reduction in global CO₂ emissions. The Glasgow climate conference, COP26, was delayed by a year to 2021 due to Covid control measures.

2020, July: EU sustainable finance milestones

The European Council agreed pandemic response funding and the 2021–2027 EU budget, mainstreaming climate finance in both. Separately, the taxonomy regulation entered into force as the centrepiece of the EU’s sustainable finance framework.

2020, September: China committed to net zero

Chinese president Xi Jinping announced the goals of peaking CO₂ emissions by 2030 and achieving CO₂ neutrality (later clarified in terms of a broader target of climate neutrality) by 2060. By 2022, most G20 countries had committed to a net zero target.

2020, November: US briefly out of Paris

The US withdrew from the Paris Agreement one day after its presidential election. It re-joined the Paris Agreement under the Biden administration in February 2021.

2021, July: European Climate Law

The European Climate Law entered into force, strengthening the EU policy goal of net zero by 2050 as a legal obligation and creating a framework for its achievement.

2022, February: Russian war on Ukraine

Russia launched an all-out invasion of Ukraine. As part of its response to this criminal war, the EU agreed and implemented emergency measures to eliminate reliance on Russian fossil fuel exports.

2022, December: Loss and damage fund

The COP agreed to establish a new loss and damage fund to assist developing countries most vulnerable to climate change.

2023, October: CBAM

The EU Carbon Border Adjustment Mechanism (CBAM) transitional phase began, creating a new factor in EU climate diplomacy with trading partners.

2024, March: Goodbye Energy Charter Treaty

EU Member States approved a plan for EU withdrawal from the Energy Charter Treaty, after years of negotiation over its protection of fossil fuel investments.

Acronyms

CBAM	Carbon Border Adjustment Mechanism
CBDR-RC	Common but differentiated responsibilities and respective capabilities
CDM	Clean Development Mechanism
CDR	Carbon dioxide removal
COP	Conference of Parties
ECB	European Central Bank
EEAS	European External Action Service
EIB	European Investment Bank
EnC	Energy Community
ETS	Emissions trading system
EUA	EU allowance
GHG	Greenhouse gas
GGGI	Global Green Growth Institute
GNI	Gross national income
GST	Global Stock-Take
ICAO	International Civil Aviation Organization
IEA	International Energy Agency
IIA	International investment agreement
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
JTF	Just Transition Fund
JTM	Just Transition Mechanism
LDCs	Least developed countries
NATO	North Atlantic Treaty Organization
NDC	Nationally determined contribution
NECP	National Energy and Climate Plan
NGEU	Next Generation EU
NIEO	New International Economic Order
QELRC	Quantified emission limitation and reduction commitment
RED	Renewable Energy Directive
SIDS	Small Island Developing States

SRM	Solar radiation management
TEU	Treaty on European Union
TFEU	Treaty on the Functioning of the European Union
TJTP	Territorial just transition plan
TNC	Transnational corporation
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNGA	United Nations General Assembly

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Reviews

Dr César Luena, S&D MEP, Vice President EP ENVI Committee

This primer is of great value to policy makers for several key reasons. First, it provides a concise but comprehensive overview of the significance of climate change and its global ramifications, emphasising the urgent need for action. It also highlights climate change as an economy-wide problem that requires transformational changes in all economic sectors and a comprehensive approach. In addition, it identifies and analyses key climate policy issues, such as the lack of full consensus on climate policy, the importance of climate justice and the role of the private sector in the climate transition, what equips policymakers with a deeper understanding of the complexities involved in climate governance and the need for nuanced approaches to address them effectively. And last, it provides progressive principles to strengthen climate policy, such as ambition, inclusiveness, justice, freedom and international solidarity. These principles establish a framework for designing and implementing climate policies that are not only effective but also equitable and socially just, empowering policymakers to advocate for policies that prioritize sustainability, equity, and global cooperation in addressing the climate crisis.

In short, this primer is a valuable resource for policymakers, providing essential insights, analysis and guiding principles for formulating effective climate policies that address the complexities of the climate crisis while promoting sustainability, equity and global solidarity.

Mary Robinson, First woman President of Ireland and former UN High Commissioner for Human Rights

The FEPS Primer by Stephen Minas is an essential and empowering read amid what is rising political conflict. The right is targeting the fundamentals of the just green transition, undermining the international commitment to fight climate change and hindering the EU capacity to act accordingly. Against this backdrop, this instructive volume provides systematized knowledge, proud records of progressive political achievements and crucial arguments to win – not only the battle of narratives, but above all the strive for a fairer and more sustainable world.

Mikael Leyi, Secretary General, SOLIDAR/SOLIDAR Foundation

The IPCC reports and a multitude of other reliable scientific sources provide irrefutable evidence that we are currently on the path to human extinction and the destruction of our planet as we know. There is scientific consensus on both the nature of the crisis as well as what needs to be done. We lack political consensus, however. People are taking to the streets for necessary climate action to be taken, but they also do it to protect status quo. Unsustainable businesses and populist decisionmakers work directly against any meaningful political proposals or simply continue to avoid addressing the systemic issues at the root of the climate crisis. As we urgently need to act to remedy the overexploitation of natural resources, the concentration of power and wealth, and the underrepresentation of minorities and vulnerable communities we need to work together in a shared effort to turn this around. To save our planet and secure a liveable future, we need to mobilise all citizens and civil society, as well as engage in policy and political discussion to win the political consensus missing. The FEPS' Primer on Climate is a great help in our ambition to raise awareness and knowledge both on the existential threat of the climate crisis, the policy considerations surrounding it at national, international and EU level, and it offers an opportunity to rally forces behind a Progressive call for a just transition to carbon neutrality in Europe and beyond!

Dr Thomas Fröhlich, Visiting Research Fellow, King's College London

The FEPS Climate Primer gives a handy introduction to the topic of our time: how to save the climate from within the European Union while advancing equality and human rights globally. The connection between climate science, activism and political work is well-placed at the beginning of the book, while the following introduction to the UNFCCC and the European Climate Law offers a starting point to understand the current climate regime. Most importantly, the author synthesises the current debate within the progressive community around climate action and closes his tome with a collection of progressive climate principles that can and should be the starting and guiding point for any future policy development. The FEPS climate primer by Stephen Minas thereby offers foundational knowledge for anyone interested in climate policy and an action-oriented and values-based framework for the next stage of progressive climate policy.

About the Author



Dr Stephen Minas is a professor at Peking University School of Transnational Law, China and also affiliated with the Transnational Law Institute of King's College London.

Stephen works primarily on climate change law and policy, with a focus on technology and finance, participating in the EU team at UN climate conferences and co-facilitating negotiations.

Outside the climate negotiations, Stephen is the vice-chair of the UN's Climate Technology Centre & Network Advisory Board and a member and former chair of the UNFCCC Technology Executive Committee.

Stephen has co-edited books on EU climate diplomacy, the EU and China's Belt and Road Initiative, and the international law of the sea.

Previously, Stephen was a member of the FEPS Young Academics Network and of the steering committee of the FEPS initiative 'UNited for Climate Justice'.

Stephen is a graduate of the University of Melbourne, the London School of Economics and King's College London.

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I have drawn inspiration from the many progressives who have led EU climate policy and diplomacy through this period of upheavals, notably Teresa Ribera and Frans Timmermans. I hope that this primer does justice to their commitment to social and climate progress as complementary objectives, not trade-offs.

Naturally, I am solely responsible for all opinions and any errors in the text.

Stephen Minas

The FEPS Primer Series

Following a decade of polycrisis that followed the great recession of 2009, progressive political thinking and practice in Europe needs a reconstruction. This FEPS Primer book series was launched to serve the creation of this new synthesis, connecting long established values of the European socialist and social democratic traditions with the lessons and innovations of the current experience.

Primers are booklets written with an educational purpose, to help new (typically young) audiences enter specific thematic fields, which can be diverse (in this case social science, politics, and policy). Accessible language is important, together with illustrations that highlight key elements of the content. The main text is always accompanied by a glossary as well as a section of recommended further reading.

The FEPS Primers are parts of a broader effort: the Foundation endeavours to raise progressive political education in Europe to a new level. Our volumes aim to provide useful analysis, instruction, and orientation for several years after publication. Some of them may well be considered ‘must reads’ for all those aspiring to play an active role in European politics at any level.

Our authors are not only recognised experts, but also active participants in political and policy debates, representing a diversity of European nations and career paths. However, they are connected by sharing the values and objectives of the progressive political family and concerns for the future of European societies, as well as sustainability and social cohesion as common goals.

The FEPS Primer series is edited by an Editorial Board. We keep in view the key current issues of the European Union, with a focus on critical discussion points that will influence the work of social movements as well as governance at various levels in the coming decade. We hope the selection of topics and the contributions of our distinguished authors will spark the interest of those participating in progressive political education, and also appeal to a wider readership.

Dr László Andor

FEPS Secretary General

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