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Climate Governance and Federalism in the European Union

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7.1 Introduction

Building on its climate change mitigation policies and associated greenhouse gas emissions reductions, the EU aims to become the world's first climate-neutral economy by 2050, with a reduction of 55 per cent in greenhouse gas (GHG) emissions by 2030. Accordingly, in her first speech to the European Parliament, the new president of the European Commission, Ursula von der Leyen, announced the 'European Green Deal' as the EU's new growth strategy involving all economic sectors.[1] The Commission's increased ambition on climate-related activities has been supported by a revised proposal agreed by the European Council for the 2021–7 EU long-term budget to allocate 30 per cent of expenditure to such activities.[2] However, meeting the climate change challenge appears complex in the process of European differentiated integration (De Witte, Ott, and Vos 2017), the (still) problematic 2004 enlargement to include former communist countries, as well as Brexit (Leruth, Gänzle, and Trondal 2019), the current economic downturn and energy crisis.

The EU offers an interesting combination of different federal features while not yet a federation in most senses (*infra*, Section 7.3) manifest in its climate governance. These include a favourable context for decentralized and experimental policymaking, enhanced prospects for triggering dynamic processes of policy diffusion, and availability of multiple levels and venues for policymaking. In this realm, however, a number of knots still need to be disentangled, as Member States' diverging priorities on energy and sometimes conflicting positions on mitigation targets make intergovernmental decision-making in climate policy increasingly difficult. Policy fragmentation and poor or delayed implementation of EU legislation by Member States remain a critical issue.

7.2 EU Climate Change Commitments, GHG Emissions, and Climate Impact

In order to achieve GHG reduction targets, the EU has built a complex climate policy architecture based mainly on three pillars: the Emission Trading System

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(ETS), a cap-and-trade system applying to some sectors and aiming to reduce emissions on a European level; the Effort Sharing (ES) instrument, which sets individual Member State's targets in non-ETS sectors; and the Land Use, Land Use Change, and Forestry (LULUCF) regulation, which accounts for emissions and removals stemming from land-use activities.[3] More specifically, the EU has combined binding objectives on emissions with additional binding targets on energy efficiency and renewable use for the year 2020 through its '2020 Climate and Energy Package'.[4] These are embodied in a set of binding acts (including those on ETS, ES, renewable energy, and energy efficiency) mandating a 20 per cent reduction of GHG emissions compared to 1990 levels, along with the achievement of a 20 per cent improvement in energy efficiency and of a 20 per cent share of renewables in the EU final energy consumption.

The first two targets were binding on Member States (MS), while the latter was merely 'indicative'. The following '2030 Climate and Energy Framework' builds on the preceding framework and upgrades and updates the EU's emission reduction and energy targets for the period from 2021 to 2030: at least 55 per cent cuts in GHG compared to 1990 levels (implemented by the EU ETS and ES and the LULUCF Regulation), a 32 per cent share for renewable energy, and a 32.5 per cent improvement in energy efficiency (under the 'Clean Energy for all Europeans Package', consisting of eight legislative acts, among which are those on renewable energy and energy efficiency and the new 'Governance Regulation', *infra*).[5]

Besides increasing targets, major differences between the 2020 and the 2030 frameworks relate to: the shift of renewable energy binding targets from MS to an overall Union target as a sign of a more intergovernmental and 'renationalized' phase (Kulovesi and Oberthür 2020; Rayner and Jordan 2016) compared with the previous phase, which had benefitted from a strong endorsement of those MS leaders and elites (e.g., UK and Germany) convinced of the necessity of an ambitious EU climate change mitigation policy (Rayner and Jordan 2016); the integrated framework for climate and energy planning, reporting, and reviewing under the new Governance Regulation as an important driver of cooperation, coordination, and convergence overseen by the Commission (Ringel and Knodt 2018; Szulecki et al. 2016); the integration of the LULUCF sector into the EU's Climate and Energy policy framework, not previously covered. More recently, the European Climate Law entered into force to turn the political commitment towards having a climate-neutral economy by 2050, included in the 'European Green Deal Communication', into a legal obligation.[6] In addition, the European Commission published the 'Fit for 55' Package to revise key EU policies and legislative acts across various sectors, including energy, transport, and building, and align them with the new 2030 climate target of at least 55 per cent GHG reductions and the 2050 climate-neutrality objective.[7]

Consistent with these commitments, the total GHG emissions in the EU-27 plus the UK have decreased by 1,330 million tonnes of CO_2e since 1990.[8] More recently, the economic downturn in 2020 following the Covid-19 pandemic, though incidental, has sharply reduced emissions and overall energy consumption, with the share of energy consumed from renewable sources likely having increased, and thereby securing achievement of the EU's climate and energy goals for 2020.[9] However, continuing at the rate achieved between 1990 and 2019 would be insufficient to meet the 2030 and 2050 objectives. In addition, current and predicted effects of climate change across the EU reinforce the urgency of mitigation and adaptation actions.[10]

7.3 Climate Governance in the Context of an Evolving EU Integration Process

7.3.1 *The Quasi-federal Nature of the EU*

The EU has many federal features (Palermo 2019). These include the ideological roots of the EU integration project (Burgess 2000); many EU principles (e.g., the precedence of EU law over national law; the direct effect of EU law in the national legal systems and between citizens; the principles of loyal cooperation, conferral, subsidiarity, and proportionality; the distribution of powers, *infra*); and a consistent part of EU constitutional terminology (e.g., terms such as pre-emption, supremacy, exclusive and concurrent powers, residual clause). In particular, the EU appears to resemble more the model of administrative federalism (Börzel 2005; Burgess 2000; Kincaid 1999; Schütze 2009), as most of legislative powers in the EU are currently shared (e.g., environment, climate, energy), and responsibilities for policy execution mostly rest with the Member States. Significant elements of federalism are still missing in the EU integration process, however. For instance, the hierarchical relationship between the EU and the MS, with the former prevailing over the latter (MacCormick 1999), is far from being settled and requires continual adjustment (*infra*).

Thus, throughout the long-running European integration process, the EU has been described by scholars as: *sui generis* (Mason 1955; Phelan 2012; Wallace and Wallace 2000); a system of multi-level governance (Hooghe and Marks 1996, 2001; Piattoni 2010); an incomplete, supranational constitutional creature (MacCormick 1999; Walker 2012); a supranational federation (von Bogdandy 2012); an asymmetric integration process (Palermo 2019).

The debate has also been addressed by the Court of Justice of the EU (CJEU) and by the constitutional courts of several MS, each asserting a different perspective on the sovereignty issue.[11] These 'judicial dialogues' are not yet

concluded and represent a specific feature of the evolving EU process of integration (Krommendijk 2020; De Witte et al. 2016).[12]

7.3.2 Architecture of the EU

The EU's institutional architecture is based mainly on two orders of government: the EU and the Member States. However, the MS's regional and local levels are increasingly gaining institutional representation at EU level (e.g., through the Committee of the Regions). In particular, the European Commission has sought to incorporate regions into the policy process – both to increase policy effectiveness and to enhance its visibility and legitimacy at the regional level (Keating 2017).

In general, the European Council defines the EU's overall political direction and priorities and includes the heads of state or government of the EU MS. MS defend their own national interests in the Council of the European Union, where the relevant national ministries meet and have the authority to commit their governments to the actions agreed on in the meetings, while the interests of the EU are promoted by the European Commission, where politically independent members (from MS' national governments) sit.

The EU Treaties (i.e., the Treaty on the Functioning of the European Union, TFEU, and Treaty on European Union, TEU) codify some typical federal principles, such as loyal ('sincere') cooperation (art. 4.3 TEU), conferral, subsidiarity, and proportionality (art. 5 TEU). Four types of powers are listed (arts. 3–6 TFEU):

(1) exclusive, only the EU can act;
(2) shared between the EU and MS, such as on environment and climate change (art. 191–3 TFEU);
(3) those where the EU sets up arrangements and MS must coordinate;
(4) those where the EU can support, coordinate, or supplement MS's actions.

7.3.3 Climate Change and the EU Division of Powers

Since 2009, the Treaty of Lisbon has introduced a new EU shared power on energy in art. 194 TFEU (Benson and Russel 2015), which was before exerted by the EU on the basis of various provisions scattered throughout the Treaty, paradoxically allowing a wider margin to the EU (Fehling 2021; Jegen 2014).[13] Therefore, climate and energy measures can be based on both environment (art. 191–3) and energy (art. 194) provisions with two main caveats.

First, whereas the ordinary EU legislative procedure applies to both cases of shared competences, MS may adopt more stringent protective measures than those

set at the EU level only according to art. 193 TFEU, not under art. 194 TFEU. For instance (art. 191–3), being the legal basis of the Effort Sharing instrument, under this system MS may maintain or introduce more ambitious targets than those set at the EU level.

Second, the sovereignty clause included under art. 192.2 (i.e., environment and climate competence) foresees that some EU measures may be adopted by the Council unanimously, with a special legislative procedure: for instance, provisions primarily of a fiscal nature, measures affecting land use, and those significantly affecting a MS' energy sources choices and the structure of its energy supply (thus derogating to the sovereignty clause of art. 194.2, which prescribes that EU measures 'shall not affect a MS' right to determine the conditions for exploiting its energy resources, its choice between different energy sources and the general structure of its energy supply'). To this regard, art. 194 TFEU, in addition to other political drivers (Bürgin, 2014, Rayner and Jordan 2016), has directly affected the shift from MS's binding renewable energy targets under the 2020 Package to an overall binding target at EU level under the 2030 Framework. In fact, the legal basis used for adopting the new 2018/2001 Directive 'on the promotion of the use of energy from renewable sources' was art. 194, instead of art 191 TFEU (which was the legal basis for previous renewable energy Directive 2009/28). In other terms, the adoption of MS legally binding targets under the new 2018/2001 Dir. would have likely violated the boundaries set under art. 194.2 TFEU.

Considering the interdependencies between environment, climate, and energy policies and the 'grey areas' left by arts. 191–4 TFEU, the relationship between EU and MS powers regarding climate-related acts is subject to varying interpretation and political compromises. An example of this ambiguity is offered by the Governance Regulation, which has a double legal base (i.e., both art. 191 and 194 TFEU), thus leaving room for uncertainty on several points (e.g., the application of sovereignty clauses and of national reinforcements of protection) (Fehling 2021).[14] On the other side, it should be noted that the Governance Regulation aims at linking the EU climate policies and the so-called Energy Union (a framework strategy launched in 2015 to bring about the transition to a low-carbon, secure, and competitive economy) by integrating Member States' planning and reporting obligations with regard to climate and energy (*infra*).[15]

After EU climate and energy binding acts (e.g., directives and regulations) are adopted, MS are responsible for implementing and enforcing them at national level. The European Commission monitors this implementation and has the power to commence infringement procedures (art. 258 TFEU), which can lead to a case being filed before the CJEU.[16] Poor or delayed implementation of EU environmental legislation, including climate and energy related acts, has being a constant feature of the EU legal history.[17] The opposite case of MS contesting the

Commission, also occurs, for example when some MS's appealed against the Commission's powers to review MS's National Allocation Plans of emission allowances (Bogojević 2010, 2013; Damro et al. 2008).[18] Because of the national challenges against the Commission's decisions and the subsequent legal uncertainty, since 2013 this decentralized, bottom-up process has been substituted by an EU-wide cap.[19]

Besides infringement procedures, 'softer' enforcement mechanisms (i.e., 'iterative processes' or 'dialogues' or the 'Open Method of Coordination') exist under EU law in areas where powers remain at the MS level and EU binding measures cannot be adopted. Such mechanisms rely for their success on the cooperation of MS (Smismans 2011). Under this soft approach, objectives are set at EU level through recommendations, standard-setting, benchmarking, peer review, and best practices (Ringel and Knodt 2018), while decentralized implementation responsibilities rely on MS. The European Commission has consecutively applied these mechanisms to build a structured dialogue with the MS especially in the energy efficiency and renewable sectors, where binding national targets could not be adopted (art. 194.2 TFEU). The aim has been to cajole national energy policies towards more ambitious decarbonization targets, and somehow overcome political divisions between different MS on energy and climate priorities within the Council (Knodt, Ringel, and Müller 2020). The 2018 Governance Regulation enhances these soft governance arrangements by incorporating harder elements (*infra*, Section 7.4.1).

7.4 EU Climate Mitigation as a Product of Federal Dynamics and Variables

7.4.1 The EU as an 'Opportunity Structure' for Policy Innovation, Diffusion, and Interactive Learning

As expected, the EU offers an interesting combination of different (federal) features and represents an 'opportunity structure' for policy innovation, rapid policy diffusion, and interactive learning in the field of mitigation (Jänicke and Quitzow 2017; Meyer-Ohlendorf et al. 2014). Over time both competitive and cooperative forms of governance have driven mitigation policies. MS, especially those most economically efficient and the 'frontrunners', have been facilitated in promoting their interests and pioneer policy choices into EU climate action, while the supranational framework has guaranteed a common arena for mutual learning, gradual convergence around common mitigation objectives in light of considerations of solidarity, and 'differentiated responsibilities' (Fehling 2021; Rayner and Jordan 2016), through funding and supporting mechanisms, thus 'leaving no one behind'.[20] The institutional architecture and the mitigation policies of the EU

reflect this mix of decentralized, flexible, competitive, bottom-up approaches, in addition to cooperative and supranational coordination elements, and present both opportunities and challenges as illustrated by the following examples.

Over time, climate policy has become an important driver of EU integration, especially after the increasing support for European-level action in this field showed in public opinion polls and by green parties and environmental NGOs (Oberthür and Roche Kelly 2008; Schreurs and Tiberghien 2007).[21] EU leadership has been driven by such a combination of events, and in turn by the (reinforcing) competing role of mutual leadership played by several MS, for instance, Germany, the UK, the Netherlands, and Denmark, but also Finland and Sweden.

Several MS have anticipated and influenced the EU's climate mitigation initiative and consequently that of other MS, pushing European climate mitigation policy forward while at the same time gaining credit for their actions domestically. This has occurred, for instance, by establishing governance frameworks with a long-term outlook through the adoption of national climate laws (including some adaptation measures as well), also referred to as 'flagship laws' (Fankhauser et al. 2015). The UK's pioneering 2008 *Climate Change Act* inspired a range of related national framework laws, although the Paris Agreement may have accelerated this diffusion (Duwe and Evans 2020).[22] Emulation was a major mechanism shaping climate framework laws developed in other MS after the UK example (Evans and Duwe 2021; Meyer-Ohlendorf 2020). Thus, peer behaviour can be confirmed to have encouraged diffusion in this context, revealing that framework legislation entails a 'signalling character' as it provides for further negotiations (Fankhauser et al. 2016) and offers an indicator for further climate change legislation.

Most MS' national mitigation policies and measures have been implemented in response to EU strategies and to binding instruments (e.g., the 2009 Renewable Energy Directive, the 2012 Energy Efficiency Directive, the Effort Sharing Decision).[23] Only 27 per cent of reported national actions are not directly related to a specific EU policy or legislation.[24] However, since MS have adopted climate mitigation policies and legislation of varied ambition, taking advantage of the flexibility of EU policy and of binding instruments on mitigation (directives), as well as of the autonomy of MS in the energy field (i.e., subsidiarity and sovereignty clause), some delays in adopting mitigation measures as well as implementation variances across MS occurred (Fleig et al. 2017).[25] Thus, EU mitigation policies do not convey such a coherent, homogeneous, and ambitious approach as one would have expected, for instance, based on the EU's climate change leadership aspiration (Gupta and Ringius 2001; Massey et al. 2014; Parker and Karlsson 2010; Rayner and Jordan 2016). Especially because of the 2004 problematic enlargement to include formerly communist central and eastern countries, dominated by fossil fuel energy programmes, the EU's mitigation policy

ambition has at times been limited (*infra*), and has been only partially reinstated through substantial financial compensation and exemptions (Kulovesi and Oberthür 2020; Peeters and Athanasiadou 2020; Rayner and Jordan 2016).

7.4.2 The 'Competitive Cooperation' between the Council and the Commission

Member States' diverging priorities and sometimes conflicting positions are reflected, in turn, into the European Council and into the Council of the EU, where MS heads and MS ministers respectively reaffirm their sovereign priorities, sometimes in contrast with that of the European Commission. For instance, in the European Council of June 2019, Poland, Hungary, Slovakia, and the Czech Republic opposed the proposed target of zero emissions, thus hampering a 2050 carbon neutrality target for the EU. Ongoing clashes among national sovereignty over energy policies (Herold et al. 2019; Marcinkiewicz and Tosun 2015; Szulecki 2016) hinder to some extent the EU's mitigation aspirations. Moreover, clashes among MS in the Council and the Commission illustrate a peculiarity of the EU's governance system – the 'competitive cooperation' between the Council and the Commission in legislative agenda setting (Bocquillon and Dobbels 2014).

To reconcile these opposing positions and negotiate a pan-EU climate change mitigation goal, the strategy that EU institutions seem to pursue is based on collective actions where all MS participate in the mitigation efforts, while considering national circumstances and concern of fairness and solidarity. This approach has been applied throughout numerous European instruments, such as EU legislation (e.g., EU ETS, Effort Sharing), specific financial mechanisms (e.g., the Modernisation Fund, supporting investments for a just transition in carbon-dependent regions in ten lower-income Member States), financial assistance through existing funding schemes (e.g., structural and investments funds), and increasing instruments combining research, innovation, and funding (e.g., Just Transition Platform, NER 300 programme), which create networks for MS, regions, agencies, and stakeholders to exchange information and knowledge, good practices, and specific assistance to meet collective targets.[26]

Some national sovereignty instances over energy transition continue to hinder not only the integration of European energy policies and the Energy Union, but also the coherence and effectiveness of European mitigation action (Mata Pérez et al. 2019).[27] Nonetheless, the package of flexible instruments described above constitutes a sound attempt to contrast the 2004 problematic enlargement dimension of the EU with regard to energy governance fragmentation and the increasingly difficult intergovernmental decision-making in climate policy (Rayner and Jordan 2016) previously mentioned. Some scholars have also suggested that

the Governance Regulation constitutes an attempt by the Commission to overcome the hard confrontation between the two blocs of MS, the *Visegrad* and *Green Growth Groups*, and to improve MS' planning and reporting gaps by introducing an integrated framework and a 'harder form of soft governance', exemplified by the 'blank cheque' (Ringel and Knodt 2018).[28]

In other terms, in the event of insufficient ambitious national plans or progress towards the energy and climate targets on the part of MS, the Commission is entitled to adopt additional measures, legislative acts, and exercising powers at the EU level (Knodt, Ringel, and Müller 2020; Oberthür 2019). So, in case of delivery gaps, EU intervention over MS's energy mix choices would be justified, thus bypassing the sovereignty clause of art. 194.2 TFEU, and within the boundaries of the subsidiarity and proportionality principles (Monti and Martinez Romera 2020). Recalling that the Renewable Energy Directive (2018/2001) and the Energy Efficiency Directive (2018/2002) define Union-wide targets for 2030, instead of national individual ones, the new means of the Commission to advance MS policy implementation under the Governance Regulation balance the additional flexibilities granted in favour of MS (Monti and Martinez Romera 2020; Oberthür 2019).

In this respect, some scholars have also observed a trend towards a gradual increase of European Commission authority over MS external energy policies (a power not explicitly conferred to the EU under art. 194 TFEU), culminating with the adoption of Decision 2017/684.[29] The Commission has started to influence MS' negotiations over energy imports and relations with third parties through soft pre-emptive compliance instruments, such as *ex ante* checks that prevent non-compliance with EU rules, guarantee the integrity of the internal energy market, and allow the Commission to gain supranational governance capacity in the energy realm (Dehousse 2015, Thaler and Pakalkaite 2020). In this context, more recently, the Council has invited the Commission to prepare a new strategy on external action in the field of energy cooperation in light of a rapid shift towards the climate neutrality goal.[30]

Previous examples shed light on the drivers of the EU integration process and on the current challenges for a coherent European mitigation policy. The evolving powers of the European Commission tend to be described in contrast with those of MS, which are mainly shaped by national economic interest (in addition to political cultures and regulatory styles: Hoppe and Wesselink 2014; and constitutional design: Steurer and Clar 2015). On the other side, the Commission's role is confronted with MS interplay and changing equilibrium in the European Council. Thus, some scholars describe these processes as polarised and disconnected instead of being complementary dynamics in a complex EU governance (Schmidt 2016), while others underline that the decentralized and multi-level governance structure of the EU has encouraged a process of mutual

reinforcement, where MS and the European Commission are competing (Schreurs and Tiberghien 2007) or mutually supporting (Bürgin 2014) for leadership.

7.4.3 Multilevel Reinforcing Mechanisms: Linking the EU and Regional/Local Governments and Communities

Over time the Commission has enabled and built on multiple dynamics (both vertical and horizontal ones) to exert increasing influence towards ambitious mitigation actions. This multi-level and multi-sectoral approach in targeting industries, mobilizing economic interests, involving sub-national authorities and domestic stakeholders across levels of governments (Szulecki et al. 2016; Wettestad et al. 2012), has empowered EU mitigation policies by directly linking European goals with domestic and local support and with industry interests for climate-friendly technologies. To this extent, the 'Europe 2020' Strategy, the '2020 Climate and Energy Package', and the '2030 Climate and Energy Framework' have put special emphasis on strengthening the interconnections among the industrial sectors, the research community, and financial resources and specific funding programmes (e.g., NER 300 and NER 400; Innovation Fund and Modernization Fund), aiming at EU low-carbon objectives.[31] Some scholars have noted that these multi-level reinforcing mechanisms are equally present in 'frontrunners' and 'laggards' MS (Jänicke and Quitzow 2017) and provide forums for benchmarking, especially in the framework of soft governance mechanisms, as well as an opportunity structure for innovation and experimentation, interactive learning, and best-practices diffusion.

To this same end, the European Commission has pushed for a greater emphasis on regional and local governments of MS in tackling mitigation. In 2008 the European Commission, with support of the Committee of the Regions, launched the *EU Covenant of Mayors* initiative.[32] This initiative has become a well-established network of cities and towns committed to implementation of the EU's GHG-reduction target by 2030 (e.g., by submitting energy and climate action plans and by taking actions in policy areas directly influenced by local administration).[33] Furthermore, the European Commission has recognized the role of MS' provincial and regional government levels as *Covenant Territorial Coordinators* (CTCs) in supporting municipalities with strategic guidance, financial aid (e.g., through ERDF and Cohesion Fund) and technical support. The CTCs, in some cases, even compensate for the void left by the national level, that is, the absence of MS frameworks for local energy planning. Thus, these local-level initiatives, supported by the European Commission, play an important role in reinforcing mitigation policies in pioneer MS (e.g., Germany, Denmark, the UK) and in filling the gaps in laggard MS (e.g., Poland) with weaknesses at the national level (Jänicke and

Quitzow 2017). In addition, a reduction of high administrative fragmentation has been observed in some MS (e.g., in Spain, Italy, and Belgium) (Melica et al. 2018).

Another advantage partially derived by this tighter vertical coordination network is reflected in the improved capability of local level governments to promote and finance sustainable energy projects. Also, the EU Covenant of Mayors initiative and the CTCs system have been observed to catalyse dynamic processes of policy diffusion (Grafakos et al. 2020; Kona et al. 2016; Melica et al. 2018), and to influence local entities persistently, for example, through baselines, guidance documents, regular communications and templates which push towards convergence (Heyvaert 2013). The transparency of the Covenant system also creates opportunities for 'naming and shaming', thus increasing the compliance of local entities (Kona et al. 2016). At the same time, the Covenant promotes some flexibility and differentiation among the local entities aiming at the development and implementation of climate mitigation and sustainable energy actions which are innovative and tailored to local circumstances.

7.5 Adaptation Action in the EU

7.5.1 The EU Initiative and Financial Assistance as Key Factors to Catalyse Adaptation Action in Member States

The EU initiative on adaptation (2013 EU Adaptation Strategy, followed by the new 2021 Strategy) only encourages MS, regional, and local levels to take action, rather than mandating it, as the EU lacks formal authority in a variety of areas related to adaptation (Fleig et al. 2017).[34] Thus, cooperation among MS and coordination with the EU play a prominent role. The European Commission, in particular, provides financial assistance to MS adaptation initiatives, monitors and assesses the national adaptation strategies, and supports the MS and their government levels through the European Climate Adaptation Platform (Climate-ADAPT), which allows the exchange of data, good practices, and information.[35]

It should be noted that in the adaptation field several EU MS adopted strategies and framework legislation including provisions on adaptation earlier than the EU.[36] The increasing costs and damages associated with more frequent extreme weather events such as floods, storms, and heatwaves, recorded in MS and gaining increased public awareness and attention (Lorenzoni and Hulme 2009) have propelled these MS' early adaptation actions.[37] In addition, according to some scholars (Fleig et al. 2017; Russel et al. 2020), diffusion of adaptation policies and laws in other 'laggard' and 'wavering' countries has been observed as a 'Nordic-country effect'; in other terms, the early adoption of such laws in Nordic countries has affected the diffusion of adaptation frameworks in other EU MS. In the EU

context, peer behaviour has been quite influential thanks to the spread of ideas, practices, and institutions (Massey et al. 2014).

However, the steady increase over five years (2013–18) of national adaptation strategies and plans in the EU MS is strongly influenced by the EU Adaptation Strategy, adopted by the Commission.[38] In fact, the EU initiative has catalysed action in MS and particularly in those that were in earlier stages of developing an adaptation policy. The EU's facilitative role through providing guidance, funding research and adaptation action under the Strategy has urged and enhanced MS initiatives (Massey and Huitema 2016). In particular, in central and eastern MS, the most important driver for diffusion of adaptation measures was the EU's effort to put adaptation on the MS agenda and the accompanying financial support (Massey et al. 2014).

The EU's efforts to promote adaptation across MS have intensified in recent years, for instance by establishing mechanisms of knowledge sharing and best-practices exchange among public and private stakeholders of MS (i.e., through the Climate-Adapt Platform), by the involvement of MS' local governments to engage in adaptation initiatives on the basis of voluntary commitments, and by providing financial support through existing European funds (e.g., the EU's Solidarity Fund). In this respect, EU funds play an important role as there is a lack of funding, with only half of Member States having budgets attached to their adaptation instruments (i.e., National Adaptation Strategies, NAS, and National Adaptation Plans, NAP).[39] In addition, since the EU only encourages MS to adopt comprehensive adaptation strategies, a recent factor influencing MS' action could be detected in the Commission's intention to adopt a legally binding instrument in the event that the progress of MS is insufficient.[40] Some hints of coercion, in the long run, can be perceived as an additional driver for the spreading of adaptation action in MS, as hard law equips the EU Commission with the power of initiating infringement procedures in case of non-compliance, while soft governance only relies on the active cooperation of MS.

Vertical coordination among European, national, regional, and local authorities is essential, as current financial and knowledge gaps at the local level may hinder local action. However, systematic coordination across all levels of administration has only been observed in some MS, while gaps in the involvement of sub-national governance levels have been detected in other MS.[41] In 2014, the European Commission launched a separate initiative called *Mayors Adapt*, based on the *EU Covenant of Mayors* experience (see above). This had the aim of engaging cities in taking action to adapt to climate change, either by developing comprehensive adaptation strategies or by integrating adaptation to climate change into their relevant existing plans. In 2015, the two initiatives officially merged into the *Covenant of Mayors for Climate & Energy* and now represent successful

experiences (Kona et al. 2017) of vertical (local and regional linking to national/ EU levels) and horizontal (e.g., national and transnational city networking, learning and best practices sharing) collaboration for mitigation and adaptation actions.[42] At the local level, involvement in the EU Covenant of Mayors for Climate and Energy has proven to be effective in promoting city-level adaptation policymaking and in linking the EU strategy with local action. In some cases, further support is assured by national and regional initiatives (Grafakos et al. 2020). For instance, the Ministry of the Environment of Czech Republic has officially committed to providing strategic guidance, financial and technical support to local authorities that are signatories to the Covenant and has been recognized by the European Commission as a Covenant National Coordinator. These cases further exemplify how, over the years, the EU has established collaborative policy frameworks, networks facilitating mutually supportive schemes, and knowledge sharing and financial support mechanisms across government levels.

7.5.2 Adaptation as a Cross-Cutting Policy Area across Multiple Scales: Progress and Challenges

In this realm, the transnational cooperation among MS (plus third countries) has also increased with the recognition of the importance of adaptation as a cross-cutting policy area. Notably, EU-driven transboundary adaptation action is channelled through four macro-regional strategies, thus involving most MS.[43] For instance, the EU Strategy for the Danube Region emphasizes adaptation to extreme weather events and provides an important platform to foster cooperation on joint monitoring and flood management. At the same time, this cooperation facilitates the collective implementation of existing EU directives and sectoral policy which, in turn, contribute to efforts for adaptation to climate change with regard to water issues. This case is replicated in the other European macro-regions regarding other sectoral policies and related adaptation initiatives. For instance, multiple initiatives addressing adaptation to climate change exist for mountain ranges and for biodiversity (e.g., Alpine space).[44]

These examples illustrate the process of mainstreaming adaptation action into the EU's sectoral policies at different levels, by supporting environmental policy integration practices across multiple scales (Heyvaert 2013; Jordan and Lenschow 2010), and the process of 'multi-level reinforcement of policy action' in the EU climate change adaptation field. Nonetheless, some policy sectors, such as marine and coastal ones, though singled out as priorities in the EU Adaptation Strategy, receive less attention in terms of adaptation mainstreaming and do not fall into these virtuous dynamics mainly because of some MS' conflicting agendas and preferences. Germany, for instance, has strongly opposed any policy action

affecting marine and coastal planning issues from the European Commission (Russel et al. 2018). In addition, gaps at national and sub-national levels in introducing adaptation considerations in certain sectors are still relevant. Only a few MS have national policy instruments that promote adaptation at the sectoral level, in line with national priorities and in areas where adaptation is mainstreamed in EU policies.[45] A final aspect concerns knowledge gaps. Investment in the development of knowledge on climate adaptation is more likely in countries that already have a strong research base, and a greater critical mass (e.g., Germany, France, and the UK, as a former MS), while smaller countries and countries with a small research budget make progress by becoming involved in European research projects and by cooperating with other MS that face similar issues (Massey and Huitema 2016; Massey et al. 2014; Russel et al. 2020).

7.6 Conclusion

EU climate governance has been shaped over the years into a very dynamic and progressive process, leading to ambitious policies with ambitious targets. This leadership was developed despite the hindrance of conflicting MS' positions and diverging priorities, a burdensome enlargement process, and still uncountable uncertainties in the wake of Brexit. The institutional structure of the EU has definitely played a major role in the creation, circulation, and development of climate mitigation and adaptation policies, by providing an arena in which leadership can be exerted at multiple levels and multiple times, by fostering experimental and innovative solutions, by triggering numerous horizontal and vertical forums for mutual learning and support, by mobilizing economic interests at all levels and sectors, by providing substantial financial resources and funding programmes that have supported the mitigation and adaptation policies diffusion and implementation at different levels of governance and in most affected MS, and by combining (differentiated) legal obligations for MS and voluntary mechanisms (i.e., soft governance mechanisms).

Over time, this 'multi-impulse' system has endorsed and reinforced a relatively robust EU climate governance, even against the backdrop of past and present challenges and hindrances – notably inherent tensions in EU climate and energy governance; misalignment of policy objectives; tensions between flexible and stable approaches; policy fragmentation and weak implementation.[46] Despite additional current and future pressures due to the economic and energy crises, and besides the warning that more than incremental developments in the EU's climate policy are needed to meet the EU's goal of carbon neutrality by 2050, a number of mechanisms and options exist to maintain progress towards EU's climate ambitions. As explained through the chapter, the EU Governance Regulation

offers the opportunity to overcome the EU's dilemma of having ambitious climate policies but only limited authority and capacity in the energy policy field, and the potential to enforce interim targets, as it allows for streamlining and strong coordination under the Commission's oversight. Moreover, the Commission is in the process of reviewing, and where necessary proposing to revise, all relevant policy instruments to deliver the additional emissions reductions for 2030 and achieve the climate-neutrality target by 2050.

Notes

1 Ursula von der Leyen, president-elect of the European Commission, *Speech in the European Parliament Plenary Session*, 16 November 2019, anticipated by her '*Political Guidelines for the next European Commission 2019–2024*', and followed by the Communication from the Commission '*European Green Deal*', COM (2019) 640 final.

2 At the request of the EU MS Heads of State or Government, the European Commission revised the previous *Multiannual Financial Framework for 2021–2027* (COM (2018) 321 final) and presented in May 2020 a package combining the future *Multiannual Financial Framework* and a specific Recovery effort under *Next Generation EU*. The proposal was agreed on by the European Council on 21 July 2020. See: *Special meeting of the European Council (17, 18, 19, 20 and 21 July 2020) – Conclusions*, EUCO 10/20.

3 Respectively: ETS Dir. 2018/410 (amending Dir. 2003/87); ES Reg. 2018/842 (amending Reg. 525/2013 and Decision 406/2009); LULUFC Reg. 2018/941 (amending Reg. 525/2013 and Decision 529/2013).

4 Including the EU ETS Dir., the Effort Sharing (ES) Reg., and the Renewable Energy Dir. (2009/28) and Efficiency Dir. (2012/27). See European Commission. '2020 Climate & Energy Package.' *European Commission*. https://ec.europa.eu/clima/eu-action/climate-trategies-targets/2020-climate-energy-package_en.

5 Energy Performance in Buildings Directive (2018/844); Renewable Energy Dir. (2018/2001); Energy Efficiency Dir. (2018/2002); Governance of the Energy Union and Climate Action Reg. (2018/1999); Electricity Reg. (2019/943); Electricity Dir. (2019/944); Risk Preparedness Reg. (2019/941); ACER Reg. (2019/942). See: European Commission. 2021. 'Clean Energy for all Europeans Package.' *European Commission*. https://ec.europa.eu/energy/topics/energy-strategy/clean-energy-all-europeans_en.

6 'Regulation (EU) 2021/1119 establishing the framework for achieving climate neutrality and amending Regulations (EC) 401/2009 and (EU) 2018/1999'.

7 See: Commission Work Programme 2021 'A Union of Vitality in a World of Fragility', COM/2020/690 final; and the most recent 'Fit for 55' Package, published in July 2021, COM (2021) 550 final.

8 Following the UK's departure from the EU on 31 January 2020, the EU and the UK entered a transition period (1 February–31 December 2020) as agreed on the basis of the 2019 Withdrawal Agreement and the Political Declaration. The EU law applied to the UK until the end of this period. Key provisions of Regulation (EU) No 525/2013 (*Mechanism for Monitoring and Reporting GHG Emissions*) applied to the UK in respect of greenhouse gases emitted during 2019 and 2020. Following the transition period, the EU UK Trade and Cooperation Agreement entered into force on 1 May 2021 and together with the Withdrawal Agreement and its protocols, provides the framework for present EU relations with the UK. For an overview of the different GHG emission estimates published regularly by bodies of the EU, see EEA (European Environment Agency). 2020. 'Complementary Emission Estimates Produced by EU Organisations.' *EEA*. www.eea.europa.eu/themes/climate/different-emission-estimates/emission-estimates-produced-by-eu. See, in particular: EEA. 2020. *Annual European Union greenhouse gas inventory 1990–2018 and inventory report 2020*. EEA. www.eea.europa.eu/publications/european-union-greenhouse-gas-inventory-2020.

9 See: EEA. 2020. *Trends and projections in Europe 2020. Tracking progress towards Europe's climate and energy targets*. EEA. www.eea.europa.eu/themes/climate/trends-and-projections-in-europe.

10 See: EEA. 2020. *Impacts, vulnerability and risks*. EEA. www.eea.europa.eu/themes/climate-change-adaptation/impacts-vulnerability-and-risks.

11 The CJEU has stated several federal principles, such as the precedence (primacy) of EU law over any national source of law (*Costa v ENEL*, 1964, Case 6/64) and the direct effect of European law in the national frameworks of MS and between citizens (*Van Gend en Loos v Netherlands*, 1963, Case 26/62). On the other side, some national constitutional courts have adopted a dualistic approach to the relationship between the domestic and the EU's legal order that guarantees the predominance of fundamental principles included in the national constitution (i.e., theory of counter-limits). See the following cases of the German (Solange I and II, 1974), Italian (Granital, 1984, Frontini, 1973), French (Decision No. 2004–505 DC) and Spanish (DTC 1/2004) Constitutional Courts.

12 See more recently: BVerfG, Judgment of the Second Senate of 5 May 2020. 2 BvR 859/15, paras. 1–237. www.bverfg.de/e/rs20200505_2bvr085915en.html. following the CJEU judgment C-493/17 (http://curia.europa.eu/juris/liste.jsf?language=en&num=C-493/17); in addition, see the so-called Taricco saga (Taricco I C-105/14, and Taricco II C-42/17).

13 Treaty of Lisbon in force since 1 December 2009. On the novelties introduced by the Lisbon Treaty with regard to energy see: ClientEarth legal briefing, January 2010 'The Impact of the Lisbon Treaty on Climate and Energy Policy: An environmental perspective', available at: www.clientearth.org/latest/documents

14 The Court of Justice of the EU has clarified some doubts related to art. 192.2 TFEU in the case C-5/16, *Republic of Poland v European Parliament and Council of the EU.*

15 European Commission (2015) 'Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Policy', COM (2015) 80 final.

16 Directives and regulations are legal acts adopted by the EU institutions and addressed to the EU Member States (art. 288 of the TFEU). While directives are binding as to the result to be achieved and need to be transposed into national law of EU Member States, regulations are binding in their entirety and directly applicable in all EU Member States.
Two examples concerning mitigation are the cases brought against some MS for not transposing the EU ETS within the prescribed time, respectively Italy (C-122/05) and Finland (C-107/05.

17 At the end of 2019, there were a total of 327 open infringement cases relating to the environment, the highest number of any area, in addition to 109 cases relating to energy. The 2019 annual report 'Monitoring the Application of EU Law' of the European Commission is available at: www.impel.eu/wp-content/uploads/2020/08/report-2019-annual-report-monitoring-application-eu-law_en.pdf.

18 The Visegrad Group (Poland, Hungary, Slovakia, and Czech), Estonia, and Latvia. (Case T-183/07). For a comment see: Honor Mahony, 2007. 'Latvia Becomes Sixth Country to Fight EU Emissions Caps'. *EU Observer*. http://euobserver.com/?aid=24557.

19 See EU webpage: EEA. 'National allocation plans.' *EEA*. https://ec.europa.eu/clima/eu-action/eu-emissions-trading-system-eu-ets/development-eu-ets-2005-2020/national-allocation-plans_en.

20 For example, the Just Transition Mechanism (JTM), a key tool to ensure that the transition towards a climate-neutral economy is promoted in a fair way. See: EEA. 'The Just Transition Mechanism: Making sure no one is left behind.' *EEA*. https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/finance-and-green-deal/just-transition-mechanism_en. See also the Communication from the Commission '*European Green Deal*', COM (2019) 640 final.

21 Eurobarometer (https://ec.europa.eu/commfrontoffice/publicopinion/index.cfm). Rounds of Eurobarometer survey on climate change were carried out in 2008, 2009, 2011, 2013, 2015, and 2017. In the 2019 survey, 93 per cent of EU citizens see climate change as a serious problem.

22 Revised in 2019.

23 (2019) Reports by Member States to the European Environment Agency (EEA) under the EU Monitoring Mechanism Regulation.

24 European Topic Centre on climate change mitigation and energy. 2019. *Overview of reported national policies and measures on climate change mitigation in Europe in 2019.* Available at: www.eionet.europa.eu/etcs/etc-cme/products/etc-cme-reports/etc-cme-report-5-2019-overview-of-reported-national-policies-and-measures-on-climate-change-mitigation-in-europe-in-2019.

25 See: European Court of Auditors. 2017. 'EU Action on Energy and Climate Change.' Review 1/2017, https://op.europa.eu/webpub/eca/lr-energy-and-climate/en.

26 The beneficiary MS are Bulgaria, Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, and Slovakia. See: EEA. 'Modernisation Fund.' *EEA.* https://ec.europa.eu/clima/eu-action/funding-climate-action/modernisation-fund_en. With regard to structural and investment funds See: EEA. 'European Structural and Investment Funds.' *EEA.* https://ec.europa.eu/info/funding-tenders/funding-opportunities/funding-programmes/overview-funding-programmes/european-structural-and-investment-funds_en.

27 Conflicts among EU MS governments' different energy positions increased when the idea of an 'Energy Union' started to emerge in EU diplomacy. A more recent example of diverging MS's interests and positions is provided by the Council of October 2020, which was forced to postpone the agreement on a new emission target for 2030 (on the contrary, strongly supported by the Commission, the EU Parliament, and the Green Growth Group) and the submission of the EU's updated NDC to the UNFCCC to December 2020 (European Council Conclusions on Covid-19 and Climate Change, 15 October 2020).

28 The Visegrad group plus Bulgaria and Romania. The *Green Growth Group* consists of the following EU MS: Belgium, Denmark, Estonia, Finland, France, Germany, Italy, Luxembourg, the Netherlands, Portugal, Slovenia, Spain, Sweden, and the UK, plus Norway that have been collaborating since 2014 to make EU climate policy more ambitious and sustainable.

29 Decision (EU) 2017/684 'Establishing an information exchange mechanism with regard to intergovernmental agreements and non-binding instruments between Member States and third countries in the field of energy', repealing Decision 994/2012/EU.

30 See points 9–12, 14 and in particular point 18 of the *Council Conclusions on Climate and Energy Diplomacy: Delivering on the external dimension of the European Green Deal* (doc. 5263/21): 'Council invites the Commission and the High Representative to prepare, by the end of 2021, a new strategy on international energy engagement, in accordance with the goals set out above and taking into account the specificities of particular regions and countries while fostering energy partnerships, and developing regional energy cooperation, particularly in the EU's Neighbourhood.'

31 See respectively: European Commission. 2010. *Europe 2020: a Strategy for smart, sustainable and inclusive growth*, COM (2010) 2020; and the following funding programmes: EEA. 'NER 300 programme.' (https://ec.europa.eu/clima/eu-action/innovation-fund/ner-300-programme_en); EEA. 'Innovation Fund.' (https://ec.europa.eu/clima/eu-action/innovation-fund_en; EEA. 'Modernisation Fund.' (https://ec.europa.eu/clima/eu-action/funding-climate-action/modernisation-fund_en.)

32 See: Covenant of Mayors for Climate & Energy. 'Covenant initiative.' www.covenantofmayors.eu/about/covenant-initiative/origins-and-development.html.

33 Sustainable Energy action plans (SEAP) and Sustainable Energy and Climate Action Plans (SECAP), including climate risk assessments (and adaptation measures, *infra* Section 7.4.2).

34 Respectively, COM (2013) 0216 final and COM (2021) 82 final.

35 See: Climate-ADAPT. 'About Climate-ADAPT.' *EEA.* https://climate-adapt.eea.europa.eu/about.

36 The following Adaptation Strategies were adopted earlier than the EU Strategy: Finland (2005); Spain and France (2006); Denmark, Hungary, Netherlands, UK and Germany (2008); Sweden (2009); Belgium (2010); Lithuania and Ireland (2012). Climate Change Acts including adaptation measures were adopted, for instance, by Finland (2015) and Denmark (2019). See EEA. 2019. 'Number of Countries That Have Adopted a Climate Change Adaptation Strategy/Plan.' *EEA.* www.eea.europa.eu/airs/2016/environment-and-health/climate-change-adaptation-strategies.

37 See EEA: www.eea.europa.eu/highlights/why-does-europe-need-to/climatechangeimpactineurope.pdf/view.

38 European Commission. 2018. *Evaluation of the EU Strategy on Adaptation to Climate Change.* Commission staff working document. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri= SWD:2018:461:FIN&from=EN.

39 *National Adaptation Strategies* (NASs) address overarching issues, recognize the importance of expected climate change impacts and the need to adapt, and facilitate the process of coordinating the adaptation response, increasing awareness of adaptation and stakeholder involvement, assessing risks and vulnerabilities, and identifying knowledge gaps. *National Adaptation Plans* (NAPs) implement NASs and organize activities for achieving their objectives, typically through sectoral implementation.

40 European Commission. 2018. *Evaluation of the EU Strategy on Adaptation to Climate Change.* Commission staff working document. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri= SWD:2018:461:FIN&from=EN.

41 'Commission Staff Working Document: Adaptation preparedness scoreboard country fiches', accompanying the document Report from the European Commission to the European Parliament and the Council on the implementation of the EU Strategy on adaptation to climate change (SWD/ 2018/460 final).

42 www.covenantofmayors.eu/about/covenant-initiative/covenant-in-figures.html.

43 A 'Macroregional strategy' is an integrated framework to address common challenges faced by a defined geographical area relating to MS and third countries located in the same geographical area which thereby benefit from strengthened cooperation contributing to achievement of economic, social, and territorial cohesion. See: http://ec.europa.eu/regional_policy/en/policy/cooperation/ macro-regional-strategies.

44 See: Climate-ADAPT. 'Alpine Space.' *EEA*. https://climate-adapt.eea.europa.eu/countries-regions/transnational-regions/alpine-space.

45 SWD/2018/460 final, *cit.*

46 More recently, the EU's energy ministers have decided to extend subsidies for fossil gas in June 2021 on approval of the Energy Council's position for the revision of the energy infrastructure legislation (TEN-E), a move highly criticized by climate groups and which is not in line with EU's climate targets (Climate Action Network Europe 2021, https://caneurope.org/eu-energy-ministers-decide-extend-subsidies-fossil-fuels-revised-energy-infrastructure-legislation-stranding-eus-climate-objectives-european-green-deal).

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