

The European Union's energy policy

From market liberalisation to convergence with climate policy¹

Matúš Mišík, Veronika Oravcová and Peter Plenta

Energy policy has recently become a key policy of the European Union (EU, Union) because achieving climate neutrality by 2050 – a goal set by the European Commission (EC) in 2011 and confirmed by the Member States in 2019 (European Council, 2019a) – requires a major energy transformation involving all sectors of the economy and society. The transition towards a carbon-neutral economy is one of the EU's most challenging goals, and the energy transition is key to that effort because the energy sector is the main contributor to the greenhouse gas (GHG) emissions that are the major cause of climate change.

The EC has developed various strategic and legislative frameworks to achieve the goal of carbon neutrality, and these go beyond mere energy sector objectives. They include strategies for the circular economy, sustainable mobility, green agriculture, and biodiversity protection (European Commission, 2019a). The EC has the ability to steer the energy transition and shape its outcomes through its formal and informal agenda-setting powers, exclusive right of legislative initiative, decisions on the timing of proposals, and compliance mechanisms (Bocquillon and Maltby, 2020). However, many critical decisions are still in the competence of the Member States, who retain control over their energy mix, giving the Council of the EU an important role in the energy transition. Achieving the ultimate goal of climate neutrality thus not only requires close cooperation at the institutional level between the EC and the Council and other institutions, including the European Parliament (Zapletalová and Komínková, 2020), but also necessitates coordination of energy and other policies. The link with climate policy is crucial, as it is considered essential for bringing about the stability required to tackle the uncertainties associated with the decarbonisation efforts: the emphasis on renewable energy sources (RES) and nuclear energy and the future of coal and natural gas (Szulecki and Westphal, 2018).

This chapter analyses the milestones of EU energy policy, focusing primarily on the period beginning in 2007, when the 2020 Climate and Energy Package was adopted, and including the establishment of the Energy Union in 2015, and the formation of the European Green Deal at the end of 2019. It looks briefly at previous developments to support the main argument of the chapter, which is that EU energy and climate policies are undergoing convergence because

achieving a carbon-neutral economy by 2050 requires close cooperation between these two policy areas. While they were separate for many years, with energy policy focusing on market liberalisation (and later on energy security) and climate policy concentrating on GHG reduction, the most recent developments connected to the European Green Deal strategy suggest convergence.

The chapter discusses the increasing cooperation among Member States and EU institutions and the transformation of the energy sector and climate issues into one of the key EU policies. The first part briefly covers the early developments in energy policy. The second section examines the EU's 2020, 2030, and 2050 targets, as these have fundamentally influenced the direction of the energy sector. The next part analyses the development of the Energy Union as an answer to (among other things) market and energy security challenges and the progress made towards fulfilling the EU's climate and energy priorities. The chapter also explores the Energy Union's role as a hub linking energy and climate governance. The European Green Deal and future challenges in developing European energy and climate policy are discussed in the fourth section. The conclusion summarises the main findings of the chapter.

Early developments in EU energy policy

EU energy policy underwent a complex development. Many experts argue that the Treaty Establishing the European Coal and Steel Community ratified in 1951 propelled energy issues to the forefront of the integration process (Matlary, 1997; Kanellakis et al., 2013). Others claim that energy was initially excluded from European integration (Talus and Aalto, 2017) and became important only in the 1990s with energy market liberalisation and the introduction of the First EU Energy Liberalisation Package (Mišík, 2019). These first liberalisation directives were adopted in 1996 (electricity) and 1998 (natural gas) when the EU decided to open these markets up to competition (Herweg, 2017). While the oil crises of the 1970s provided many European countries with the energy security argument that energy is a strategic commodity requiring national control (McGowan, 2011; Hoerber, 2014), the low energy prices of the 1980s meant energy issues (such as energy security) became a lower priority.

In the 1990s and ensuing years, the EU's electricity and gas markets became more closely integrated, with the emphasis on internal energy policy as part of the broader EU market liberalisation agenda. Simultaneously, the EU became a party to the United Nations Framework Convention on Climate Change (UNFCCC) aimed at the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" (UNFCCC, 1992: 4). In contrast to energy policy, climate policy has a much shorter EU history. Climate policy was initially linked to environmental policy during the 1980s. In June 1992, 12 Member States of the then-European Community agreed on the non-binding goal to get carbon dioxide (CO₂) emissions down to the 1990 level by 2000 (Commission of the European Communities, 1992). That this decision was approved by the Joint Council of Energy and Environment Ministers indicates that the link between climate and energy policy was acknowledged at Community level back then (Eikeland and Skjærseth, 2016).

However, the failure to adopt the energy and climate package connected to the UNFCCC in 1992 resulted in the two policies being regarded separately by the EU: "the functional links between climate and energy concerns were recognised, although they were not acted upon" (Eikeland and Skjærseth, 2016: 34). Later, the decarbonisation of the energy sector, a key objective of the EU's efforts and energy policy, became a separate portfolio in the first Barroso Commission (see Table 17.1).

Table 17.1 Energy portfolio in the European Commission

Commissioner	Portfolio(s)	President of the EC	Period
Frans Timmermans*	European Green Deal	Ursula von der Leyen	2019–
Kadri Simson	Energy	Ursula von der Leyen	2019–
Maroš Šefčovič*	Energy Union	Jean-Claude Juncker	2014–2019
Miguel Arias Cañete	Climate Action and Energy	Jean-Claude Juncker	2014–2019
Günther Oettinger	Energy	José Manuel Barroso II	2010–2014
Andris Piebalgs	Energy	José Manuel Barroso I	2004–2009
Loyola de Palacio*	Transport and Energy	Romano Prodi	1999–2004
Christos Papoutsis	Energy and Euratom Supply Agency, SMEs and Tourism	Jacques Santer	1995–1999
Abel Matutes	Transport and Energy	Jacques Delors III	1994–1995
Marcelino Oreja	Transport and Energy	Jacques Delors III	1993–1994
António Cardoso e Cunha	Energy and Euratom Supply Agency, SMEs and Tourism, Administration and Translation	Jacques Delors II	1989–1993
Nicolas Mosar	Energy and Euratom Supply Agency	Jacques Delors I	1985–1989
Étienne Davignon*	Industrial Affairs, Energy and Euratom Supply Agency, Research and Science	Gaston Thorn	1981–1985
Guido Brunner	Energy, Research, Science and Education	Roy Jenkins	1977–1981
Henri François Simonet*	Taxation and Energy	François-Xavier Ortoli	1973–1977
Wilhelm Haferkamp*	Internal market, Energy, Legal harmonisation	Franco Malfatti; Sicco Mansholt	1970–1973
Wilhelm Haferkamp	Energy**	Jean Rey	1967–1970

Source: Authors, based on the European Commission's webpage

*Vice-president of the European Commission.

**Energy had its own portfolio in the first Rey Commission, but then it was merged with other policies.

In January 2009, the natural gas supplied via the Brotherhood pipeline was cut off for almost three weeks owing to a conflict between the Russian Federation and Ukraine, with serious economic consequences for some Member States. The absence of cross-border infrastructure interconnections between Member States was identified as one of the primary causes of the severe impact of the gas crisis on the Union (European Commission, 2009a). Moreover, there was no comprehensive legal framework for energy policy that would have enabled a swift and targeted response during the crisis: energy policy became part of primary EU law only at the end of 2009 when the Lisbon Treaty entered into force. As a consequence, the EC, along with many Member States, shifted its attention away from energy market liberalisation and towards energy security (Maltby, 2013).

After the crisis, the Member States started to support the idea that the EU should have a more coordinated energy security policy. However, many crucial competences, including energy mix composition, remained in national hands, as stated in Article 194 of the Lisbon Treaty (Official Journal of the European Union, 2012). The 2009 crisis diverted attention on EU energy policy away from climate change, which had gained prominence in 2007 (see the following section) and towards energy security issues and thus slowed down the nascent convergence of these two policies.

Linking energy and climate policy

The EU is one of the largest GHG emitters in the world (see Table 17.2) and aspires to become the global leader in tackling climate change. The urgent need to act on the climate resulted in the adaptation of a series of rules in both climate and energy policies (European Commission, 2020b). However, these policies had evolved separately until the 2000s when it was recognised that the two were interlinked. One of the factors contributing to this change was the EU's decision to take the lead on the global climate, which in effect brought energy and climate discourse together (Vogler, 2013; Hoerber, 2014).

In 2007, the European Council adopted ambitious climate and energy targets under the 2020 Climate and Energy Package (European Council, 2007). The package proposed a medium-term strategy focusing on improving energy efficiency, reducing GHG emissions, and the wider use of renewables by 2020. The three crucial targets were: a 20% reduction in GHG emissions compared to the 1990 level, increasing the share of renewables in gross final energy consumption to 20%, and a 20% improvement in energy efficiency (European Commission, 2010b). Hence the package was unofficially called the '20-20-20 Package'. While the first two targets were binding at Member State level, the energy efficiency target was an indicative one. These energy and climate policy targets have had a major influence on these policies at both the national and EU level (European Commission, 2020a). They are the result of negotiations regarding the ambitious visions of the EC and several Member States on the one hand and concerns about the economic and social consequences of such ambitious goals among a group of Member States, most of which are located in the Central and Eastern European region (there are several others, including Italy) on the other (Skovgaard, 2013).

The key issue was the three decarbonisation targets, but the package also included an energy security dimension. An electricity interconnection target of 10% by 2020 was set, whereby each Member State would be capable of transporting this amount of electricity to/from each of its neighbouring countries (European Commission, 2016). The 2020 Climate and Energy Package was enacted through four legislative acts amending the previous EU rules and reflecting the 2020 goals (see Table 17.3). Directive 2009/29/EC contained new rules on the EU emissions trading system (ETS). The Renewable Energy Directive (2009/28/EC) set binding national renewable energy targets. Directive 2009/31/EC created the legal framework for the deployment of Carbon Capture and Storage (CCS), while 'Effort-sharing' Decision 406/2009/EC set binding national targets for emissions outside the ETS system (so called 'non-ETS'; European Commission, 2009b).

The 2020 Climate and Energy Package was the first initiative to interlink EU energy with climate policy and represented the starting point of the EU's commitment to achieve a carbon-neutral economy by 2050 (Vogler, 2013). The EC launched its Energy Roadmap 2050 in

Table 17.2 Ten largest GHG emitters in the world (in MtCO₂; 2018)

Country	Emissions	Country	Emissions
China	10065	Japan	1162
USA	5416	Iran	720
EU27	3066	South Korea	659
India	2452	Saudi Arabia	621
Russian Federation	1711	Indonesia	615

Source: GCA (2018)

Table 17.3 Legislative acts for the 2020 Climate and Energy Package

EU emissions trading system	Directive 2009/29/EC
Renewable sources of energy	Directive 2009/28/EC
Deployment of Carbon Capture and Storage	Directive 2009/31/EC
Effort-sharing mechanism (non-ETS)	Decision 406/2009/EC

Source: European Commission (2020d)

2011, which discussed the challenges relating to the EU's decarbonisation goals. In it, the EU affirmed its ambitious strategy for climate and energy policy and set the long-term goal of reducing greenhouse gas emissions to 80–95% of the 1990 level by 2050. Four scenarios for decarbonising energy systems were outlined: energy efficiency, renewables, nuclear, and the deployment of carbon capture and storage technologies (European Commission, 2011). The EU's ambition to foster decarbonisation not only survived the economic crisis of 2009, but the EC proposed its Europe 2020: A Strategy for Smart, Sustainable, and Inclusive Growth in which climate change and energy featured as one of the five key priorities of EU policies until 2020 (European Commission, 2010a). A similar development occurred in connection to the post-COVID-19 recovery that is connected to the EU's decarbonisation goals (see subsequently).

The 2020 Climate and Energy Package gave way to the 2030 Climate and Energy Framework, which retains the link between these two areas and the related EU policies. The framework was adopted by the European Council in 2014 (European Council, 2014), and the 2020 goals were tightened up such that the aim of the 2030 Framework was originally to reduce GHG emissions to 40% of the 1990 level and to achieve a 27% share of renewables in final energy consumption and a 27% improvement in energy efficiency by 2030. The second and third targets were raised to 32% and 32.5%, respectively, under the revised directives on energy efficiency and renewable energy (see Table 17.4; European Council, 2018). In September 2020, the EC proposed further increasing the 2030 GHG reduction target to 55% of the 1990 level (European Commission, 2020h).

Unlike the 2020 targets, the 2030 ones are not legally binding on Member States level but apply to the EU as a whole. This change was a response to the opposition from some Member States to the EU's ambitious energy and climate policies (Bürgin, 2015; Skovgaard, 2013; Torney, 2019). Although the 2030 targets are not split into individual national binding targets, responsibility for the measures and tools to achieve the overall EU targets lies with the Member States. However, Veum and Bauknech (2019) have pointed out that, without binding targets for Member States, the Open Method of Coordination makes the overall EU RES target difficult to reach. But it has also been argued that even though the 2030 framework leaves Member States to decide how to contribute to the efforts to achieve the EU's climate and energy goals, the EU's governance framework provides for high levels of accountability and effective implementation (Oberthür, 2019).

The EU does not just set its own decarbonisation policies but is also attempting to become the global leader in this sphere (Scott and Geden, 2018). While the 2009 Copenhagen climate conference cannot be seen as a success (Skovgaard, 2013), the Paris climate conference of 2015 is quite different, with 189 parties adopting the Paris Climate Agreement as a global effort to embrace climate change mitigation and adaptation (UNFCCC, 2020). The EU was recognised as one of the leaders of the process as it spoke and acted with one voice on climate change (Parker et al., 2017). The EU mobilised supporting coalitions at the conference “underpinned

Table 17.4 Fostering the EU energy transition (targets)

Target	2020	2030	2030 (revised)
Share of RES in gross final energy consumption	20%	27%	32%
Energy efficiency improvement	20%	27%	32.5%
GHG emission reduction	20%	40%	40%
Interconnectivity	10%	15%	15%

Source: European Council (2007, 2014, 2018)

by the provision of incentives, including climate finance and capacity building support" (Torney, 2019: 180–181). The contracting parties agreed to the long-term goal of keeping the increase in global average temperature to below 2°C and, if possible, 1.5°C, of the pre-industrial level and of reducing GHG emissions to at least by 40% of the 1990 level by 2030. The Paris Climate Agreement was ratified by the EU in 2016, enhancing the commitments set out in the 2030 framework (European Council, 2019b).

Energy Union: from energy security to the link with climate policy

In April 2014, Donald Tusk, then Polish prime minister and soon-to-be president of the European Council, published an opinion piece in the *Financial Times* about the need to strengthen cooperation at the EU level to achieve energy security in response to external threats, predominantly the Russian annexation of Crimea (Tusk, 2014). He suggested the EU create a system for the common purchase of gas based on a mechanism similar to that in the nuclear sector that would enable the EU to speak with one voice at the international level and thus improve its position vis-à-vis its energy suppliers (Mišík, 2016). However, this initial plan for the Energy Union to be built on the energy security dimension did not come to fruition, and the initiative ended up becoming an umbrella programme for energy policy-related issues aimed at a sustainable, low-carbon, and climate-friendly economy (European Commission, 2015). The Energy Union thus marked a change in focus of the EU's energy policy – from security to decarbonisation – and led to further convergence with climate policy.

The Juncker Commission (2014–2019) internalised Tusk's ideas and placed the Energy Union among the top priorities on its agenda. Introduced in February 2015, the Energy Union was presented as being crucial to the future development of energy policy within the EU and to achieving decarbonisation, as well as energy security targets (European Commission, 2015). The importance the Energy Union held for the Juncker Commission was also reflected in its structure and the creation of the new post of vice-president for the Energy Union, filled by Maroš Šefčovič (see Table 17.1). From the very beginning, the Energy Union agenda redirected attention towards climate issues. The main legislative package proposed by the Commission under an initiative entitled Clean Energy for All Europeans was introduced in 2016 and consisted of eight legislative proposals and underlined the Commission's increased interest in climate issues within the energy area (European Commission, 2017). The main goal of the package was to accelerate the green energy transition in the EU, as the progress in achieving the 2020 energy and climate goals had shown that "it is possible to reduce emissions and achieve GDP growth plus a net increase in employment in the energy sector" (European Commission, 2019c).

The Clean Energy for all Europeans package contained rules on energy performance in buildings [Directive (EU) 2018/844], set a binding target for the renewable energy share in

the energy mix [Directive (EU) 2018/2001], focused on energy efficiency in energy savings [Directive (EU) 2018/2002], established new rules for the electricity market, and set objectives for Member States to deliver their National Energy and Climate Plans (NECPs). The non-legislative acts that were part of the package included two initiatives, Coal Regions in Transition and Clean Energy for EU Islands (European Commission, 2017). These initiatives, aimed at a clean and just transition within the EU, have great potential to boost the use of new technologies in making regions economically competitive. The directives in the package were adopted at the EU level by May 2019 and are currently (late 2020) being transposed into the legal systems of the Member States.

While several of these initiatives have led to significant changes in the EU's energy and climate policies, the integration of these two areas has been most affected by the Governance Regulation [Regulation (EU) 2018/1999], in force since December 2018. The Regulation established a governance system for the Energy Union and required Member States to develop – among other things – ten-year NECPs outlining their policies, tools, and mechanism for contributing to the EU's 2030 energy and climate targets. The Member States were not keen to develop nationally binding goals under the 2030 Climate and Energy Framework, and the Governance Regulation can be seen as a means whereby the Commission can exert influence on members that do not support the setting of ambitious goals in these areas (Bocquillon and Maltby, 2020).

The Member States were responsible for submitting their draft NECPs by the end of 2018. The Commission evaluated these and produced both an aggregated report (European Commission, 2019d) and an individual report for each Member State together with recommendations for revising the NECPs (European Commission, 2019e). The EU institutions assessed the final version of the NECPs in 2020; the Governance Regulation stipulates that Member States have to update their NECPs in 2023 to reflect the enhanced climate ambitions. The NECPs had to include an overview of Member States' energy and climate policies as well as the pathways and policies aimed at achieving the five general goals of the Energy Union (see Table 17.5). The intention behind the NECPs was to help Member States to streamline their internal policies and processes, prevent duplicity, and improve synergies between the various domestic policies and initiatives designed to help achieve these goals. The first set of NECPs covering 2021 to 2030 paid particular attention to the main targets in the 2030 Climate and Energy Framework, including GHG emission reductions, renewable energy, and energy efficiency (Official Journal of the European Union, 2018).

Table 17.5 Five dimensions of the Energy Union

Energy security	Diversifying sources of energy and ensuring energy security through solidarity and cooperation
Internal energy market	Enabling the free flow of energy through the EU through adequate infrastructure and without technical or regulatory barriers
Energy efficiency	Improved energy efficiency will reduce dependence on energy imports, lower emissions, and drive job creation and growth
Decarbonisation	The EU is committed to the Paris Agreement and to retaining its leadership in the area of renewable energy
Research, innovation, and competitiveness	Supporting breakthroughs in low-carbon and clean energy technologies by prioritising research and innovation to drive the energy transition and improve competitiveness

Source: European Commission (2015)

The EC referenced existing rules and tools in its criticism of the low decarbonisation targets proposed by Member States and suggested more ambitious ones. For example, in relation to RES, the EC used the formula in Annex II of the Renewables Directive [Directive (EU) 2018/2001] as its basis for suggesting expected (and higher) national targets for 2030. It drew on the same annex when comparing the NECPs' trajectories for reaching the RES targets with the expected ones outlined in the Directive and criticised Member States that did not include the expected levels (European Commission, 2019d). At the same time, the Commission's reports highlighted countries (Denmark, Estonia, Spain, Lithuania, and Portugal) whose goals were proposed in line with the formulae presented in Annex II. The proposals by Italy, Luxemburg, and Spain on energy efficiency were judged to represent a sufficient level of national contribution. This approach by the Commission can be considered a novel attempt to engage in ex ante assessments of Member State's energy and climate goals and to push them into setting more ambitious national goals.

According to the European Commission (2019c), the Energy Union has had numerous positive outcomes, including a new governance framework for climate and energy policy, improved and integrated national policies, and enhanced energy security. It has also made the EU a global player in energy and climate diplomacy. In its fourth report on the progress of the Energy Union, the Commission declared the project complete (European Commission, 2019f); nonetheless, the new von der Leyen Commission (since 2019) is prioritising the linkage of climate and energy policy. Even before this Commission took office, it was clear that climate issues would be at the forefront of its agenda, as it had proposed A European Green Deal highlighting climate change and decarbonisation.

European Green Deal: climate first

Two issues arose as the Energy Union was being constructed. The first one is the dividing lines between Member States, especially the East–West and North–South ones (Ringel and Knodt, 2018). The economic, climatic, and natural conditions in the Member States vary, complicating unified energy and climate governance. Member States also lack a shared vision regarding the future of energy policy and a common understanding of their position in the international energy landscape (Szulecki and Westphal, 2018). The second challenge is the increasing awareness of climate change and the belief that the EU and Member States should do more to fight it (European Parliament, 2019).

However, such an attitude is not shared among all Member States and their politicians. The climate neutrality goal to be reached by 2050 was opposed by some countries, particularly the Czech Republic, Estonia, Hungary, and Poland, who opposed the deadline for the carbon-neutral economy at the June 2019 European Council meeting. When the agreement between Member States was reached in December 2019, Poland was the only country that did not formally subscribe to the vision of a carbon-neutral economy by 2050 (European Council, 2019a). With the new Commission under the leadership of Ursula von der Leyen in place at the end of 2019, climate issues have gained a prominent position within the EU agenda. The Commission included these issues among its six priorities by creating A European Green Deal and calling it Europe's 'man on the moon' moment (European Commission, 2019b).

The initiative provides guidelines on how to deal with climate change and how to remain unified so common goals can be accomplished in this area (see Table 17.6). It is not a dramatic change from the Energy Union concept, as energy policy is still at the forefront of the declared goals (European Commission, 2019g); rather it is a continuation of the convergence between the EU's energy and climate policies that started with the creation of the 2020 Climate and

Table 17.6 Policy areas of the European Green Deal

<i>Policy area</i>	<i>Main goal</i>
Biodiversity	Measures to protect fragile ecosystems
From farm to fork	Ways to ensure sustainable food systems
Sustainable agriculture	Sustainability in EU agriculture and rural areas thanks to the common agricultural policy (CAP)
Clean energy	Opportunities for alternative, cleaner sources of energy
Sustainable industry	Ways to ensure sustainable environmentally respectful production cycles
Building and renovating	The need for a cleaner construction sector
Sustainable mobility	Promoting more sustainable means of transport
Eliminating pollution	Measures to cut pollution rapidly and efficiently
Climate action	Making the EU climate neutral by 2050

Source: European Commission (2019b)

Energy Package. The European Green Deal does not challenge the existing common goals, but it may lead to existing rules being implemented differently. It also aims to strengthen the EU's position as a climate leader and increase international commitments regarding climate change.

As part of the European Green Deal, the Commission set up a series of new initiatives, including the proposed Climate Law that would ensure the 2050 climate neutrality objective was incorporated into the legislation. Moreover, the draft regulation empowers the Commission to review the trajectory towards the climate neutrality objective every five years without having to enter into full negotiations with the European Parliament and the Member States. Such a *modus operandi* would strengthen the Commission's mandate (Siddi, 2020: 7). In October 2020, the Member State ministers responsible for the environment agreed to make the bloc's 2050 net-zero emissions target legally binding for the EU as a whole rather than being binding on the Member States level (as sought by the European Parliament and a group of countries, including Sweden, Denmark, and Luxembourg). Nevertheless, the 2030 emissions-cutting target and even setting the 2040 target remain open to discussion (Euractiv, 2020b).

Fulfilling the EU's climate ambitions will require significant financial sources and the reshaping of existing financial instruments, as well as engagement with the private sector. The Commission estimated in 2019 that achieving the current 2030 climate and energy targets would require 260 billion EUR of additional annual investments (European Commission, 2019g). At the beginning of 2020, the European Commission (2020e) revealed its plan to mobilise public investments and private funds under the Sustainable Europe Investment Plan, where the aim is to collect at least 1 trillion EUR over the next decade. Around half of the funds are to come from the EU budget, by transferring around 25% of current funds to energy and climate objectives. Contributions by Member States should be around 100 billion EUR via co-financing. The economic recession, the consequence of the COVID-19 pandemic, has turned attention to economic recovery and the greening of the European economy. However, some think (Claeys et al., 2019: 7) the possibility of obtaining a so-called double dividend – both a positive environmental effect and a positive macroeconomic effect – is overstated.

Decarbonisation efforts will have a substantial impact on certain regions and industries. That is why the EC developed the Just Transition Mechanism, which explicitly targets the EU regions most dependent on coal and carbon-intensive industries, many of which are located in Central and Eastern Europe (Simon, 2019). The Just Transition Mechanism will help the regions transitioning away from fossil fuels like coal, lignite, peat, and oil shale to cope with the challenges they

Table 17.7 European Green Deal timeline (as of 1 July 2020)

Present the European Green Deal	December 2019
Adopt the European Green Deal Investment Plan	January 2020
Design a Just Transition Mechanism	January 2020
Propose the first-ever Climate Law	March 2020
European Industrial Strategy	March 2020
New Circular Economy Action Plan	March 2020
What to expect next	
Revisions of relevant legislation to deliver on the new 2030 target	
Revision of the Energy Taxation Directive	
New EU Strategy on Adaptation to Climate Change	
Legislation on batteries	
Propose legislation for waste policy reform	
Strategy for sustainable and smart mobility	
Review of the Alternative Fuels Infrastructure Dir. and the Trans European Network Transport Reg.	
Offshore renewable energy strategy	
Zero pollution action plan for water, air and soil	

Sources: European Commission (2020f); European Council (2020a); Janssen (2020)

will face as their industries evolve in response to the energy transition and the development of the carbon-neutral economy (European Commission, 2018). The proposed financial mechanism should also act as an incentive for Poland, potentially one of the largest recipients (Siddi, 2020: 6). The plan is for the Just Transition Mechanism, with an overall financial package including private investments, to be worth at least 100 billion EUR (European Commission, 2020c).

Nevertheless, the negotiations on the 2021–2027 Multiannual Financial Framework (MFF) and the Next Generation EU (NGEU) recovery fund aimed at enhancing the post-COVID-19 socio-economic recovery are indicative of Member States' reluctance regarding this mechanism. While the original EC proposal suggested increasing the overall Just Transition Fund budget to 40 billion EUR in 2021–2027 (10 billion EUR from MFF and 30 billion EUR from NGEU; European Commission, 2020g), the complicated negotiations resulted in a significantly reduced fund. According to the final agreement, the overall budget will now be 17.5 billion EUR (7.5 billion EUR from MFF and 10 billion EUR from NGEU; European Council, 2020b). However, the preliminary agreement also states that 30% of all funds be aimed at projects supporting the goal of EU climate neutrality by 2050. Further funds will come from private sources. Whether multinational companies will participate in such EU initiatives and their priority issues is, however, questionable.

Several challenges lie ahead of the EU and its goal to achieve carbon neutrality by 2050. The success of the European Green Deal depends on whether it will remain a policy priority. The post-COVID-19 economic recovery will show us whether prioritising the climate agenda in the EU's financial programmes will bring about the desired outcome. The economic downturn may lead to a backlash against green policies if it means increased costs for the population and companies. Even before the pandemic, the French government had abandoned an expected carbon tax increase in response to the protests by the 'yellow vests' movement (Claeys et al., 2019: 15). Moreover, the coronavirus crisis has disrupted the Commission's work on the European Green Deal and all essential initiatives have already been postponed (Munta, 2020: 12). On the other hand, the COVID-19 crisis has had some temporary positive effects, with pollution levels falling due to lower traffic levels and industrial activity, particularly in urban areas.

A different challenge lies ahead for EU energy governance, which is faced with the tension between growing European harmonisation, the EC's increasing competences, and the principle of Member State sovereignty over national energy mixes (Szulecki and Westphal, 2018). The degree of legal competence that EU institutions, particularly the EC, are entrusted with will largely determine the ambition and urgency of European Green Deal-related EU policies. With a clear and robust mandate, the Commission is likely to be more active in proposing ambitious EU targets and more proactive (and faster) in negotiating with partners in the international arena (Siddi, 2020). Additionally, while the EU institutions are concentrating on the 2050 climate neutrality target, even achieving the 2030 targets could prove problematic. For example, the European Environmental Agency predicts that Europe will not reach its 2030 climate and energy targets without urgent action (Sánchez, 2019).

In addition, the EU is still divided over the future of some technologies and sources, particularly natural gas and nuclear energy. Only a decade ago, nuclear energy seemed to be among the most rational options for decarbonising the power sector. Even though the disaster at the Fukushima Daiichi nuclear power plant in March 2011 had a significant impact on the future of the sub-sector (Wittneben, 2012) and confidence in nuclear power, many countries continue to see it as key to decarbonisation. Member States such as France, the Czech Republic, and Slovakia stress that they are not able to fulfil the climate goals without relying on nuclear energy. On the other side, Austria, Italy, and Germany strongly oppose its continued use. While the European leaders agreed that nuclear energy is a transition technology (Barbière, 2019), the Just Transition Fund will provide no support for nuclear technologies or natural gas infrastructure (Euractiv, 2020).

Even if the policies relating to the financial and energy mix were approved by the Member States and the EU institutions, the European Green Deal will not necessarily be a success. The project needs to look wider by incorporating just transition objectives into core EU economic and social policy (Gaventa, 2019). It could also deepen the innovation gap between prosperous and less prosperous countries and regions, exacerbating economic divisions among Member States. A costly energy transition to a carbon-free economy could further increase resistance, especially from post-communist countries, several of which are carbon rich (especially the Czech Republic, Bulgaria, and Poland).

Finally, to accomplish the energy transition, the EU needs to thrive on another front – research and innovation. Energy sector innovations aim to minimise carbon emissions, find alternatives to fossil fuels, improve energy efficiency, and change people's preferences in Europe (Remling, 2020). Innovations will thus play a crucial role in the EU's plans against climate change. One of the flagship projects of future energy technologies is the International Thermonuclear Experimental Reactor (ITER), an experimental fusion energy device. The main idea behind the ITER, set up by China, the EU, India, Japan, South Korea, Russia, and the United States, is to demonstrate the availability and integration potential of the technologies used in the fusion reactor and to test components for a commercial reactor. Construction on the ITER started in 2010, and the aim is to obtain the 'first plasma' by the end of 2025 (Le Deñ et al., 2018). The ITER will not produce electricity; that is the task of the DEMONstration Power Station (DEMO), which could serve as a prototype for fusion power plants (European Commission, 2019h).

Battery alliances are another important European Commission (2019i) research initiative that will boost the EU's industrial leadership and strategic autonomy. Currently, lithium-ion cell manufacturing is almost exclusively the terrain of Asian manufacturers (Contemporary Amperex Technology, BYD, Kayo Battery). The first big production facilities in the EU will also belong to Asian companies (Büscher et al., 2018), such as China's Contemporary Amperex

Technology Co. Limited or LG Chem in South Korea. Consequently, the Commission has identified batteries as a strategic value chain element and is actively supporting the creation of battery alliances between the European Investment Bank (EIB) and technological companies that develop new materials for electric car batteries, among other things.

Conclusion

This chapter has examined the evolution of European integration in the energy sector in connection with the increased focus on climate issues. It argues that the EU's energy policy emphasis has shifted away from market liberalisation and energy security, becoming intertwined with climate policy in the late 2000s. The 2009 gas crisis temporarily halted this process as the EU began to focus predominantly on energy security issues in the aftermath. The Energy Union launched in 2015 refocused Union attention on climate issues and decarbonising the energy sector, which are crucial to achieving the EU's ultimate goal of a carbon-neutral economy by 2050. Energy and climate issues have long been treated as separate policies (Eikeland and Skjærseth, 2016); however, they are currently undergoing convergence. The significant progress achieved in energy security and the internal energy market has allowed the EU to refocus on decarbonisation, its current energy policy priority.

The 2020 COVID-19 pandemic has brought new challenges but also opportunities for the green energy transition within the European Union. The Just Transition Mechanism has been included in the Next Generation EU recovery fund that will support the EU economy, which has been negatively impacted by the pandemic. Moreover, 30% of the Next Generation EU fund and the Multiannual Financial Framework for 2021–2027 will be allocated to projects under the programmes supporting the 2050 goal of carbon neutrality (European Council, 2020b). The current situation thus suggests that energy and climate policies will continue to merge with economic policies to form a nexus. While numerous challenges still lie ahead, we can expect the European Union's institutions to act as an engine, bringing climate issues to the forefront of European policies (including energy policy), despite the reluctance of some Member States.

Note

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