Coherence and Compromise:

European Green Deal and European Integration

Final copy of the Major Research Paper

Submitted in partial fulfillment of the requirements for the degree of

Master of Arts in Public and International Affairs

Sijia Jiang

Supervisor: Luc Juillet

Graduate School of Public and International Affairs

University of Ottawa

April 2024

Table of Contents

Abstract

The European Green Deal (EGD) is a critical initiative in the European Union's response to climate change, as well as internal challenges in EU as in its deficiencies in energy structure optimization, supportive policies developments and cross-department collaboration. However, member states exhibit divergent attitudes on advocating the policy package influenced by factors such as energy endowment, political motivations, and socioeconomic considerations. The EU must demonstrate its capability to navigate diverse interests and foster collective action by building on coherence through coordination mechanisms and supportive plans. A successful implementation of the EGD requires the collaboration of member states and stakeholders across various levels, whose coherence in return further contributes to European integration. Integration, in this stance, is both a means and an outcome of the mutually constructive interaction. Although uncertainties and challenges persist, including opposition from conservative entities and upcoming elections across Europe, the EU remains committed to prioritizing environmental sustainability, leveraging its historical engagement in environmental policymaking, and fostering collaboration among member states. Moving forward, the EU needs more rigorous efforts to stay on track with its ambitious schedule, thereby continuing to lead the way towards a greener and more sustainable future for Europe and the world.

Key words: European Green Deal, European Integration, Climate Change, European Union, Green Transition

Introduction

The threat posed by climate change has been on a steady rise in recent years, and there is now a global consensus on the urgency of the climate crisis. While the European Union (EU) remains an important emitter of greenhouse gases (GHG), it has made significant progress over the last decades, and it is often recognized as a leader in climate policy. However, its recent European Green Deal (EGD) initiative, adopted on 11 December 2019, brought a new level of ambition and determination to its climate strategy. As such, a study of the factors influencing the EGD's content and implementation can be an important contribution to a better understanding of European and global climate policy.

In this perspective, the political dynamics and institutional mechanisms affecting coordination of climate policy across Europe are important factors to consider. Environmental policy is a shared competence between the EU and its member states, and the EU has created a unique hybrid of supranational and intergovernmental decision-making processes meant to foster consensus and improve coordination on environmental matters. The workings of these processes are challenging in the best of times. However, as the EU expands its membership and pursues deeper integration, the disparities in policy preferences across member states have predictably widened. The spectrum varies from climate leaders, such as Germany and France, to relatively conservative players, such as Poland whose economy relies more heavily on fossil fuels. This trend is making coordination more necessary as well as more challenging.

The objective of this paper is to examine the influence that EU coordination mechanisms have had on the EGD and identify the challenges that they currently present to its effective implementation. I will show that the EU has demonstrated its

coordination capacity through a blend of policy supervision, shared responsibilities, and financial supports. More broadly, I argue that the EU operates through a two-way dynamic in its pursuit of the EGD's ambitious goals. A successful implementation of the European Green Deal requires the collaboration of member states and stakeholders across various levels, whose coherence in return further contributes to European integration. Integration, in this stance, is both a means and an outcome of the mutually constructive interaction. While the EGD's mechanisms bridge disparities and advance European climate agenda, persistent challenges also bring obstacles to full consensus and implementation.

The paper draws from a wide range of primary and secondary sources. Primary sources include documents and publications from EU institutions, offering detailed information about the goals, policies, and strategies of the EGD. Given that EGD is relatively recent, there are still few academic studies of the EGD. For this reason, I draw on various types of secondary sources, including academic articles, news reports, and analyses from think tanks and research centers. These secondary materials provide a broader perspective on how the EGD influences European integration. Despite limitations posed by a scarcity in academic sources, the paper endeavors to present an extensive analysis based on the latest and most reliable information available.

The paper consists of three sections. The first delves into the challenges facing the European Union's green transition, calling for the introduction of the EGD. It depicts the landscape of the EGD and its development. Additionally, it discusses the varying attitudes of member states towards green determination, requiring solid coordination and compromise. The second section investigates how the EU achieves policy coherence, focusing on responsibility and interest distribution among member states, customized arrangements, coordination mechanisms, and performance

evaluation. The EU employs various approaches in formulating environmental policy, including consensus-building, legislative decision-making, and supervision mechanisms, influenced by interest groups and political parties. The third section provides concise case studies of four member states - Germany, France, Poland, and Bulgaria - to analyze their approaches to EGD implementation. These case studies offer insights into the practical unfolding of EGD and the level of coherence and variation among member states. In conclusion, the paper synthesizes the analysis, highlighting the mutual construction between European integration and the EGD, acknowledging challenges posed by conservative power and election uncertainties. Despite these challenges, the EU remains committed to a sustainable future, fostering collaboration, promoting coherence, and addressing persistent challenges.

Section 1: The Landscape of European Green Deal

European environmental policy can be traced back to the Treaty Establishing the European Economic Community (EEC).[1] Although the Treaty does not explicitly refer to the competence of the EU in environmental matters, it embodies the principle of the right to development in the 1948 Declaration of Human Rights, raising people's standard of living and improving working conditions.[2] In the late 1960s, Europe and the international community began to respond to growing public concern about the environment, and in 1973, European decision makers decided at the European Council in Paris to establish the first Environmental Action Programme (EAP), marking the official beginning of European environmental policy. Since then, EU environmental policy has developed into a comprehensive and complex system. Through articles 192-193 of the Treaty on the Functioning of the European Union (TFEU), the Council has been given specific competence over environmental policy.[3]

The early introduction of environmental policies has reflected the EU's emphasis on green agenda. Europe has been addressing the urgency of climate change adaptation and calling for active engagement for a long time. The EU played an important role in the multilateral negotiations in reaching the Paris Agreement at COP 21, where it successfully uploaded its ambitious policy targets. Such accomplishments were not only made through bargaining power, but also the fact that EU had already adopted

[1] European Parliament, "Treaty of Rome (EEC)", 1957-03-25, https://www.europarl.europa.eu/about-parliament/en/in-the-past/the-parliament-and-the-treaties/treaty-of-rome.
[2] United Nations, *United Nations Human Rights Declaration*, United Nations: New York, NY, USA, 1948.
[3] Council of the European Union, "Consolidated version of The Treaty on the Functioning of the European Union", *Official Journal of the European Union*, Title XX Environment, Article 192-193, 2012-10-26, https://eur-lex.europa.eu/resource.html?uri=cellar:2bf140bf-a3f8-4ab2-b506-fd71826e6da6.0023.02/DOC_2&format=PDF.

strict regulations and had some credibility as a climate leader. For example, in October 2014, about a year before the conclusion of the Paris Agreement, the European Council had established the 2030 climate and energy policy framework for the European Union, which reaffirmed its commitment for greenhouse gas emission reduction, renewable energy, and energy efficiency.[4]

However, despite its favorable reputation in climate policy, Europe still stands at a pivotal point to deal with a series of challenges in the shift towards a low-carbon economy. The challenges associated with the green transition are immense and will require ambitious, sustained and coherent policies to be implemented across member states. To illustrate this fact, I briefly discuss three inter-related challenges: changing energy sources, supporting green innovation, and changing the transportation sector.

I. The challenge of the green transition in Europe

i. Moving away from fossil fuels faster

The power generating sector is at the center of Europe's decarbonization strategy. In 2016, fossil fuels used for electricity production remained the largest source of greenhouse gas (GHG) emissions in Europe, being responsible for roughly one third of all energy-related GHG emissions and more than half of the verified emissions under the EU Emissions Trading Scheme (ETS).[5] The European Environment Agency (EEA), a decentralized agency of the European Union, concluded that much of the EU's coal-based power capacity is near the end of its lifetime. However, operators tend to extend

[4] European Council, "Conclusions on 2030 Climate and Energy Policy Framework", Oct. 23, 2014, https://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/145356.pdf.
[5] European Environment Agency, *Transforming the EU power sector: avoiding a carbon lock-in*, European Environment Agency, 2016, pp. 07.

the lifetime of their fossil fuel capacity, which would clash with the EU's decarbonization efforts.[6] In 2018, fossil fuels continued to be the primary energy source for power production, which led to pollution from dust, nitrogen oxides (NOx), and sulphur dioxide (SO_2) in addition to contributing to climate change.[7]

Greening power generation is especially challenging for Southeast Europe, which will have to replace more than 30% of its installed fossil fuel generation capacity by the end of 2030, and more than 95% by 2050 if its age structure is considered.[8] On one hand, this offers a chance to develop the electricity sector in accordance with the longer-term energy transition strategy of the EU. But on the other, it also needs a robust policy framework to encourage new investments in these regions.

Of course, fossil fuels are also consumed in other sectors, such as transportation. According to Eurostat data, traditional fossil fuels (solid fossil fuels, peat and peat products, oil shale and oil sands, natural gas, and oil and petroleum products) accounted for 69.6% of total energy supply in 2018.[9] In the long term, powered by the falling cost of renewable technology and rising carbon taxes, the renewables will gradually replace fossil fuels in Europe's energy structure. However, the scale and speed of this transition will vary depending on the ambition and effectiveness of policy frameworks.

While the EU has had regulations setting longer-term targets and mandating emission reductions for many years, its policy framework was considered misaligned with its stated level of ambition. For example, studies in 2019 modelled three scenarios:

---

[6] Ibid.
[7] European Environment Agency, "Greening the power sector: benefits of an ambitious implementation of Europe's environment and climate policies", Dec. 12, 2018, https://www.eea.europa.eu/publications/greening-the-power-sector-benefits.
[8] Szabó, László, et al. "South East Europe Electricity Roadmap - Modelling Energy Transition in the Electricity Sectors." *Climate Policy*, vol. 19, no. 4, 2019, pp. 495.
[9] Eurostat, "Total energy supply by product", Environment and energy, Energy statistics - main indicators, https://ec.europa.eu/eurostat/databrowser/view/ten00122__custom_8860968/default/table?lang=en.

one where no further decarbonization target would be set, a delayed decarbonization policy that implemented new measures from 2035 onwards, and an earlier sustained effort to reach a significant reduction in CO_2 emissions. Results revealed that there would be sizable coal and lignite capacity remaining in 2050 in the first two scenarios (24.2 and 6 GW, respectively), whereas the more ambitious decarbonization policy would bring it down to 1.2 GW. Renewable capacity would grow substantially in the last two scenarios (41 GW and 36 GW), while the no new decarbonization target model only drove it to 20 GW.[10] These evaluations and others called for the prompt adoption of a more ambitious policy framework to create the structural conditions needed for a timely green energy transition.

In sum, to fulfil its long-term environmental goals, the EU needs to accelerate the shift to electrification of its economy and the use of renewables, which can be achieved by increased alignment of its energy, climate, and environmental policies and more ambitious targets being pursued across member states.

ii. Better support for green innovation

To affect this transition, the creation and deployment of green technologies are also essential. Until recently, compared with traditional energy technology, renewable energy technologies were generally not cost competitive. Therefore, the EU introduced policy targets and supportive schemes to achieve a certain share of renewables in total electricity generation, partly to support the industry and create market conditions conducive to further innovations and cost improvements. In the context of the EU's 2020 Climate & Energy Package, published in 2015, the overall comprehensive policy

[10] Ibid., pp. 500-501.

framework for the production and promotion of energy from renewables, including electricity, was established in Directive 2009/28/EC.[11] However, beyond setting overarching objectives for member states, it is also important to develop a more grounded and practical roadmap to address specific and realistic challenges.

An essential component in this support of green innovation is encouraging greater participation from the private sector. With currently constrained public budgets, it is more important that this public funding be allocated as effectively as possible in leveraging private funding.[12] Relying merely on further refinement of existing technology is far from enough to meet the need for widespread commercialization, whose key lies in private investments, a vital sector in a self-motivated market environment. An important contributing factor here is government empowerment for green innovation, where concerns for private investments can be reduced, especially in the context of scale and speed promotion for clean technology development.

Due to the low cost-competitiveness of green technology development, private sectors need to be compensated for potential risks in such investments. The risk perception of investors determines the success of renewable electricity support schemes; the effectiveness of the instruments crucially depends on their credibility.[13] In response to this, a stable regulatory environment and simplified administrative processes add on investors' motivation.

The current feed-in tariff system has been highly effective in promoting electricity generation, while bringing extra costs for consumers at the same time. In this case,

[11] Stoianoff, Natalie P., et al. *Green Fiscal Reform for a Sustainable Future Reform, Innovation and Renewable Energy*. Edward Elgar Pub., 2016, pp. 155.
[12] Veugelers, Reinhilde. "Empowering the Green Innovation Machine." *Inter Economics*, vol. 51, no. 4, 2016, pp. 205.
[13] Ibid., pp. 164.

public subsidies with proper design and regular evaluation should be carried out to remove potential harm for deployment of green technology. However, it has been a failure in EU policy to deal with the most important perceived policy challenges in the renewable energy sector: clarity and stability of subsidies and other necessary financial instruments.[14]

iii. Changing transportation

The transition to a low-carbon economy will also require changing how people and goods move around Europe. Transport-related emissions represent the second largest sector in total European emissions since 2014, taking a growing part from 19.4% to 21.6% till 2019.[15] Hence, this is another area where the EU needs to improve its performance, as evidence showed that, leading to the adoption of the European Green Deal, European legislation and other policy interventions were insufficient.

In the mid-2010s, by looking into the 'black box' of transport policymaking, studies revealed that there are fundamental structural and agency-based barriers that will have to be overcome if significant emission cuts are to be achieved, including lack of political leadership on climate change mitigation, resistance from member states, policy implementation delays, and insufficient forecasting and monitoring tools. [16] Overall, there is a lack of clear targets and coherent climate policy in transportation, which brings further concern for other relevant sectors. And therefore, it is unlikely that

[14] Michalena, Evanthie, and Jeremy M. Hills. "Stepping up but Back: How EU Policy Reform Fails to Meet the Needs of Renewable Energy Actors." *Renewable & Sustainable Energy Reviews*, vol. 64, 2016, pp. 716.
[15] Statista, "Annual greenhouse gas emissions in the European Union (EU-27) from 1990 to 2021, by sector", Apr. 2023, https://www.statista.com/statistics/1171183/ghg-emissions-sector-european-union-eu/.
[16] Gössling, Stefan, et al. "Inside the Black Box: EU Policy Officers' Perspectives on Transport and Climate Change Mitigation." *Journal of Transport Geography*, vol. 57, 2016, pp. 83.

the EU's emission reduction goal will be achieved in time.

To begin with, the transport system within the EU operates on multiple tiers, including local and regional administrations, national governments, as well as the Directorates-General (DGs) in the European Commission. And relevant DG in the transport sector involves DG for Mobility and Transport (MOVE), Climate Action (CLIMA), and Environment (ENV). The responsibility distribution, which is meant to efficiently address shared competence, generates ambiguity among policymakers instead.

There are diverging views on policy development responsibility among these DGs. When it comes to specific aspects of legislation, division of authority among different departments can yield vague areas, and it can be hard to integrate climate targets into transportation regulations. In 2011, the EU published a white paper on transport system with ambitious goal to cut emissions and key targets such as no more conventionally fueled cars in cities, 40% use of sustainable low carbon fuels in aviation.[17] However, insider in DG MOVE revealed that "nothing was happening on our delivery to focus on achieving anything in that area, I did ask a number of people inside the DG and some of the people who were closest said it's the responsibility of DG CLIMA, which is an unbelievable answer."[18] With multiple sub-sectors in this policy field, decisionmakers lack a clear knowledge of responsibility distribution in transport policy development.

Another factor leading to ineffective policy action is insufficient leadership

[17] European Commission, "Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system", Mar. 28, 2011, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011DC0144.
[18] Gössling, Stefan, et al. "Inside the Black Box: EU Policy Officers' Perspectives on Transport and Climate Change Mitigation." *Journal of Transport Geography*, vol. 57, 2016, pp. 87.

among the DGs. Ministers face competing interests and the EU lacks a strong leader with oversight who can align individual agendas in different DGs with common climate targets. In a study of EU transport policy, an official interviewed said: "I've tried to ask that question [regarding leadership on emission reductions] inside the DG and it's a completely unclear answer."[19] The ambitious climate goal hangs in the air, yet it still faces challenge when landing on follow-ups.

Under the inspection of barriers in decision-making and legislation process, it can be inferred that it is hard to realize climate emission reduction goal within the designated timeline. And such a challenge is not restricted only to the transport sector; rather, it extends across other sectors that hold promises for emissions reduction. These challenges highlight the need for a stronger leadership of the EU Commission and a more effective policy framework.

This brief discussion of three inter-related challenges illustrates that, in the years that followed the adoption of the Paris Agreement, the EU was still not on rack in meeting its climate goals and required the adoption of a more ambitious, comprehensive, coherent and stable climate policy framework. It is in response to these pressing challenges, the new European Commission put forward the European Green Deal in December 2019 as a comprehensive and ambitious strategy, in its sustainability efforts not only to address environmental risks, but also to promote economic growth and improve the welfare of society.

II. Responding to the Challenge: the European Green Deal

The European Green Deal is a collection of policy initiatives with the long-term

[19] Ibid., pp. 87.

objective of introducing the EU on a green transition route and achieving carbon neutrality by 2050. It underlines the need for a holistic and cross-sectoral approach in which all relevant policy areas contribute to the ultimate climate-related goal. The package includes initiatives covering the climate, the environment, energy, transport, industry, agriculture, and sustainable finance – all of which are strongly interlinked.[20]

The EU first turned its climate ambitions into legal obligations through the implementation of the European climate law in 2021, which sets the EU's goal of climate neutrality. The EU and its member states made firm commitment to reduce the EU's net greenhouse gas emissions by at least 55% below 1990 levels by 2030 and to achieve climate neutrality by 2050. This ambitious target holds legal force, fostering increased certainty for businesses, stakeholders, and citizens. It also establishes a robust monitor and report system to track and evaluate progress towards achieving this goal.

The EGD is complemented by the Fit for 55 packages, designed to solidify its enforceability through legal means. The package is expected to contain both revisions of existing laws (such as the amendments for the energy taxation directive and the regulation for the CO_2 emissions for cars and vans) and the proposal of new legislations (such as the EU Forest Strategy and the ReFuelEUAviation).[21] These packages integrate EU's climate goals through the amendment of legislation in climate, energy, and transportation sectors. It provides a coherent and balanced environment for the overall green transition.

Specifically, the EGD covers initiatives on climate, environment, energy,

[20] Council of the European Union, "European Green Deal", Nov. 10, 2023, https://www.consilium.europa.eu/en/policies/green-deal/.
[21] World Economic Forum, "What you need to know about the European Green Deal - and what comes next", Jul. 13, 2021, https://www.weforum.org/agenda/2021/07/what-you-need-to-know-about-the-european-green-deal-and-what-comes-next/.

transport, industry, agriculture, and sustainable economy, identifying policy pathways in these key areas. While the EGD's comprehensiveness makes it difficult to summarize, Table 1.1 provides a synthesis of its key initiatives and strategies.

Table 1.1: Key initiatives and strategies of EGD

Sectors	Key initiatives and strategies
Climate	European climate law ・ Target: make it a legally binding target to reach climate neutrality by 2050; at least 55% GHG emission cut by 2030. ・ Measures: provide policy predictability by mapping out the pace of emission reductions until 2050 and developing a system to monitor and reporting on the progress made towards the goal. EU strategy on adaptation to climate change ・ Target: outline a long-term vision for the EU to become a climate-resilient society. ・ Measures: better gathering and sharing of data, nature-based solutions, integration of adaptation in macro-fiscal policies.
Environment	EU biodiversity strategy 2030 ・ Target: help recover Europe's biodiversity by 2030. ・ Measures: extend protected land and sea areas in Europe, restore degraded ecosystems by minimizing pesticides usage and its harmful effects, increase funding of actions and better monitoring of progress Forest strategy for 2030 ・ Target: build on the EU's biodiversity strategy. ・ Measures: promote sustainable forest management, provide financial incentives for environmentally friendly practices, improve the size and biodiversity of forests Towards Zero Pollution for Air, Water and Soil ・ Target: reduce premature deaths due to air pollution by 55%, plastic litter in the sea by 50% and residual municipal waste by

	50%.[22] · Measures: review the standards for water quality, reduce soil pollution and enhancing restoration, review the majority of EU waste laws, present a Scoreboard of EU regions' green performance, stronger enforcement of zero pollution, etc.
Energy	Clean, affordable and secure energy · Target: as 75% of EU greenhouse gas emissions come from energy use and production, the decarbonization of the energy sector is a crucial step towards a climate-neutral EU. · Measures: support the development and uptake of cleaner energy sources, fostering integration of energy systems throughout the EU, develop interconnected energy infrastructure via EU energy corridors, revise the current legislation on energy efficiency and renewable energy. Renovation wave strategy[23] · Target: the buildings sector is responsible for more than one third of the EU's GHG emissions, the strategy aims to double energy-related renovation rates in the EU by 2030. · Measures: cost-efficient reduction of energy demand, replace energy-inefficient heating and cooling technology, integrate energy efficient solutions and the use of renewable energy.
Transport	Sustainable and Smart Mobility Strategy[24] · Target: 90% reduction in emissions from transport by 2050. · Measures: ensure the sustainability of alternative fuels for different means of transport, including financing for the deployment of public charging piles for new energy vehicles, and supporting infrastructure development for alternative fuels, etc.
Industry	European industrial strategy[25]

[22] Ibid.
[23] Council of the European Union, "Infographic - Renovation wave: creating green buildings for the future", Jun. 30, 2021, https://www.consilium.europa.eu/en/infographics/renovation-wave/.
[24] European Commission, "Sustainable and Smart Mobility Strategy: Putting European transport on track for the future", Jul. 20, 2021, https://transport.ec.europa.eu/system/files/2021-04/2021-mobility-strategy-and-action-plan.pdf.
[25] European Round Table for Industry, *Putting the EU Industrial Strategy into action*, 2020, Brussels, https://ert.eu/wp-content/uploads/2020/11/ERT-Publication-Putting-the-EU-Industrial-Strategy-into-

	・ Target: support the industry in its role as an accelerator and enabler of change, innovation, and growth. ・ Measures: evaluate performance through a scorecard of 28 indicators under four headings of Output Performance, Internal Processes, Future Orientation, and Global Relationships.
Agriculture	Farm to fork strategy ・ Target: reduce the environmental footprint of food systems and ensure healthy and affordable food also for future generations; at least 25% of the EU's agricultural land under organic farming and a significant increase in organic aquaculture by 2030. ・ Measures: stimulate demand and ensure consumer trust, stimulate conversion and reinforcing the entire value chain, and improve the contribution of organic farming to sustainability.[26] The Code of Conduct for Responsible Food Business and Marketing Practices, with 65 signatories, aims to improve the accessibility and affordability of healthy and sustainable food.[27]
Sustainable Economy	Circular economy action plan ・ Target: decouple economic growth with resource dependence and shift to circular systems in production and consumption. ・ Measures: the action plan envisages over 30 action points on designing of sustainable products, circularity in production processes and empowering consumers and public buyers. It targets sectors such as electronics and ICT, batteries, packaging, plastics, textiles, construction and buildings, and food.[28]

Source: facts collected from Council of the European Union, "European Green Deal", Nov. 10, 2023, https://www.consilium.europa.eu/en/policies/green-deal/, table organized by writer.

Compared with previous policies, the EGD stands out for its comprehensive

action_Nov-2020.pdf.

[26] European Commission, "Organic action plan", Sep. 25, 2023, https://agriculture.ec.europa.eu/farming/organic-farming/organic-action-plan_en.

[27] European Commission, "EU Code of Conduct on Responsible Food Business and Marketing Practices", Jun. 2021, https://food.ec.europa.eu/system/files/2021-06/f2f_sfpd_coc_final_en.pdf.

[28] Council of European Union, "A new Circular Economy Action Plan For a cleaner and more competitive Europe", Mar. 11, 2020, https://www.consilium.europa.eu/media/47572/st_6766_2020_init_en.pdf.

response to the urgent needs for action and internal challenges for coordination. It includes multiple dimensions of the transition to a sustainable future, from direct mitigation measures for environment and climate issues, to plans addressing the biggest contributors of GHG emissions. Besides, the EU set Just Transition Mechanism to ensure no one was left behind in the demanding shift towards a greener economy and the phasing out of environmentally harmful sectors. The EGD's coverage reflects a deep understanding of how interconnected the environmental, economic, and social issues are. Moreover, the EGD's pragmatic roadmap helps relevant departments collaborate effectively to follow their common agendas, while also encouraging a sustainable model for active participation by the private sector.

The EU has included key sectors in its transition roadmap towards a greener future on both strategic and executive levels. With the key components and objectives of the EGD outlined, it is another challenge to implement given the varying stances among EU members. While the EGD sets ambitious goals for climate action and sustainability at the European level, the degree to which member states support and actively contribute to these objectives varies significantly. The following discussion will look into the divergent positions and policy stances adopted by EU member states, highlighting the challenges and complexities in achieving coherence across the union.

III. The deviation of EU member states

i. Energy endowments of EU member States

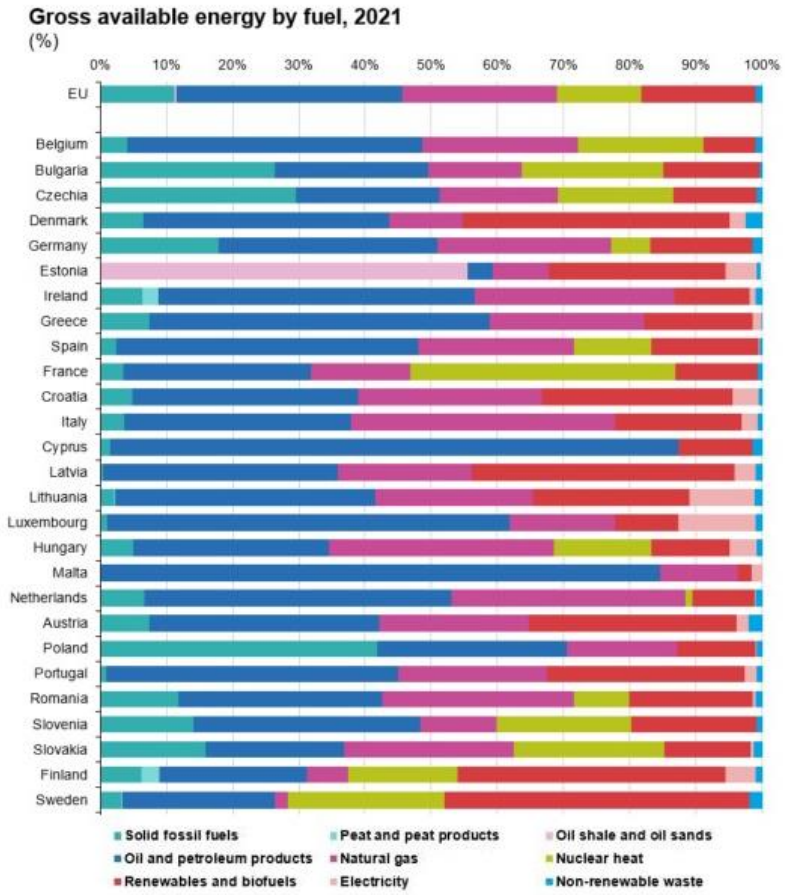
The EU's heavy reliance on fossil fuels for energy presents numerous challenges in ensuring accessible, reliable, and sustainable energy sources. Enhancing energy efficiency, boosting productivity, and reducing overall consumption are vital strategies

for the EU to fortify its energy system. These efforts are integral to the Energy Union strategy, a key component of the EGD, aiming to guarantee supply security, competitiveness, and affordable energy access for all citizens.

The energy endowment of EU member states significantly shapes their perspectives on the transition standard of energy mix. Countries with abundant natural resources - be it fossil fuels, renewables, or nuclear energy - often incline toward favoring that specific resource in their energy blend. Additionally, a nation's economic structure, particularly industries reliant on energy-intensive operations, influences its preference for traditional sources like coal or natural gas. These dynamics collectively influence member states' approaches to their energy mix optimization. Nations rich in fossil fuels may confront economic and political pressures when transitioning to greener energy, while those with abundant renewable resources prioritize their development in alignment with green energy objectives, often meeting their targets more readily.

Different socioeconomic structures and the energy mix across Europe have caused the implementation process of each EU target to develop at a different pace among European countries.[29] While the European Green Deal seeks to promote a sustainable and climate-neutral economy at the EU level, the adoption and execution of its objectives by individual member states are influenced by their unique national contexts and priorities. A delicate balance between national interests, economic priorities, concerns regarding energy security, and environmental goals plays a crucial role in shaping the diverse attitudes observed among member states.

[29] Hafner, Manfred, and Pier Paolo Raimondi. "Priorities and Challenges of the EU Energy Transition: From the European Green Package to the New Green Deal." *Russian Journal of Economics (Moskva)*, vol. 6, no. 4, 2020, pp. 374.



Source: Eurostat, Eurostat database, May 23, 2023, accessed 20 December 2023 at https://ec.europa.eu/eurostat/statistics-explained/images/6/66/Gross_available_energy_by_fuel%2C_2021_%28%25%29_23-05-2023.png.

Figure 1.1 EU Gross available energy by fuel, 2021 (%)

The composition of fuel mix and their share in gross available resources among various countries are shaped by a blend of factors, including the availability of natural resources, the economic landscape of the country, and the preferences in the energy system adopted by the nation. In 2021, the combined share of solid fossil fuels, oil and petroleum products, and natural gas (as the main traditional fossil fuels) in total available energy is below 50% in only four EU member states: 12.2% in Estonia, 29.4% in Sweden, 34.6% in Finland, and 47.5% in France. Moreover, France and Sweden are also the countries where nuclear power contributes the most to their energy landscape

(40.7% and 24.7% respectively).[30]

The highest proportion of petroleum and petroleum products in gross available energy are found in Cyprus (85.8%), Malta (84.6%) and Luxembourg (60.9%). Specifically, Cyprus and Malta, being islands, have limitations on developing various energies. In Luxembourg, fuel tourism significantly impacts consumption, attracting lorries to bypass the country due to lower taxes for refueling and purchasing items like alcohol and cigarettes. Consequently, the emissions contribute to decreased air quality within Luxembourg.

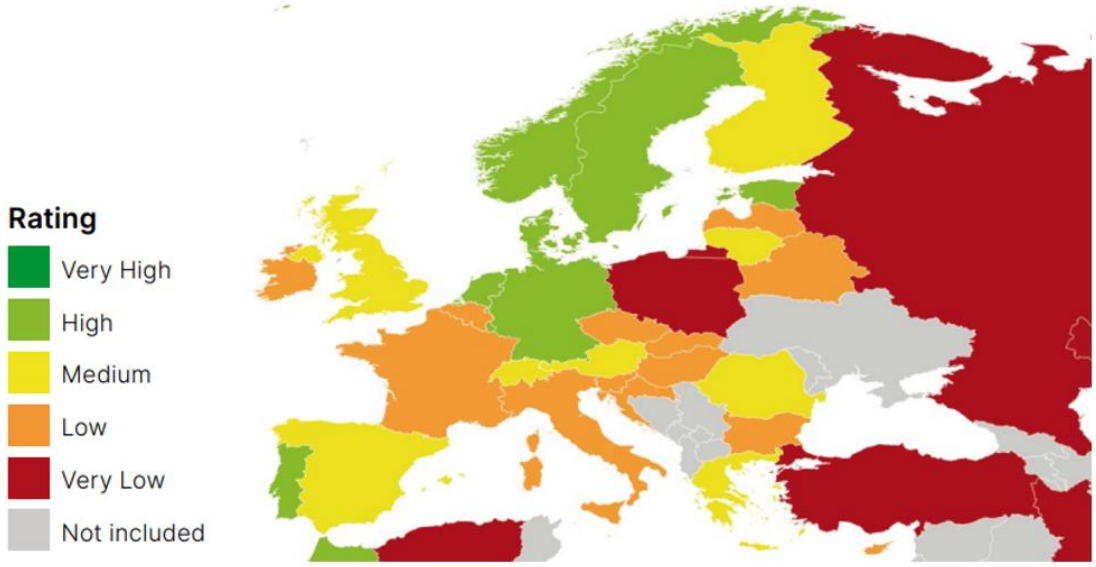
Poland (41.8%) and the Czech Republic (30.2%) have the highest share of solid fossil fuels in their gross available energy, far exceeding the EU average of 11.1%. This significant deviation forms the foundation for their reluctance to comply with policy standards within the EGD. Estonia predominantly relies on oil shale and oil sands, accounting for 55.5% of its gross available energy, while the share of peat and peat products remains low as 2.7% and 2.4% in Finland and Ireland. Natural gas varies from 40% in Italy to under 3% in Sweden and Cyprus. Sweden leads in renewable energy, constituting almost half of its gross available energy in 2021 (48.2%), followed by Finland and Denmark at 40.3% and 40.4%, while the lowest shares are in Malta (2.1%), Belgium (8.0%), and the Netherlands (9.5%). These large disparities underscore the divergent perspectives among member states.

ii. Performance of progressive member states

The leadership of leading member States has been evident from the beginning of global climate governance. The Climate Change Performance Index (CCPI), an

[30] Eurostat, "Energy statistics - an overview", Sep. 27, 2023, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy_statistics_-_an_overview#Energy_intensity.

independent resource to monitor and track the climate protection performance of countries around the world, has been evaluating countries with four criteria: their Global Greenhouse Gas Emissions (GHG), their renewable energy, their total energy use, and their climate policy.[31] Filtering by these standards, the most recent ranking published in December 2023 outstands the Northern European states and Germany as shown in Figure 1.2. The main framework for climate policy in these countries was constructed as early as the late 1980s and early 1990s, their emission reduction targets in the Kyoto Protocol are among the most ambitious in the European context.



Source: Burck, Jan. et al. "Climate Change Performance Index 2024", Dec. 08, 2023, pp. 06, https://ccpi.org/wp-content/uploads/CCPI-2024-Results.pdf.

Figure 1.2 European performance in CCPI 2024

Germany hosted the first Conference of the Parties (COP 1) to the United Nations Framework Convention on Climate Change (UNFCCC) in Berlin and has been actively engaged in subsequent climate conferences. It has consistently advocated for climate

[31] WorldAtlas, "Countries Doing The Most To Combat Climate Change", Sep. 26, 2020, https://www.worldatlas.com/articles/countries-doing-the-most-to-combat-climate-change.html.

issues within international political forums like the G7, G20, and in the EU. Germany demonstrates its climate policy leadership by firmly adopting renewable energy sources, notably expanding their role in electricity generation. Its sustained efforts in significant GHG emission reductions and economically successful climate policies demonstrate its commitment. As early as in 2000, Germany implemented the Renewable Energy Sources Act, which supported the large-scale buildup of renewables under an expensive feed-in tariff scheme. As a result, installed solar-photovoltaic (PV) and wind capacities have soared from 6.2 gigawatts to 83.8 gigawatts between 2000 and 2015. During this time, Germany accounted for 33% of the renewable buildup within the European Union. In addition, the policy has led to the creation of a considerable "green" industry: German companies used to be global champions in the production of solar-PV cells as well as wind turbines, developing cutting-edge technologies and creating jobs for several-hundred-thousand employees.[32]

Under the EU's multi-level climate governance system, notable climate initiatives are not confined to national-level policies in Germany; they also extend to federal states and smaller municipalities. A significant milestone occurred in 1985 when Hesse first appointed a Green Party member, Joschka Fischer, as the state minister for the environment. Fischer's tenure fostered insights into the energy transition, contributing valuable knowledge to the federal level. Although subsequent conservative leadership slowed the expansion of renewables, Hesse passed the Energy Future Act in 2012. This legislation aimed for 100% electricity and heating sourced from renewables by 2050, reflecting a persistent commitment to green principles. Hesse is still taking a pioneering role among the German states in issuing Green Bonds, the largest green benchmark

[32] Pflugmann, Fridolin, et al. *Germany's energy transition at a crossroads*. McKinsey&Company, 2019, pp. 02.

bond of a German federal state to date in 2021.[33]

The Nordic member states within the European Union bear the weight of the most demanding emission reduction targets, establishing themselves as environmental leaders in the EU through their sustained successful practices. With a goal of achieving carbon neutrality, these countries prioritize optimizing renewable energy usage by promoting industrial energy efficiency and diversifying energy sources and developing diverse renewable sources like hydropower, wind power, solar energy, and forestry biomass, tailored to local conditions. Two years ahead of schedule, the Nordic countries had all met or surpassed their 2020 targets set in the EU Renewable Energy Directive, while less than half of member states were on track. In recent years, the renewables share of Nordic energy consumption has risen at nearly three times the EU's pace.[34]

The Nordic countries are all actively engaged in ways to enable a green transition. Community Energy and citizen involvement are a historically attractive topic across Europe. Through Article 16 of the Electricity Market Directive (2019/944; "Electricity Directive") the new concept Citizen Energy Communities (CEC) was established and through the recast of the Renewable Energy Directive (REDII) the concept of Renewable Energy Community (REC) was established. Energy communities enable collective and citizen-driven energy actions to support the clean energy transition. Aiming at environmental, economic, and social benefits for their members and the region, energy communities can be an effective means of re-structuring energy systems.[35] In Denmark, in 2021, RECs were included in the law on promotion of

[33] Hessian Ministry of Finance, "Green Bond Framework for the second Green Bond of the State of Hesse", Apr. 28, 2023, https://finanzen.hessen.de/sites/finanzen.hessen.de/files/2023-06/framework_final_version_april_28th_2023_english.pdf.
[34] Kjær, Christian, and Marton Leander Vølstad. *Renewable Energy in the Nordics 2021*, Nordic Energy Research, 2021, https://pub.norden.org/nordicenergyresearch2021-03/.
[35] European Commission, "Energy Communities", https://energy.ec.europa.eu/topics/markets-and-consumers/energy-communities_en.

renewables, while the definitions of both RECs and CECs were defined in an executive order which added to the law on electricity supply. In Finland, the definition Local Energy Communities (LEC) was integrated in the legislation in 2021. In Sweden, although no formal proposal on legislation regarding transposing Energy Communities has been made so far, the Swedish Energy Regulator has drafted a proposal on how to transpose the directives into the national legislation.[36] The use of renewable energy and the application of energy transition technologies should be established in a favorable policy environment. Connected through the Nordic Synchronous area, Nordic countries shows synergy and cohesion in energy policy, with facilitating systems such as Nordic energy market Nord Pool.

iii. Resistance from conservative member states

Among the EU member states, some, like Poland, have more conservative views on environmental issue. These countries, especially those in Eastern Europe relying heavily on fossil fuels like coal, oppose the EU's strict environmental policies.

As indicated in Figure 1.2, Poland is ranked as the lowest in the EU member states at 44.4, receiving a *very-low* rating. Since coal-fired electricity generation accounts up to 80%[37], Poland has more trouble in energy transition compared to other nations with diverse energy sources. In the efforts of lobbying not to harm the Polish economy, Poland was allowed to reach climate neutrality at its own pace on European Council summit 2019. This is the first time in almost 20 years, the conclusions of the European Council meeting created a special exception for one of the EU countries, which excludes the application of certain provisions of the conclusions.[38] After the tolerant

[36] Technopolis, *Energy Communities*, Nordic Energy Research, 2023, http://doi.org/10.6027/NER2023-03.
[37] IEA, *Poland 2022*, IEA, 2022, Paris, pp. 11, https://www.iea.org/reports/poland-2022.
[38] Website of the Republic of Poland, "Prime Minister Morawiecki: We have ensured more time for

exception, along the path to energy transition, Poland is still blaming on the EU for the high energy prices, suggesting that the EU's climate policy is responsible for more than half of the power production costs.[39]

As an important nation in Central and Eastern Europe, Poland has a substantial voting weight in the European Council and Council of Ministers, ranked just below Germany, France, the UK (pre-Brexit), and Italy. However, Poland's domestic energy industry lags far behind these countries. Poland is also struggling to balance social needs and energy security, while being bound by the EU's stringent laws and rules, particularly in its coal policy.

Poland, characterized by a tradition of Euroscepticism, was led by the Law and Justice (PiS) party, who seeks to assert Poland's sovereignty in the context of European integration. The PiS's motives stem from a dual perspective: ideologically, it fears a dilution of Polish identity and values within the EU framework; economically, it feels constrained in its ambition to establish itself as a major European trade hub due to its current position within the EU's value chain.

Despite Poland's strategic prominence in geopolitical security in Russian-Ukrainian war, its capacity to effectively lead the EU's eastward shift of gravity and translate its political influence into substantive power within the union remains a work in progress. Poland's role within the EU is somewhat marginalized. While Croatia has embraced the eurozone, and countries like Bulgaria and Romania move towards common currency adoption, Poland has exhibited a lack of interest in financial

Poland to implement climate transformation", Dec. 13, 2019, https://www.gov.pl/web/eu/prime-minister-morawiecki-we-have-ensured-more-time-for-poland-to-implement-climate-transformation.

[39] Krukowska, Ewa, and Maciej Martewicz. "Blame the EU for High Energy Prices, Poland Tells Households", Bloomberg, Jan. 31, 2022, https://www.bloomberg.com/news/articles/2022-01-31/blame-the-eu-for-high-energy-prices-poland-tells-households.

integration. Poland was one of four member states to block the deal on net zero emissions at the meeting of national leaders in 2019.[40]And its resistance to the EGD constantly calls for additional support to achieve its net-zero emissions target.

Poland, Hungary and the Czech Republic, three Eastern European countries that rely heavily on fossil fuels, initially hesitated to commit to the "carbon neutrality by 2050" target.[41] However, Hungary and the Czech Republic offered to support a net-zero emissions target if the European Union embraced nuclear energy technology. [42] At the launch of the Green Deal, the EU tentatively agreed to include nuclear energy as part of the climate solution, gaining the signatures of the Czech Republic and Hungary while leaving Poland as the only member refusing to commit to the net-zero target at that time.

Moreover, the Covid-19 pandemic significantly impacted the world economy, leading nations to prioritize domestic economic growth, employment, and other pressing concerns. The primary objective of national governance is economic development. When economic issues arise, both the government and the public's attention naturally navigate towards resisting economic crises, often degrading other matters to a lower priority. The shift in emphasis in domestic politics in member countries, coupled with the fact that environmental and climate transition involves energy supply industries, which is an indispensable part to supported economic security. The requirements of the EGD contradict this context, leading to a further decrease in member states' willingness to comply.

[40] Chloé Farand, "Poland set to delay EU deal on 2050 'climate neutrality' target", EURACTIV, Jul. 19, 2019, https://www.euractiv.com/section/energy-environment/news/poland-set-to-delay-eu-deal-on-2050-climate-neutrality-target/.
[41] Leslie Hook and Nathalie Thomas, "Poland indicates likely support for net zero emissions", Jun. 27, 2019, https://www.ft.com/content/8ea5bece-98dd-11e9-8cfb-30c211dcd229.
[42] Sam Morgan, "Hungary backs 2050 climate neutrality goal, bringing EU total to 22", EURACTIV, Jun. 18, 2019, https://www.euractiv.com/section/energy-environment/news/hungary-says-no-climate-neutrality-without-nuclear-but-backs-eu-target/.

In conclusion, this section has explored the challenges that the European Union faces in its transition towards a greener future, including over reliance on fossil fuels, lack of innovation support, and legislative deficiencies. The context highlights a critical need for an overall policy package to address these issues, and EGD is the answer. By looking into the landscape of the EGD, including its policies, toolkits, and supporting plans, this section has evaluated the multifaceted nature of the green transition. Despite its ambitious goals and action plans, the varying positions of EU member states along the spectrum of green determination present a significant hurdle to smooth implementation. As progressive states are leading the pace, and conservative states exhibit resistance, the importance for coordination and compromise within the EU becomes clear. Moving forward, bridging divergent attitudes and fostering coherence among member states are crucial for realizing the transformative potential of the EGD and advancing towards a sustainable and resilient future for Europe.

Section 2: Coordination and compromise in European Green Deal formulation

The European Green Deal not only represents the EU's environmental commitment, but also reflects its ability to harmonize and coordinate divergent interests toward a collective objective. This section scrutinizes the mechanisms underlying the EU's quest for coherence, delving into the allocation of responsibilities and interests across its member states. Examining the distribution of quotas for carbon neutrality and the adaptive measures for reconciling diverse opinions and interests, this section explores how the EGD navigates these complexities.

I. EU coordination and environmental policy

i. Motives and dynamics of coordination in member states

Although the EU employs various strategies to align member states' perspectives and foster internal coherence, it's essential to recognize that discrepancies among EU members represent a framework division rather than a fundamental structural issue. Even nations in Central and Eastern Europe, characterized by relatively underdeveloped economies and traditional industrial structures, are navigating the challenges of transition while advocating for environmental preservation and industrial advancement.

Moreover, the pursuit of economic advantages remains a key driving force leading member state to support and develop climate policies. Across the EU, it has been a consensus that the rising market potential is brought by green investments and clean energy technologies. These initiatives not only facilitate the emergence of

economic growth and employment opportunities, but also accelerate the EU's economic transformation, promoting smooth and sustainable development. The implementation of measures to counter climate change has given rise to the low-carbon economy, which also represents the trend of world economic development and serves as the cornerstone of future international economic competitiveness.

The European Union Emissions Trading System (EU ETS), initiated in 2005, stands as the world's pioneering international carbon dioxide emissions trading market. At present, Europe exhibits a mature low-carbon industrial technology, laying the groundwork for a comprehensive industrial chain. Climate change, once considered a seemingly small issue, just like the fulcrum prying up the earth, is now catalyzing an industrial revolution. Only by grasping the trend of economic development and mastering the core green technology, can we stand in the forefront of global progress and save ourselves from becoming the victims of green containment.

On the other hand, the EU member states have inherent motives to advocate stringent environmental standards in their policies. Given that the EU has implemented some of the most rigorous environmental policies globally, its products inevitably bear increased environmental costs, thus facing a relative pricing disadvantage. For instance, the introduction of an environmental tax on trucks in France in 2013 posed vehicles weighing over 3.5 tons an eco-tax, resulting in a 5-10% increase in transportation expenses. This led to organized protests by European road transport companies. [43] There would be a consequent rise in agricultural product costs driven by the low demand elasticity and the unavailability of eco-friendly production alternatives. And given the economic costs of enforcing strict environmental policies within the EU,

[43] News Wires, "Thousands of trucks block French roads in tax protest", France 24, Nov. 16, 2013, https://www.france24.com/en/20131116-french-truck-drivers-block-highways-protest-ecotax.

member states have the incentive to export high standards to other countries. Therefore, competitors need to follow similar rules, raise global standards, and eventually narrow the relative price gap.

Apart from this, EU positions are rarely developed from scratch, and environmental politics is a continuous process, evolving incrementally. [44] The emergence of the European Green Deal builds upon Europe's established tradition of environmental emphasis, already integrated in political discourse. Moreover, common internal policies tend to unify member state interests, so that all member states can be expected to support the internationalization of the internal level.[45]

ii. Legislative decision-making process

The Treaty on the Functioning of the European Union divides the legal acts of the European Union into legislative acts, delegated acts, and implementing acts.[46] The legislative act primarily constitutes the decision-making procedure, while the authorization act amends or supplements it, and the execution act sets the standards for implementing the legislative decision. Hence, examining the internal policymaking process involves understanding the interaction among relative parties. This spans from the legislative decision-making by the European Parliament and the Council of the European Union to the delegation and implementation processes led by the European Commission. The interaction reflects effective collaboration among these three institutions, laying the groundwork for policy coherence.

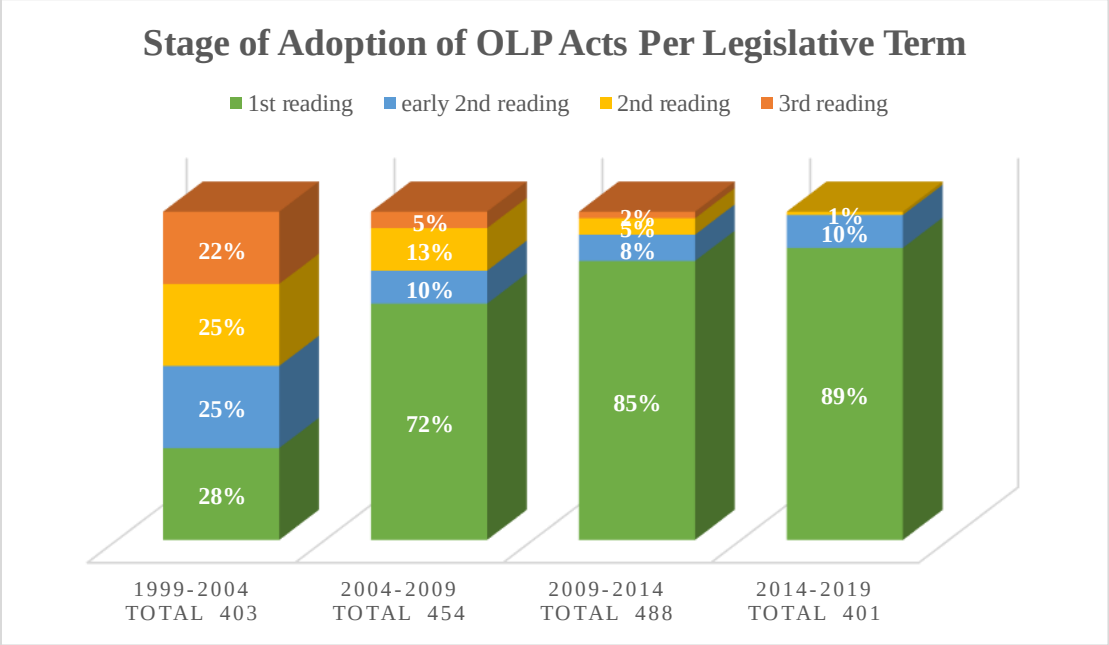
[44] Delreux, Tom. "EU actorness, cohesiveness and effectiveness in environmental affairs", *Journal of European Public Policy*, vol.21, no.3, 2014, pp.1026.
[45] Sebastian Oberthür, "The European Union's Performance in the International Climate Change Regime," *Journal of European Integration*, vol.33, no.6, 2011, pp.673.
[46] Council of the European Union, "Consolidated version of The Treaty on the Functioning of the European Union", *Official Journal of the European Union*, Chapter 2, Section 1, Article 289-291.

Figure 2.1 The Ordinary Legislative Procedure, made by author

The EU employs distinct decision-making procedures for various legislative matters. Since the Lisbon Treaty, the Ordinary Legislative Procedure (OLP) has emerged as the most frequently used formal decision-making process within the EU, accounting for 95% of proposals. Figure 2.1 illustrates the OLP's process. According to data released on the official European Parliament website, out of 401 bills passed during the eighth term of the European Parliament, 41 bills, accounted for 11%, are on

environmental issues.[47]

Along with the regular steps of OLP, there are informal arrangements to speed up decision making process. In the section of first reading, before the European Parliament delivers its opinion, the Council may adopt a "general approach, which gives the Parliament an idea of its position on the Commission's legislative proposal and makes it easier to reach an agreement between the Parliament and the Council.[48] The Council, the Parliament and the Commission can also launch informal interinstitutional meetings, known as "trilogues", to help them reach an early agreement and promote the efficiency of legislation process.



Source: Cecilia Wikström et al., *Activity Report: Developments and Trends of the Ordinary Legislative Procedure*, European Parliament: Ordinary Legislative Procedure, 2019,

[47] Cecilia Wikström et al., *Activity Report: Developments and Trends of the Ordinary Legislative Procedure,* European Parliament: Ordinary Legislative Procedure, 2019, http://www.epgencms.europarl.europa.eu/cmsdata/upload/f8966799-e04c-47c0-ace9-dd213ad20379/activity-report-2014-2019_en.pdf, pp.3.

[48] Council of the European Union, "The ordinary legislative procedure", Nov. 20, 2023, https://www.consilium.europa.eu/en/council-eu/decision-making/ordinary-legislative-procedure.

http://www.epgencms.europarl.europa.eu/cmsdata/upload/f8966799-e04c-47c0-ace9-dd213ad20379/activity-report-2014-2019_en.pdf, pp.3.

Figure 2.2 Stage of adoption of OLP acts per legislative term

As demonstrated in Figure 2.2, in the term between 2014-2019, none of these OLP bills reached the third reading stage, with the second reading procedure occurring in only 1% instances. Bills passed in the first reading required an average time of fewer than 18 months, whereas those go to the second reading procedure extended to 39 months, doubling the time taken. Therefore, this trend in OLPs reflects the continuous improvement of the EU's administrative efficiency within the legislative process. It also mirrors the collaborative efforts of relevant EU institutions, often reaching unanimous agreements despite initial differences in positions, contributing to an overall rise in inter-institutional coherence.

iii. Implementation and supervision of environmental policy

At the EU level, policy implementation primarily falls under the duty of the European Commission. While the Acts adopted by the EU are examined and evaluated in detail beforehand, they don't exhaustively regulate operational aspects. Mostly, these Acts contain annexed notes delegating to the Commission the responsibility to interpret specific issues not foreseen in the legislation. The Commission not only provides substantial technical expertise but also plays a key role in revising and refining legislation.

Notably, within the EU Law Database's section on EU law and case-law, out of a total of 143,134 Regulations, 121,323 of them points to the European Commission as the author. However, there's a considerable gap between these figures and those concerning the Council (12,650) and the European Parliament (3,029), indicating the

varied levels of involvement across these parties.[49]

The implementation of policies by the Commission occurs predominantly through the Comitology Committee, a process designed to coordinate potentially conflicting national perspectives during policy development. This mechanism enables member states and the Council to maintain a level of influence over the regulations formulated by the Commission. The Commission operates through Directorates-General (DGs), each specializing in distinct policy areas. These DGs facilitate the practical execution of policies by overseeing their implementation at the national level. The Commission's administrative competency and technical expertise enable it to interpret and refine legislation. With its considerable involvement in administrative legislation, the Commission plays a key role in ensuring the consistent enforcement of EU policies throughout its member countries.

On national level, the implementation of EU environmental policies can refer to two types: the practical application of the policies on the field and the legal transposition of the policies into national legal frameworks.[50] The impact of EU policies on member states is majorly positive. These policies establish elevated benchmarks for domestic environmental regulations, developing an environment of transparent, scientific, and consistent policy formulation while encouraging the exchange of best practices among member states. However, at times, these policies can generate adverse effects when stringent standards create substantial pressure that slows down the pace of progress in domestic legislation.

[49] EUROPA, EUR-Lex Access to European Union law, https://eur-lex.europa.eu/search.html?qid=1582727122133&text=regulation&scope=EURLEX&type=quick&lang=en&DTS_DOM=EU_LAW&FM_CODED=REG, accessed on Dec 30, 2023.

[50] Delreux, Tom, and Sander Happaerts, *Environmental Policy and Politics in the European Union*, London: Macmillan Education, 2016, pp. 113.

In terms of EU directives, member states have the flexibility to transport in the approach of creating new laws, modifying existing laws, or doing nothing if the existing legal framework is already coherent with the new policy. On the contrary, the process of transposition is marked by cases of delays or content mismatches, commonly referred to as the transposition deficit. The European Commission has three sources of information to monitor transposition deficit: non-communication, own initiative, and complaints. First, member states need to notify their transposition status to the Commission via online database, and delayed activities will be noticed by the EU. Secondly, officials from relative DGs diligently scrutinize member states' laws in search of their inadequacies to comply with EU policy through resource-intensive work. Thirdly, the Commission actively encourages non-state actors to report instances of inaction by member states.[51]

Environmental policy once accounted for 1/5 of the transposition deficit as it involves relatively wider sectors and has more complexity.[52] Until now, member states are still experiencing transposition deficit in domestic regulations and the EGD needs a higher level of compliance to catch on its ambitious schedule. As EGD is of high salience in EU agenda, it now stands as the top section in Annual reports on monitoring the application of EU law, monitoring how it is compiled and transposed into member states' domestic implementation.[53] And states failing to do so will be referred to the Court of Justice and go through infringement procedures by the Commission. For example, in 2022, the Commission launched infringement proceedings against Bulgaria,

[51] Ibid., pp. 114-116.
[52] Ibid., pp. 114.
[53] European Commission, *Monitoring the application of European Union law - 2022 Annual Report*, Publications Office of the European Union, Brussels, 2023, https://commission.europa.eu/document/download/10962779-e449-4e70-9d16-30ca0683b9bf_en?filename=COM_2023_453_1_EN.pdf.

Ireland, Poland and Romania for failing to notify the Commission their first long-term strategies with an outlook of at least 30 years.[54]

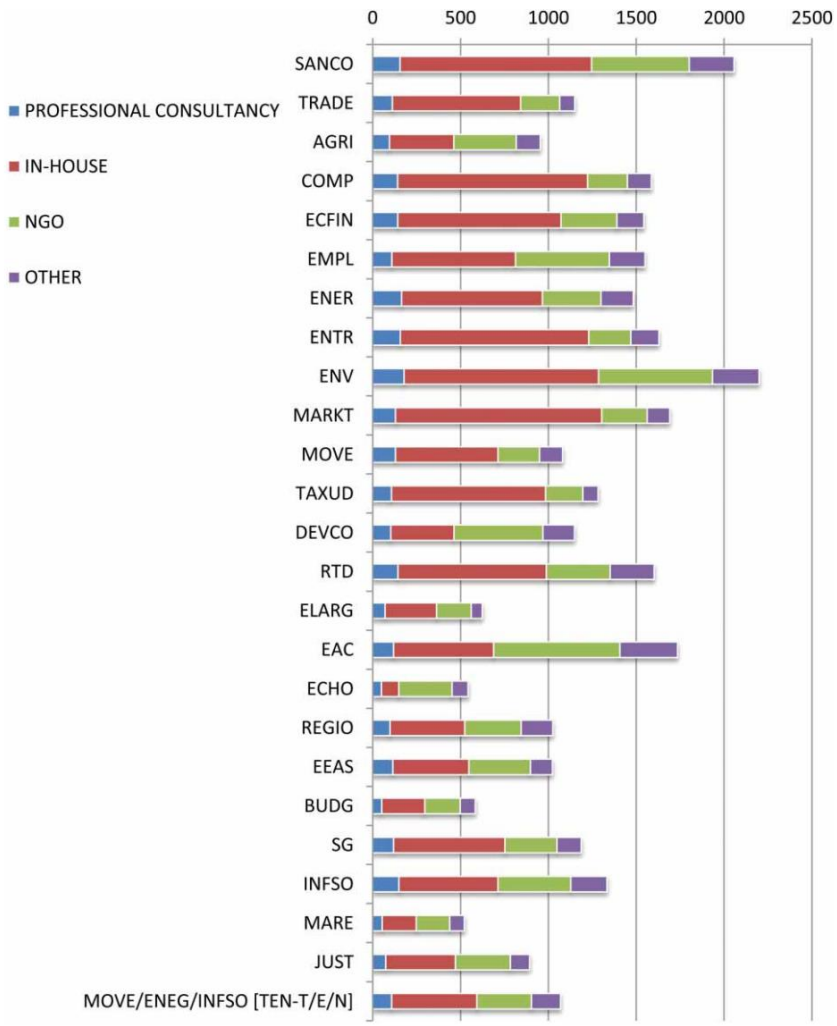
In summary, the implementation and supervision of environmental policies within the EU is marked by both promising future and persistent challenges. Collaborative efforts across EU institutions are crucial for ensuring a coherent integration of these policies at the national level. It is through these collective efforts and collaborative spirit that the European Green Deal can be better implemented and pave the way for a more sustainable and harmonized environmental landscape across the European Union.

iv. Involvement of third party: interest groups and political parties

1. Interest groups

Apart from the EU institutions and member states, an essential actor in the analysis of environmental policy development and implementation involves non-state actors or interest groups. Participation of interest and lobbying groups is often regarded as exchange of resources for political influence. However, it is not necessarily always a negative image, as it also facilitates the integration of societal interests into the policy-making process, providing a platform to articulate specific concerns that might not be top priorities for public policymakers but hold significance for society.

[54] Ibid., pp. 6.



Source: Coen, David, and Alexander Katsaitis. "Chameleon Pluralism in the EU: An Empirical Study of the European Commission Interest Group Density and Diversity across Policy Domains." *Journal of European Public Policy*, vol. 20, no. 8, 2013, pp. 1113.

Figure 2.5 Number of interest groups per type per policy domain (starting from earliest established DG)

Interest groups and lobbying practices are prevalent in European politics, with the Directorate General for the Environment being one of the most intensely lobbied policy areas in the Commission, as indicated in figure 2.5. These interest groups encompass a diverse range, representing societal concerns, business interests, and appeals from non-governmental organizations (NGOs), all exerting influence on the decision-making process without holding a formal political mandate. Their interests span from

advocating for economic benefits to supporting broader environmental conservation. Environmental NGOs serve as advocates for environmental and ecological interests and act as the voice for environmental concerns in politics. In Europe, the Green 10, a loose but coordinated network of the ten leading environmental NGOs active at EU level who coordinate joint responses and recommendations to EU decision-makers.[55] On the other hand, economic groups represent specific sectors or business entities whose interests often intersect with environmental policies, particularly affecting heavy industries.

Interest groups function in aggregating and representing interests, providing input-legitimacy, contributing expertise and information, increasing political awareness, monitoring implementation, relaying information between EU and national level, increasing national interest for EU environmental politics. Lobbying strategies range from internal lobbying that directly influences decision-makers and governing bodies to indirect lobbying, which shapes preferences by influencing public opinion. It also engages in multi-stages of the policy making process and in a multi-level setting.[56]

The WWF European Policy Office is an example. The goal of WWF is to prevent environmental deterioration and to create a future where people coexist peacefully with the natural world. The European Policy Office promotes strong EU environmental policies in the areas of sustainable development, nature preservation, energy and climate change, marine protection, sustainable finance, and external action.[57] In Europe, the organization has joined several coalitions to work with other organizations, such as the European Coalition of Development NGOs (CONCORD), the European Climate Action Network, the Sustainable Europe coalition, and the European Habitats Forum.

[55] Delreux, Tom, and Sander Happaerts, *Environmental Policy and Politics in the European Union*, pp.130.
[56] Ibid., pp. 125.
[57] WWF, "WWF in the EU", https://www.wwf.eu/.

Since the enactment of the EGD on 12 December 2019 and up to the end of 2023, WWF Europe has held 106 meetings with the EU, 28 of which have directly focused on the EGD as their meeting portfolio, indicating the extent of active engagement and policy concern.[58] WWF states that the European Commission can overhaul and develop private-public financing condition that helps in smooth implementation of the green deal, advocating for removal of brown financing, investments supporting the fossil fuel industry or carbon intensive activities, from the financial system, and calling for the European Central Bank (ECB) to evaluate the climate and environmental-related financial risk. Since this position was adopted, the ECB has already decided to cancel financial support for fossil fuels starting from 2021 which is considered as the "significant victory" for green policies.[59]

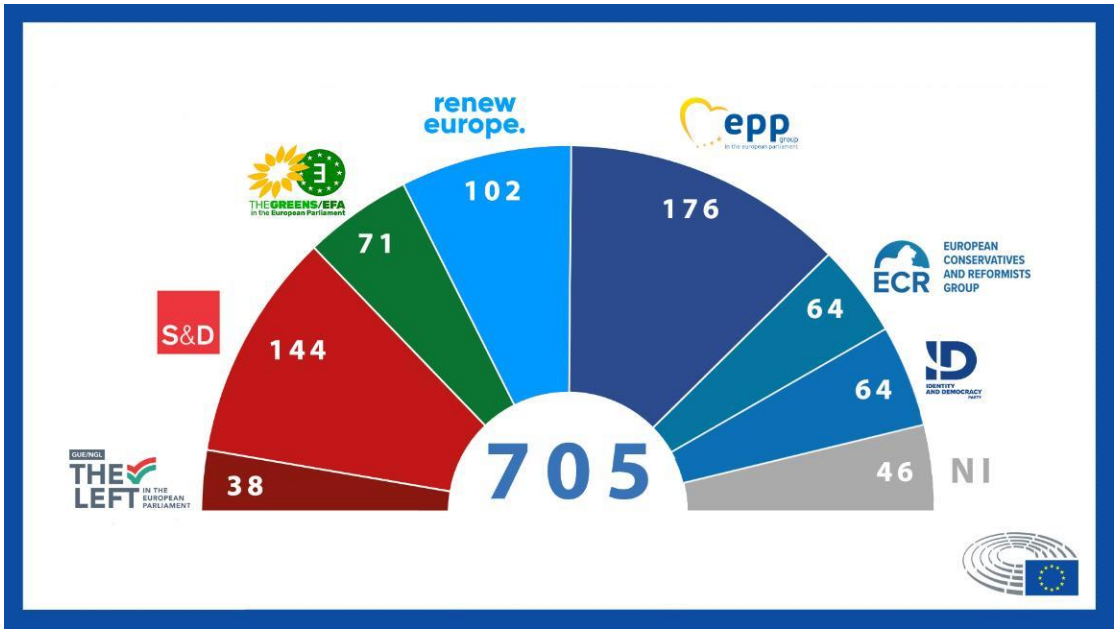
The implementation of the EGD has been controversial in many areas, where interest groups can find their way to gain an edge in the shaping of policies. There have been disputes on multiple domains. Disputes exist on the sources of green funding among political groups, on the prioritization of funding recipients among member states, on budget increase in just transition among left and right-wing parties in the European Parliament, and on how to reduce dependence on Russian energy and whether to give up nuclear power in energy generation. And interest groups and lobbies with different political aspirations can make a difference in these areas. Interest groups' capacity to supply, and decision-makers' demand for, resources mutually determine the influence groups may gain over policy outcomes.[60] In the relationship of reciprocal demands,

[58] LobbyFacts.eu, "WWF European Policy Programme", Dec. 05, 2023, https://www.lobbyfacts.eu/datacard/wwf-european-policy-programme?rid=1414929419-24.
[59] Sisir Bhandari and Albert Michael Dijkstra, "Interest groups and the European Green Deal: An analysis of strategies used to influence European climate policy", https://rucforsk.ruc.dk/ws/portalfiles/portal/66496698/Current_Issues_ENG.pdf.
[60] Dur, Andreas. "Interest Groups in the European Union: How Powerful Are They?" *West European Politics*, vol. 31, no. 6, 2008, pp. 1215.

interest groups are increasingly engaged in the decision-making process, impacting the formulation of EU environmental policy across multiple levels. This collaboration aims to produce policy outcomes that are particularly challenging yet invaluable, in the effort to reconcile the interests of diverse social actors.

2. Political parties

In the aftermath of Brexit, economic uncertainties, and the pandemic, the European Union is facing a governance crisis, leading some citizens to seek support from political entities like the Greens. In this context, the traditional pro-European center-right and center-left parties need to align with the Greens to advance EU integration and proactively execute climate policies. While reaching a consensus within the EU remains challenging in conventional domains like economy, diplomacy, and defense, climate change has gained substantial public backing, establishing a green political atmosphere across member states, industries, and civil society, which also contributes to shaping the EU's internal coalition mechanism. However, the intensifying struggle among European parties over the implementation of the EGD poses ongoing challenges despite the broad support for its principles.



Note: NI stands for Non-Inscrits, who are not part of a group.

Source: European Parliament, "Parliament's seven political groups", Feb. 16, 2023, https://www.europarl.europa.eu/news/en/headlines/eu-affairs/20190612STO54311/parliament-s-seven-political-groups.

Figure 2.6: Seat distribution by political group in European Parliament

The 2019 European Parliamentary General Election marked a record turnout and constituted one of the most representative parliamentary formations. As depicted in figure 2.6, the number of left-wing and left-of-center parties appears relatively dominant among the seven major parties. However, the conservative European People's Party (EPP) retains its status as the leading party in Parliament and consistently opposes the full implementation of the EGD.

(1) European Green Party

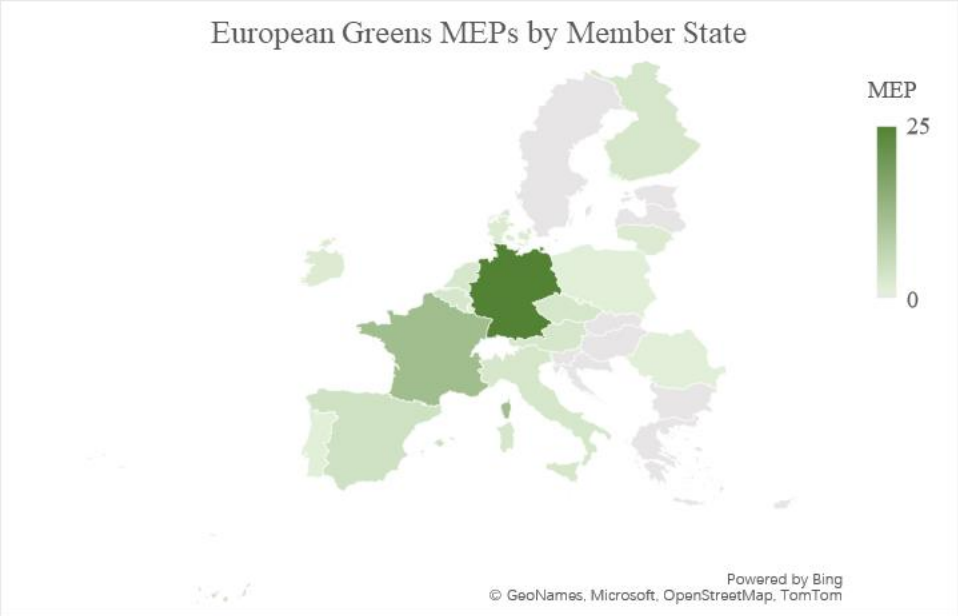
The rise of green politics within the European political landscape indicates a shift towards a green Europe as the new direction for economic and social development in the region. Over the past few decades, the influence of the European Green Party (EGP)

has notably risen in response to significant environmental events worldwide. The Chernobyl nuclear leak in 1986 expanded the European Greens' voter base, and the Fukushima nuclear crisis in Japan in 2011 further strengthened public support for the European Greens. Consequently, the European Greens have evolved into a comprehensive parliamentary party and now stand as an important player in European politics.

The European Green Party published a campaign manifesto for its 2009 European Parliamentary elections titled "A Green New Deal for Europe", which marked its initial declaration for the contemporary economic and social transition. In the manifesto, the Green New Deal refers to a Europe of solidarity that can guarantee its citizens a good quality of life based on economic, social and environmental sustainability; a truly democratic Europe that acts for its citizens and not just narrow industry interests; a Europe that acts for a green future.[61]

Admittedly, the European Green Deal is a major victory for the Green Party, whose claims published in 2019 manifesto is largely realized. In its Priorities for 2019, EGP listed 12 Green priorities for changing Europe, where it advocates for phasing out coal by 2030, promoting energy efficiency and moving to 100% renewables, coupled with investing in a just green economy, research and innovation.[62]

[61] United green parties for Europe, "A Green New Deal for Europe: Manifesto for the European election campaign 2009", https://www.datocms-assets.com/87481/1698235353-2009_manifesto.pdf.
[62] European Greens, "Priorities for 2019: What European Greens Fight For", Jan. 11, 2019, https://www.datocms-assets.com/87481/1698236355-adopted-egp-priorities-for-2019_en.pdf.



Source: European Parliament, "MEPs by Member State and political group", https://www.europarl.europa.eu/meps/en/search/table.

Figure 2.7: Greens/European Free Alliance coalition MEPs by Member State

Based on figure 2.7, the distribution of Green Party and European Free Alliance (EFA) coalition seats in the European Parliament reveals a concentration in Western and Northern Europe, regions typically associated with higher green capacities. The representation of Green seats is notably uneven across Europe. At a national level, Germany (25 seats) and France (12 seats) far outweigh the third-ranking Green representation in Spain (4 seats), indicating a significant disparity in parliamentary

presence.

Source: European Parliament, "MEPs by Member State and political group", https://www.europarl.europa.eu/meps/en/search/table.

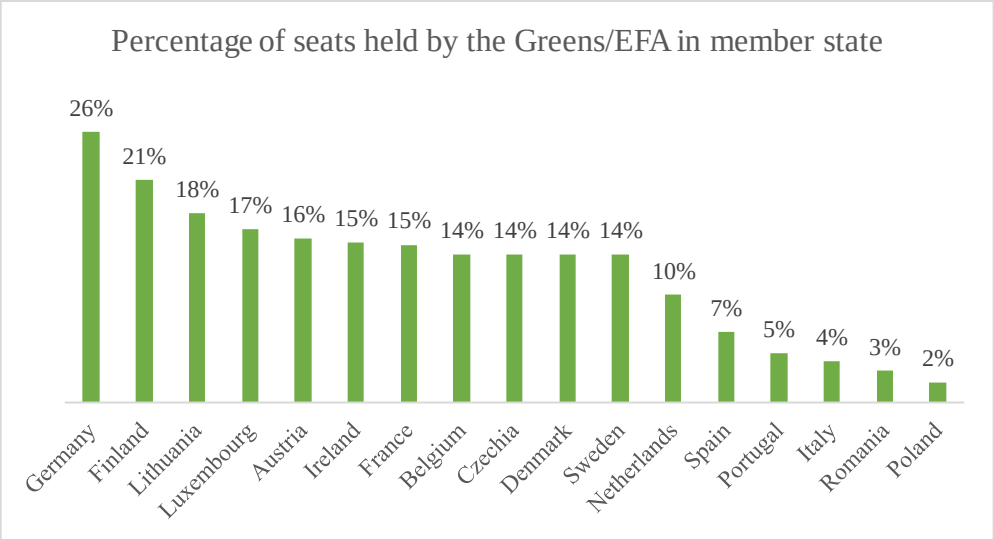


Figure 2.8: Percentage of seats held by the Greens/EFA in each member state

As demonstrated in figure 2.8, Germany's Greens/EFA secured 26% of the domestic seats, with 12 member states recording more than a 10% vote share for the Greens. Germany stands at the forefront of the Green wave, leading both in terms of absolute seats and domestic seat proportions, which also relates to a relieved pressures on domestic agenda such as refugee crisis and unemployment rates. Despite the global setback from the pandemic, stable economic performance will bring increased public interest and commitment towards the green agenda.

(2) Red-green alliance

Major left-leaning parties in Europe, including the Greens, the Left, and the Socialist Democrats, have developed a political framework, left green politics, focused on ecological and environmental matters. The foundation of this red-green coalition rests on the substantial alignment between socialist and ecological parties regarding the principles of left-wing politics. Their agendas reveal a broad support among left-leaning

parties for the green initiative of sustainable development, which response to the expectations of the European public. Despite varying priorities among these parties, their consensus remains firm.

European radical left parties (RLPs) often have a greener policy profile than social democratic parties or right-wing parties. But compared with green parties, the members of the radical left party family are shown to be more moderate on environmental issues.[63] This shows the necessity of merging both socialist and ecological agendas. When fringe parties pose electoral challenges, mainstream parties respond more assertively, often rallying around green policies. Given their ideological closeness, it can be expected that left-wing parties will be more motivated to prioritize the discourse on green development.

The Greens, the Left, and the Social Democrats perceive ecological and environmental issues not only as technical or managerial deficiencies, but as multifaceted problems rooted in economic, social, political, and cultural complexities. They emphasize integrated approaches to systematically address these challenges, rather than relying solely on market-oriented solutions. In their agenda, Greens and the Left emphasize on the importance of social justice in the green transition, while the Greens and the Social Democrats stress the significance of greening the economy (particularly industry). These claims are widely accepted among these parties, forming a broad consensus. In this way, a red-green political coalition is established on a comprehensive transformation.

(3) Opposition from right-wing parties

[63] Congcong Wang and Dan Keith, "The greening of European radical left parties: red and green politics", *Journal of Contemporary European Studies*, vol. 28, no. 4, 2020, pp.494.

Right-wing populist parties (RWPs) have positioned themselves as the most vocal advocates in Europe against immigration and perceived threats to national sovereignty. During the Covid-19 pandemic, they resisted restrictive measures and pushed back against the influence of international organizations. Moreover, they strongly opposed government emphasis on the urgent need to address climate change yet shift into a tone to stand with the vulnerable. Populist parties have traded outright denialism for the position that climate policy, like that of immigration and the coronavirus pandemic, represents yet another top-down elite agenda that stands to hit ordinary people, particularly those in the working class, the hardest.[64]

Source: Stella Schaller and Alexander Carius, *Convenient Truths: Mapping climate agendas of right-wing populist parties in Europe*, Berlin: Adelphi, 2019, pp.11.

Figure 2.9: Where right-wing populists stand on climate change science

Out of 21 RWPs in Europe, only three explicitly support the scientific consensus on the climate crisis, respectively Finns Party from Finland, Fidesz from Hungary and

[64] Yasmeen Serhan, "The Far-Right View on Climate Politics", The Atlantic, Aug. 10, 2021, https://www.theatlantic.com/international/archive/2021/08/far-right-view-climate-ipcc/619709/.

National Alliance from Latvia. However, divisions also exist among other parties regarding their opposition on climate policy. Right-wing parties, notably the far-right Alternative for Germany and the Dutch Party for Freedom, either deny or doubt the concept of man-made global warming. Additionally, eleven right-wing populist parties either have no defined position on climate change or do not take it seriously. For instance, the far-right Czech Freedom and Direct Democracy party and Lithuania's Order and Justice party focus solely on energy prices and do not have a clear stance on climate change. Conversely, parties like France's National Rally and Spain's Vox advocate for their own nationalist environmentalism, supporting local climate change combat policies while rejecting international agreements regarding this issue.

In the 2019 European elections, right-wing populist parties secured nearly a quarter of the seats in the European Parliament, and they also hold seats in eight national governments of EU member states, which reinforces their influence within the EU and their capacity to disrupt EGD agenda. A study revealed a spectrum of attitudes towards climate and energy policy, spanning from climate change denial to conservative environmentalism and even far-right opposition. Notably, about two-thirds of right-wing populist MEPs consistently vote against climate and energy policy measures, contributing to nearly half of the votes against climate and energy resolutions. Their arguments against these policies typically originate in dissatisfaction with economic or social justice, highlighting the perceived global inefficacy of European climate action. Their common stance emphasizes the belief that emissions reduction policies place an excessive burden on local industries, costing people their jobs from rising energy prices.[65]

[65] Stella Schaller and Alexander Carius, *Convenient Truths: Mapping climate agendas of right-wing populist parties in Europe*, Berlin: Adelphi, 2019, pp.10-39.

Presently, EU conservatives continue to strongly oppose the implementation of numerous policies and the enactment of laws associated with the Green Deal. The right-wing coalition led by Manfred Weber, head of the European People's Party (EPP), remains strong in its resistance against several climate and environmental regulations. He had plotted for months to ensure the Parliament would torpedo a proposal aimed at restoring nature, arguing against scientists and the Commission that it will destroy farmers' livelihoods and put food security at risk. During the vote in the European Parliament on July 12, 2023, the revised proposal was approved by 336 votes to 300. MEPs fend off a deeply polarizing right-wing effort to kill EU legislation. Lawmakers in the European Parliament sent a message to their conservative colleagues: Don't mess with the Green Deal.[66] However, the narrow victory in the vote highlights the vulnerability of the pro-green agenda majority, indicating a harder battle over climate policies in the future. Despite accomplishments, the Green Deal still requires legislation for critical areas such as pesticide reduction before the upcoming 2024 general elections for the European Parliament. And it can be expected that resistance from the EPP will get in the way for the passage of such bills.

On the other hand, as all political parties commonly leverage the mainstream agenda for their policy concepts, there can be opportunities to collaborate with RWPs. It is observed that there are some outliers among RWPs which currently attempt to capture "green issues", making it a priority on their political agenda. Austria's Freedom Party (FPÖ) or France's Rassemblement National (RN), for instance, are parties that convey climate-protection policy positions, as the conservation of regional habitats aligns with their conviction to protect the homeland. As a result, environmental issues

[66] Eddy Wax and Louise Guillot, "EU conservatives' anti-Green Deal push falls short", Jul. 12, 2023, https://www.politico.eu/article/eu-conservatives-anti-green-deal-push-falls-short-parliament/.

may well be communicated in positive terms conducive to the right-wing agenda and are not necessarily rejected, though the reasons for doing so may be rather nuanced.[67]

Primarily, backing or rejecting climate protection is rooted in political interests. The influence of green parties and the overall salience of environmental issue are the key factors in shaping right-wing unconventional collaboration on climate change. Regardless of the underlying motives, alignment on particular agendas might lead certain right-wing parties to support the Green Deal on specific ideas or initiatives while mitigating resistance to its implementation.

On the other hand, although MEPs voting behavior is mainly driven by their party aspiration, MEPs' national origins can play a counterbalancing role and, at least partially, weaken intra-party position on key economic governance matters, where a conflict of interest might exist between creditor and debtor member countries.[68] Preferences of European Parliament party are reflected in voting, the result is a demonstration of party disagreements, representing both political pledge and national interests. Overall, such disputes are addressed in the legislative decision-making process, such as OLP, through repetitive proposing and revising of drafts until consent is made.

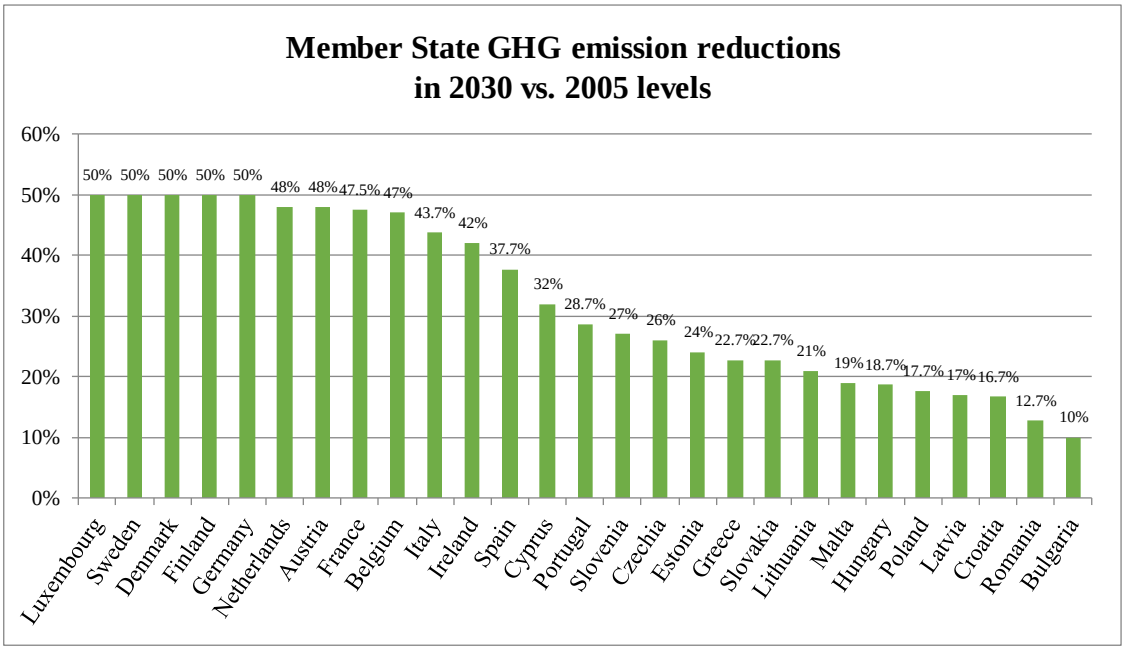
II. Responsibility distribution for the European Green Deal

The EU's ambitious goals sometimes exceed the expectations of its member states. To align these divergent interests and foster recognition, the EU seeks tailored and

[67] Oswald, Michael T., et al. "Strategic Clustering in Right-Wing-Populism? 'Green Policies' in Germany and France." *Zeitschrift Für Vergleichende Politikwissenschaft*, vol. 15, no. 2, 2021, pp. 187.
[68] Cencig, Elisa and Laura Sabani, "Voting Behaviour in the European Parliament and Economic Governance Reform: Does Nationality Matter?", *Open Economies Review*, vol. 28, 2017, pp. 967.

nuanced institutional arrangements. Recognizing the importance of accommodating varied national conditions, the EU adopts differentiated emission reduction targets for its members.

The willingness of states to participate in climate issues varies according to their political structures, economic and industrial development levels, public concerns, and perceptions of climate change risks among member states. Taking this into account, the EU aims to balance emissions reduction mandates while considering each nation's unique circumstances and their entry time into the EU. This principle is evident in the EU's allocation of greenhouse gas emission reduction targets for 2030 compared to the levels in 2005.



Source: European Commission, "REGULATION (EU) 2023/857 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 19 April 2023", *Official Journal of the European Union*, Apr. 26, 2023, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023R0857&qid=1689037511816.

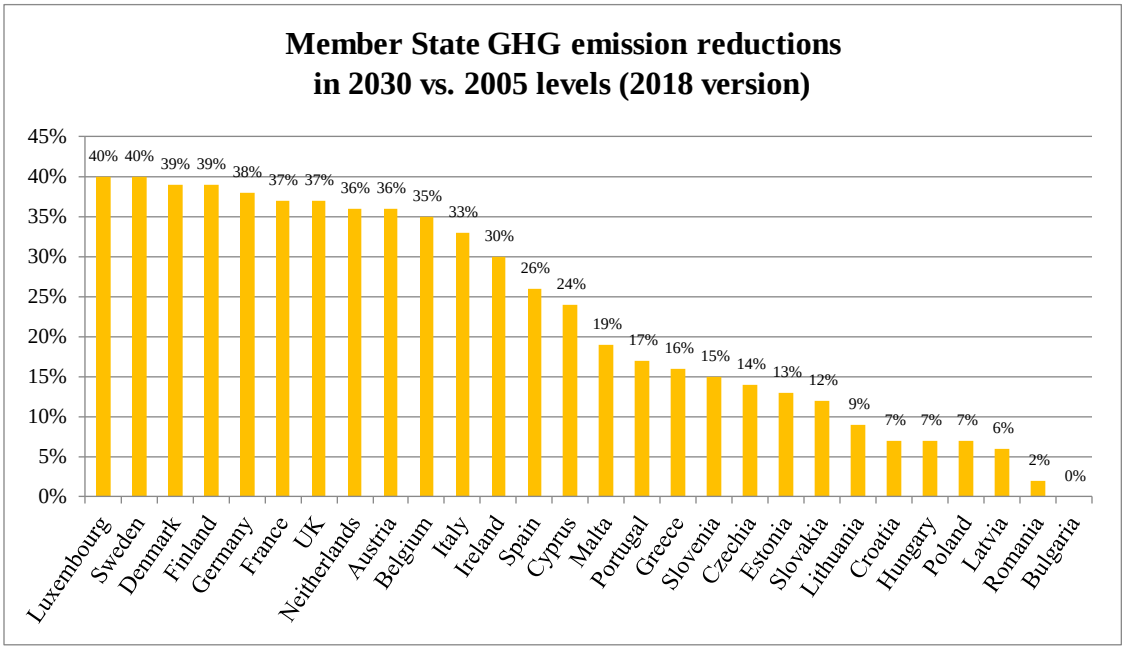
Figure 2.3: Member State GHG emission reductions in 2030 vs. 2005 levels

The data in figure 2.3 are collected from the 2030 plan of the EU Effort Sharing Decision updated in April 2023. As indicated in the chart, member states with higher economic standings, early EU accession, and stronger environmental consciousness have set emission reduction targets surpassing 35%. Conversely, Bulgaria and Romania, countries with relatively modest economic foundations and later EU entry, occupy the bottom ranks in terms of emission reduction targets.

Although this arrangement appears to align with the per capita Gross Domestic Product (GDP) ranking of EU member states, per capita GDP is not the only consideration for emissions reduction. For instance, Ireland, ranking second in GDP per capita in 2022, has an emission reduction target of only 42%. Similarly, Malta ranks right after Italy in GDP per capita, yet its emission reduction target is 20% lower than Italy's.[69]

The current emission reduction quotas assigned to member states represent new adjustments within the framework of the EU's ambitious targets outlined in the EGD. In contrast, the previous distribution of national emission reduction responsibilities published in 2018, as depicted in Figure 2.4 below, appears less demanding. This shift demonstrates the EU's aspiration to lead global climate policy and serve as a model for others to follow.

[69] Statista, "Gross Domestic Product per capita in the European Union in 2022, by member state", May 24, 2023, https://www.statista.com/statistics/1373462/gdp-per-capita-eu-member-states-2022/.



Source: European Commission, "REGULATION (EU) 2018/842 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 30 May 2018", *Official Journal of the European Union*, Jun. 19, 2018, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018R0842&from=EN.

Figure 2.4 Member State GHG emission reductions in 2030 vs. 2005 levels (2018 version)

The differential distribution of emission reduction targets also reflects the considerate institutional arrangement of the EU, which has reached a compromise and balance between the objective capacity and willingness of member States and the overall targets of the EU. Such differentiated arrangement enables countries that are willing and able to do so to share more quotas, and to a certain extent reduces the burden of economically disadvantaged member states. It also suggests the expectation that even if more ambitious targets are adopted at the international level, there will be room for internal fulfillment, which motivates member states to take a more active attitude towards climate action. By averaging the highs and lows, the EU would then be able to

meet its externally committed emission reduction targets in general.

III. European Green Deal and supporting programs

i. Cohesion policy as funding plan

In the future, major European cities and other high-tech regions will pull even further ahead, while rural areas and regions with CO2-intensive industry will lose out. The twin transition - green and digital - that the European Union is striving for will intensify this development. Only EU funding tailored to regions can mitigate the effect.[70] The twin transition may contribute to increasing economic disparities across European regions. This calls for action to gear future EU cohesion policy better to the fresh convergence challenges created by the twin transition.[71]

In this context, cohesion policy, the EU's primary investment tool for regional development, aims to prevent widening socioeconomic and regional gap within the EU. This is achieved by investing in less developed regions experiencing transitional challenges, helping them catch up with the EU's goals and ensuring no member falls behind. Within the European Green Deal framework, dedicated funding supports this process, complemented by initiatives like the European Climate Convention, Covenant of Mayors for Climate and Energy, Mayors Alliance for the European Green Deal, and Green Deal Going Local, where local and regional authorities actively participate in addressing the climate challenge.

---

[70] "Bertelsmann Stiftung*, Green and Digital Transition Challenge Europe's Cohesion,* M2 Presswire, Normans Media Ltd, 2022.

[71] Crist, Nathan, and Thomas Schwab. "The future of cohesion: The digital and green transition widens the gap between European regions", *Study: The Future of EU Cohesion*, Bertelsmann Stiftung, Oct. 12, 2022, https://www.bertelsmann-stiftung.de/en/our-projects/europes-economy/project-news/the-future-of-cohesion.

The 2021-2027 Multiannual Financial Framework (MFF) marks a significant shift in European cohesion policy, not just in terms of resources but also in its commitment to environmental sustainability. Along with the familiar matrix of the European Regional Development Fund (ERDF), the Cohesion Fund, and the European Social Fund Plus, a new Just Transition Fund emerges specifically to support regions transitioning away from fossil fuels and high-emissions industries. The Just Transition Fund (JTF) is the first pillar of the Just Transition Mechanism (JTM). It will be a key tool to support the territories most affected by the transition towards climate neutrality providing them with tailored support.[72]

The focus in the current financial period marks an explicit dedication to a greener Europe. It translates to promoting investments in clean energy, the circular economy, climate change mitigation, and sustainable transportation, ultimately paving the way for a net-zero future.

Within the 2021-2027 MFF, the Cohesion Policy aims at strengthening social, economic and territorial cohesion in the EU regions, with a total funding allocation of EUR 392 billion, or about one third of the EU budget. Cohesion policy is implemented through four fund programs: the European Regional Development Fund (ERDF), the Cohesion Fund (CF), the European Social Fund Plus (ESF+) and the Just Transition Fund (JTF). [73]In addition, the REACT-EU package provides additional support to mitigate the impact of the epidemic and contribute to long-term recovery plan. While all these funds are important funding programs in the context of the EGD, the Just

[72] European Commission, "Just Transition funding sources", https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/finance-and-green-deal/just-transition-mechanism/just-transition-funding-sources_en.

[73] European Commission, "Available budget of Cohesion Policy 2021-2027", Jul. 5, 2021, https://cohesiondata.ec.europa.eu/stories/s/2021-2027-EU-allocations-available-for-programming/2w8s-ci3y/.

Transition Fund is specifically targeted at fossil fuel-dependent or GHG-intensive industries in regions most affected by climate-neutral transitions.

The initial national allocations will be translated into detailed investment plans through the formalization of national partnership agreements and the detailed national and regional programs.[74] The Common Provisions Regulation of 2021 also sets out rules for EU funds, whereby EU funding must be matched with national co-financing, e.g. EU co-financing for ERDF and ESF+ ranges from 40% to 85%, for JTF from 50% to 85%, for CF up to 85% and up to 100% for REACT-EU.[75] The Cohesion Policy Framework ensures that less developed regions can benefit from higher co-financing rates.

(1) Budgetary funding support

As a crucial element of investment in support of the EGD, the primary task of cohesion policy is the infusion of funds. For the 2021-2027 period, the Cohesion Fund concerns Bulgaria, Czechia, Estonia, Greece, Croatia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Portugal, Romania, Slovakia, and Slovenia. 37% of the overall financial allocation of the Cohesion Fund is expected to contribute to climate objectives.[76]

According to a study from the European Parliament, approximately €56.5 billion of cohesion policy (ERDF, CF, and ESF) was for climate action in 2014-2020, constituting 15.9% of the total planned funding for cohesion policy. In the 2021-2027 period, although the budget for cohesion policy slightly decreased, the expenditure for

[74] Ibid.
[75] European Commission, "REGULATION (EU) 2021/1060 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 June 2021", Article 112, *Official Journal of European Union*, Jun. 30, 2021, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1060.
[76] European Commission, "Cohesion Fund", https://ec.europa.eu/regional_policy/funding/cohesion-fund_en.

climate change is set to rise to €77.2 billion, which, when combined with the REACT-EU funds, totals €83.7 billion. This amounts to about 25% of the total cohesion policy funding, a significantly larger proportion than in the past.[77] The budgetary emphasis will make a greater contribution to the realization of climate policy outcomes.

In Cohesion Policy, the Commission is using climate coefficients to track climate related expenditure, which measures the financial contribution of funds towards the overall 20% spending target. Expenses are given three types of coefficients for the calculation of support to climate change and environmental objectives, depending on their expected contribution to climate action: 100% for significant contribution, 40% for moderate contribution, and 0% for no contribution.[78] The dimensions and codes for each of the interventions listed in Annex I of Common Provisions Regulation 2021-2027 are assigned weights, and each intervention has a corresponding coefficient that is used to calculate the degree of support for climate change objectives. Monitoring climate expenditures and ensuring the money is allocated to their intended uses are crucial strategies for improving the environmental performance of cohesion policies.

(2) Contribution of funds to the EGD agenda

The scope and measures are specified in EU regulations regarding each fund under Cohesion Policy.

The ERDF is to contribute to reducing disparities between the levels of development of the various regions and the backwardness of the least-favored regions, among which particular attention is to be paid to regions which suffer from severe and

[77] Andrea Ciffolilli, João Telha and Gonçalo Caetano, *Research for REGI Committee – Cohesion Policy and Climate Change*, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels, 2021, pp. 9.
[78] European Commission, "REGULATION (EU) 2021/1060 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 June 2021", ANNEX I, *Official Journal of European Union*, Jun. 30, 2021, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1060.

permanent natural or demographic handicaps. Investments under the ERDF should contribute to the development of a comprehensive high-speed digital infrastructure network, and to promoting pollution-free and sustainable multimodal mobility with a focus on public transport, shared mobility, walking and cycling, as a part of the transition to the net-zero carbon economy.[79] The Cohesion Fund was set up for the overall objective of strengthening economic, social, and territorial cohesion of the Union by providing financial contributions in the fields of environment and trans-European networks in transport infrastructure (TEN-T). And to simplify the rules applicable to both ERDF and CF, a single regulation is set covering both funds.

The European Social Fund Plus (ESF+) supports investments in people and systems in the policy areas of employment, education, and social inclusion, thereby supporting economic, territorial, and social cohesion. Recognizing that green and digital transitions and the transformation of European industrial ecosystems are likely to entail many new opportunities, ESF+ aims at investing in relevant skills, education, training and lifelong learning, reskilling and upskilling the labor market in adjustment to the evolving green needs under EGD.[80]

The Just Transition Fund (JTF) gives regard to the regional imbalance of transition starting point and capacity and devotes to deploy all possible instruments to mitigate adverse consequences. The aims of the JTF are to mitigate the adverse effects of the climate transition by supporting the most affected territories and workers

[79] European Commission, "REGULATION (EU) 2021/1058 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 June 2021 on the European Regional Development Fund and on the Cohesion Fund", *Official Journal of European Union*, Jun. 30, 2021, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1058.

[80] European Commission, "REGULATION (EU) 2021/1057 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 June 2021 establishing the European Social Fund Plus (ESF+) and repealing Regulation (EU) No 1296/2013", *Official Journal of European Union*, Jun. 30, 2021, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1057.

concerned and to promote a balanced socio-economic transition.[81] The Fund assists the most affected regions in the green transition process, especially those dependent on fossil fuels and high-emission industries.

On 23 April 2020, the European Council endorsed the "Roadmap for recovery" to redress huge shocks to the economy and to mitigate, on the one hand, the social and economic consequences from COVID-19. To top that, Recovery Assistance for Cohesion and the Territories of Europe (REACT-EU) was established to provide assistance for fostering crisis repair in the context of the pandemic and for preparing a green, digital and resilient recovery of the economy.[82] The REACT-EU supplements cohesion policy with a budget of €47.5 billion. While mainly targets sectors affected by the pandemic, REACT-EU is expected to contribute 25 % of the overall financial envelope to climate objectives.

3. Comparison of the two periods of MFF

Despite that the last EU MFF covering the 2014-2020 period, set before the EGD, climate change and sustainable development have long remained priority of European policy, as indicated in MFF's objectives. As depicted in table 2.1, despite an overall reduction in funding for cohesion policy compared to the previous period, there has been a significant rise in the proportion allocated to climate action, which signals the EU's dedication to climate initiatives. Furthermore, the present framework introduces stricter directives concerning the portion of cohesion policy funds dedicated to fostering a low-carbon economy in each member state and region, compelling local governments

[81] European Commission, "REGULATION (EU) 2021/1056 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 June 2021 establishing the Just Transition Fund", *Official Journal of European Union*, Jun. 30, 2021, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1056.

[82] European Commission, "REGULATION (EU) 2020/2221 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 December 2020", *Official Journal of the European Union*, Dec. 28, 2020, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R2221.

to employ the funds with better precision.

Table 2.1: Comparison between 2014-2020 and 2021-2027 Cohesion Policy: mandatory minimum spending for low-carbon economy

	2014-2020	2021-2027
Cohesion Policy	EUR 355 billion approx. (33% of MFF)	EUR 330 billion approx. (31% of MFF)
Share committed to climate action	20% of EU budget	30% of EU budget
Mandatory minimum spending by type of region	Less developed: >12% Transition: >15% More developed: >20%	Less developed: >30% Transition: >30% More developed: >85%

Source: Andrea Ciffolilli, João Telha and Gonçalo Caetano, Research for REGI Committee – *Cohesion Policy and Climate Change*, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels, 2021, pp. 30.

In the previous funding period (2014-2020), a significant portion of Cohesion Policy funds were spent on energy efficiency renovation of public infrastructure (16.6% of total funds), followed by adaptation to climate change and risk prevention (11.4%), clean urban transport (9.1%), and energy efficiency in existing housing stock (8.2%). In the current plan (2021-2027), climate-focused objectives remain the EU's priority, emphasizing funds directed towards climate action, investments in climate resilience, and tailored interventions in various regions aligned with the EGD. Concrete initiatives and actions are expected to evolve further within upcoming Cohesion Policy programs.

Admittedly, cohesion policy has limited financial support compared to overall

needs of climate investments. It can therefore be expected to play more of a role in stimulating cooperation, attracting more public and private funding, raising awareness on climate concerns, driving innovation and technology development in lagging regions, and fostering cooperation among regional authorities.

The successful transition towards climate neutrality necessitates active and broad participation from stakeholders, and cohesion policy serves as a crucial platform uniting local authorities, citizens, and businesses. With its strategic design, targeted funding, and supported initiatives, cohesion policy contributes to ensure progress across countries and regions, narrow disparities between member states, and contribute to European greening integration.

ii. The Green Deal Industrial Plan

The supporting programs of European Green Deal are on refinement, translating the objectives of climate transition into practical measures, and minimizing possible barriers on implementations.

Driving a low-carbon economy is not solely reliant on EU subsidies and energy adjustments. It is crucial to enhance internal economic dynamic, promote the competitiveness of the low-carbon sector, and foster an inviting business environment to attract private investments. The green economy is not merely a localized strategy within Europe. The game is featured with pressure from global players like China and the United States, especially concerning supply chains and subsidies.

Regarded as a constructive response to the U.S. Inflation Reduction Act, the Green Deal Industrial Plan serves as an important industrial protection strategy. The U.S. Act, the single most significant legislation to combat climate change, coming into effect from January 1, 2023, issuing a $369 billion investment over the next decade in

energy security and climate change initiatives.[83] The Act serves as a green subsidy program aimed at drawing more industries to support and safeguard local manufacturing, therefore maintaining a robust position in the global market.

On the other hand, China has an even stronger dynamic in new energy industry. While other electric vehicle markets are still heavily dependent on subsidies and financial incentives, China has entered a new phase: Consumers are weighing the features and prices of electric vehicles against gas-powered cars without much consideration of state support.[84] Market-driven approaches prove to be far more cost-effective compared to state-subsidized models, which proves the promising market prospects and dynamism within this industry in China. In the future, the dominance of green supply chains will increasingly impact national economic security. In this regard, the EU requires a comprehensive industrial plan to effectively tackle this geo-economic challenge.

In February 2023, the EU launched The Green Deal Industrial Plan (GDIP), dedicated to creating a more supportive environment for scaling up the EU's manufacturing capacity for the net-zero technologies and products required to meet Europe's ambitious climate targets. The Green Deal Industrial Plan is based on four key pillars: predictable and simplified regulatory environment, faster access to funding, enhancing skills, and open trade for resilient supply chains. The Green Deal Industrial Plan aims to simplify, accelerate, and align incentives to preserve the competitiveness and appeal as a prime investment destination for the net-zero industry. The joint effort

[83] U.S. Department of the Treasury, "Treasury Announces Guidance on Inflation Reduction Act's Strong Labor Protections", Nov. 29, 2022, https://home.treasury.gov/news/press-releases/jy1128#:~:text=The%20Inflation%20Reduction%20Act%20is,build%20a%20clean%20energy%20economy.

[84] Daisuke Wakabayashi, Claire Fu, "For China's Auto Market, Electric Isn't the Future. It's the Present", The New York Times, Sep. 26, 2022, https://www.nytimes.com/2022/09/26/business/china-electric-vehicles.html.

of the EU and its member states can send a strong signal to business, while also accelerating the digital and green transitions.[85]

The EU will strengthen industrial competitiveness through legislation and regulation, while prioritizing the ecological requirements of net-zero technologies. The Commission will present key proposals aimed at strengthening industrial competitiveness. For instance, the Net-Zero Industry Act supports industrial manufacturing capacity and strategic and multi-country projects in net-zero products by faster permitting and developing European standards. And a Critical Raw Materials Act ensures access to critical raw materials which, like rare earths, are vital for manufacturing net-zero technologies and products.[86]

Previously viewing green technologies mainly through a lens of commercialization and scaling, the European Union is now adopting a geo-economic approach to tackle global challenges. With surging energy prices triggered by the Russian-Ukrainian war and evolving geopolitical conflicts, accelerating the net-zero transition has become an urgent need. The regulatory environment in the EU needs to be adjusted for a new reality. After GDIP, the Commission is on continuous efforts to translate the plan into concrete proposals based on ongoing needs.

According to Ursula von der Leyen, President of the European Commission, "We have a once in a generation opportunity to show the way with speed, ambition and a sense of purpose to secure the EU's industrial lead in the fast-growing net-zero technology sector. Europe is determined to lead the clean tech revolution."[87] The

[85] European Commission, "A Green Deal Industrial Plan for the Net-Zero Age", Feb. 01, 2023, https://commission.europa.eu/system/files/2023-02/COM_2023_62_2_EN_ACT_A%20Green%20Deal%20Industrial%20Plan%20for%20the%20Net-Zero%20Age.pdf.
[86] European Commission, "Questions and Answers: Green Deal Industrial Plan for the Net-Zero Age", https://ec.europa.eu/commission/presscorner/detail/en/QANDA_23_511.
[87] European Commission, "The Green Deal Industrial Plan: Putting Europe's net-zero industry in the

introduction of GDIP helps to simplify, accelerate, and align incentives, sustaining the EU's competitive edge in net-zero industries. In fostering this transformative change, the European Commission is actively working with member states, industry leaders, and other key stakeholders to ensure that the GDIP remains adaptive and responsive to emerging market trends.

Within the framework of the European Green Deal, the EU engages in a complex balance of coordination and compromise, crucial for the successful realization of its environmental ambitions. This section has examined the multifaceted nature of coordination within member states, showcasing the dynamics in legislative decision-making and implementation processes. It has also evaluated the crucial role played by external stakeholders, including interest groups and political parties, in shaping the contour of environmental policy. Moreover, it explores the distribution of responsibilities, the indispensable role of cohesion policy in funding, and complementary efforts of Green Deal Industrial Plan, all contributing to the overarching objective of promoting European integration through green framework. A successful implementation of the European Green Deal requires the collaboration of member states and stakeholders across various levels, whose cohesion in turn further contributes to European integration. Integration, in this stance, is both a means and an outcome of the mutually constructive interaction.

lead", https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/green-deal-industrial-plan_en.

Section 3: Member states and European Green Deal implementation

As the European Union unfolds its ambitious plan for a sustainable and climate-neutral future through the European Green Deal, the manifestation of this vision varies significantly among member states. Examining the climate governance practices of prominent players, such as Germany and France, reveals a proactive and progressive approach, setting a benchmark for the EU's broader objectives. Meanwhile, the pathways taken by countries like Poland and Bulgaria introduce nuances and reservations, reflecting the delicate balance between national interests and the harmonization with the Green Deal's objectives.

I. Germany climate governance

Often credited as the EU's climate leader, Germany has set forth an outstanding climate governance model. Germany pursues the goal of Germany and Europe becoming climate neutral by 2050, and the government acknowledges the EGD as an important guideline. German government is supporting the Commission in its work on European Climate Law, and climate action is one of the priorities of Germany's Presidency of the Council of the European Union.[88] Germany introduced Climate Action Programme 2030, committing to cut emissions by 55% by 2030, ahead of its EU partners' target of 40%.[89] Moreover, on August 31, 2021, an amendment to the German Federal Climate Change Act entered into force. The amendment codifies the goal for the country to become climate neutral by 2045 as a legally binding obligation.[90]

[88] The Federal Government, "What is the German government doing for the climate?", https://www.bundesregierung.de/breg-en/issues/climate-action/government-climate-policy-1779414.
[89] The Federal Government, "Climate Action Programme 2030", https://www.bundesregierung.de/breg-en/issues/climate-action.
[90] Gesley, Jenny. "Germany: Amendment of Climate Change Act Codifies Climate Neutrality Goal by 2045", Library of Congress, https://www.loc.gov/item/global-legal-monitor/2021-09-28/germany-amendment-of-climate-change-act-codifies-climate-neutrality-goal-by-2045/.

The new date is five years earlier than previously planned. The changes to the country's Climate Action Law also include a more ambitious 2030 target for emission cuts of 65%.[91] Germany's leadership in the EU's climate efforts has been outstanding and consistent. The annual Petersberg Climate Dialogue, initiated by former Chancellor Angela Merkel in 2010, serves as an important ministerial meeting held in Berlin to discuss emerging international climate concerns and prepare for the United Nations Climate Change Conference at year-end.

In 2019, Germany implemented the Climate Action Law, launched the Climate Action Programme 2030 that outlines carbon emission limits across various sectors: energy, industry, buildings, transportation, agriculture, and forestry. This comprehensive program includes four key components aimed at concrete CO_2 emissions mitigation. The first component involves support programs and incentives designed to reduce CO_2 emissions. These measures enable the federal government to ensure that CO_2 reduction is not only practically achievable and economically viable, but also socially equitable and financially feasible.

The second component focuses on carbon pricing, encouraging economically efficient innovations and the prevention of CO_2 emissions. It is crucial to note that the purpose of pricing is not revenue collection for general government use. Instead, all additional revenues generated through carbon pricing will be reinvested in measures promoting climate action, or, as part of the third component, returned to citizens to reduce burdens in other areas. The fourth component involves regulatory measures that will become more robust, coming into full effect by 2030 at the latest.[92]

[91] Sören Amelang, "German government agrees on pulling forward climate neutrality to 2045", Clean Energy Wire, May 12, 2021, https://www.cleanenergywire.org/news/german-government-agrees-pulling-forward-climate-neutrality-2045.
[92] The Federal Government, "Key elements of the Climate Action Programme 2030", Sep. 20, 2019,

In June 2020, the German government announced a €130 billion stimulus package for post-pandemic economic recovery. Besides micro-level economic subsidies designed to boost consumption, the package also contributes to advancing green energy generation, national hydrogen strategy, and clean transport with low-emission vehicles. It highlights Germany's dedication to boost the economy while moving away from fossil fuels and transforming the automotive manufacturing industry.

Hydrogen technology plays a crucial role in Germany's efforts towards successful energy transition. The National Hydrogen Strategy (Nationale Wasserstoffstrategie), adopted in June 2020, serves as a key role in lifting energy markets to the next level by coupling gas and electricity, facilitating the integration of renewables, and providing decarbonization solutions for the mobility sector and carbon-heavy industries.[93] The strategy is devoted to lower the costs associated with hydrogen technology, fostering both domestic and international markets for hydrogen production and utilization.

Economically, the German government has signaled that industries failing to transition toward climate-friendly technologies are on the risk of obsoletion. Thus, the climate protection program is also in principle a modernization effort for Germany's economy. Leveraging focused R&D support, sustained regulatory frameworks, and market incentives, Germany is solidifying its leadership for innovative climate technologies. Moreover, the government is favoring the electric vehicle market and attracting battery manufacturers to Germany, ensuring the nation's prominence in automobile manufacturing. The rising carbon price serves as another motivation for

https://www.bundesregierung.de/breg-en/issues/climate-action/klimaschutzziele-finanzieren-1694724.

[93] Dr. Gabriele Haas and Thomas Schubert, "German Federal Government paves the way for new era of hydrogen – What the National Hydrogen Strategy means for technology, innovation and industry", Jun. 11, 2020, https://www.dentons.com/en/insights/alerts/2020/june/11/what-the-national-hydrogen-strategy-means-for-technology-innovation-and-industry#:~:text=As%20part%20of%20a%20%E2%82%AC130%20billion%20heavy%20economic,to%20the%20existing%20hydrogen-related%20investments%20and%20R%26D%20programs.

investments in low-carbon technologies. Moving forward, Germany's development of carbon-neutral technologies, align with the goals of EGD, reinforces its position as a key exporter of pioneering technologies, and will significantly contribute to global climate initiatives. Overall, with domestic climate targets aligned with or even exceeding EU requirements, Germany takes a leading role in climate governance at the EU level.

II. Progressive practice of France

On January 1, 2022, France assumed the presidency of the European Union following Slovenia and, along with the Czech Republic and Sweden, formed the Council's Troika. Together, they introduced a work plan titled "Recovery, Strength and a Sense of Belonging". Under the decarbonization agenda, the French Presidency is actively advocating for the legislation of the Fit for 55 package, firmly supporting the EU's Green Deal objectives. Subsequently, France has taken domestic steps to align with these ambitions. In March 2023, French lawmakers in the National Assembly approved the Renewable Energy Acceleration Bill, which puts forward a definition of priority areas for renewables.[94] While there are concerns regarding potential conflicts between this bill and certain standards in the EU Renewable Energy Directive, currently undergoing revision, it is evident that France is firmly committed to optimizing its energy transition efforts. In October 2023, The French Parliament has passed the Green Industry Act, a boost for France 2030 plan, for better transition into a nation at the cutting edge of green technology.

[94] Paul Messad, "French government outlines energy and climate summer 'roadmap'", Jan. 12, 2023, https://www.euractiv.com/section/energy/news/headaches-ahead-as-french-renewable-energy-bill-preempts-eu-rules/? .

France's advocate for green agenda has a long history. In 2015, France became an early adopter of the United Nations' 2030 Agenda for Sustainable Development, which set 17 Sustainable Development Goals (SDGs) to help the world reduce poverty, fight inequality, and protect the planet.[95] As the host of the Paris Climate Conference in 2015, France has gained international recognition for its leadership in climate agenda. Between 2005 and 2019, the country's per capita emissions reduced more swiftly than the EU average. By a notable 32% reduction in carbon intensity in its economy, France maintains its leading position among EU member states. In 2019, France's major contributors to emissions were transportation, residential, tertiary, and agricultural sectors, accounting for about 60% of total emissions. To mitigate its energy reliance, France still holds a substantial share of nuclear energy in its energy mix. Nevertheless, while renewable energy's proportion in gross final energy consumption steadily rose from 2005 to 2019, hitting 19.1% in 2020, there is still a 14% gap to the national target of 33% by 2030. [96]

France's decarbonization strategy bases on the Energy Transition for Green Growth Act (LTECV) established in 2015 and presents as the National Low Carbon Strategy 2050 (Stratégie Nationale Bas-Carbone, SNBC), aiming at reducing fossil fuel usage and emissions across sectors within three five-year carbon budgets until 2034. The energy sector is guided by two consecutive five-year energy investment plans (La programmation pluriannuelle de l'énergie, PPE). Building on the SNBC and the PPE, regions are implementing their own climate and energy transition goals under the regional plans for spatial planning, sustainable development, and equality. At the local

[95] Remi Deve, "France's Green Commitment", France Convention Bureau, https://meeting.france.fr/en/node/8191.
[96] European Parliament, "Climate action in France: Latest state of play", Jun., 2021, https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/690686/EPRS_BRI(2021)690686_EN.pdf.

level, municipalities are working on their climate air and energy plans.[97] Although France has not met its targets for 2021 set in 2015 on energy efficiency, renewable energy, or emission reduction, the ongoing significant reforms in the energy sector and favoring investments in clean energy transition still bring a promising image for its progress in the upcoming years.

In response to the pandemic, the French Recovery Plan introduced increased green funding emphasizing building renovation, just transition policies, and clean transportation initiatives. In October 2021, France launched a €30 billion investment plan for 2030, which targets French industrial development in the energy, automotive and space sectors, including EUR €8 billion dedicated to energy technology investment in the decarbonization of industry, in hydrogen and small modular reactors. Additionally, €4 billion is designated for electric and plug-in hybrid vehicles.[98]

According to Center for Interprofessional Research on Air Pollution (CITEPA) barometer, GHG emissions in France fell by 2.7% in 2022 compared to 2021. [99] Notably, the construction sector witnessed a notable reduction (-14.7%) in emissions, largely due to milder weather in the winter that led to decreased fossil fuel consumption for heating. The manufacturing sector also saw a decrease of 6.4% in emissions. However, the energy sector experienced a 4.9% rise, attributed to nuclear power plant shutdowns and the energy price crisis, leading to temporary increased usage of gas and coal power stations. Transportation sector emissions increased by 2.3%, primarily driven by a surge in road transport emissions, accounting for 65% of this rise, followed

[97] International Energy Agency, "France 2021: Executive Summary", https://www.iea.org/reports/france-2021/executive-summary.
[98] International Energy Agency, *France 2021: Energy Policy Review*, Paris: IEA, 2021, pp. 11-12.
[99] Citepa, "Emissions de gaz à effet de serre et de polluants en France: premier aperçu de l'année 2023 avec le baromètre du Citepa", Jun. 30, 2023, https://www.citepa.org/wp-content/uploads/publications/barometre-mensuel/Citepa_Communique_Barometre_emissions_30juin2023-1.pdf.

by air transport.[100] These trends reflect the EU's carbon emissions trending, with transportation expected to rebound further in 2022 due to the receding impact of the pandemic and the recovery of economic activities. Nonetheless, overall emissions in 2022, with the aid of energy efficiency measures, are anticipated to remain lower than 2019 levels.

Overall, France is committed to implementing the EGD and improving domestic policy environment for sustainable transition. As found in EU commission infringements packages, France has not been reported transposition failure in policy domains concerning green agenda in the past 12 months.[101] EU commission is constantly scrutinizing and reporting member states' failure to comply with their obligations under EU law, thus ensures the proper application of EU law.[102] Although the fact does not guarantee an effective implementation of regulations concerned, it indicates a positive trend of France's efforts to act with the EGD roadmap and EU guidance.

III. Energy transition in Poland

Poland has made significant progresses in its energy transition, despite facing more resistance than support within the EU's energy shift. The country's comprehensive energy policy targets decarbonization through the expansion of renewable energy sources, the introduction of nuclear energy, electrified transport, and improved energy

[100] Citepa, *Gaz à effet de serre et polluants atmosphériques. Bilan des émissions en France de 1990 à 2022*. Paris: Rapport Secten éd. 2023, pp. i-ii, https://www.citepa.org/wp-content/uploads/publications/secten/2023/Citepa_Secten_ed2023_v1.pdf.
[101] European Commission, Press Corner, search for "infringements package: key decisions", https://ec.europa.eu/commission/presscorner/home/en?keywords=Infringements%20package#news-block
[102] European Commission, "February infringements package: key decisions", Feb. 15, 2023, https://ec.europa.eu/commission/presscorner/detail/en/inf_23_525.

efficiency across sectors. A primary focus is reducing reliance on coal, especially in power generation and heating for buildings. This policy emphasizes energy security, a just transition, sustained economic growth, affordable energy supply, and compensating vulnerable consumers. Poland has also taken crucial steps to enhance energy security by diversifying energy imports away from Russia.

Moreover, Poland is actively advancing its nuclear energy initiatives through the Polish Nuclear Power Program (PNPP). This program highlights essential tasks concerning the construction of Poland's inaugural nuclear power plant, ensuring safe operation, timely decommissioning of nuclear facilities, and proper management of fuel and radioactive waste. The nation aims to have its first reactor operational with a capacity of 1-1.6 gigawatts by 2033 and plans to establish six reactors totaling 6-9 gigawatts of capacity by 2043. Poland expects nuclear power contributing 16% to total electricity generation by 2040.[103]

Renewable energy, especially offshore wind and small-scale solar photovoltaic (PV), emerges as a key alternative for displacing coal-based power generation without raised import reliance. Poland is a fast-growing market in EU for distributed solar PV and has actively engaged in a robust program to boost offshore wind capacity, aiming for 5.9 gigawatts by 2030. However, Poland's energy landscape remains predominantly fossil fuel based. There is substantial groundwork needed across all sectors to meet targets for increasing the renewable energy share, reducing energy demand, and mitigating emissions.[104]

Once, Poland was ranked as the European Union's least green country in a study in 2022 that takes into account the state of the environment, its effect on quality of life,

[103] International Energy Agency, *Poland 2022: Energy Policy Review*, Paris: IEA, 2022, pp. 14.
[104] International Energy Agency, *Poland 2022: Energy Policy Review*, pp. 25.

and efforts by politicians, businesses and citizens to address climate issues, receiving a score of 34 out of 100.[105] It also notes that Poland is one of ten in the EU that has not adopted a national strategy to combat climate change, that it contributes relatively little to global funding for that purpose, and that it has a low proportion of energy produced from renewables (16%). [106] These results indicated the attitude of state support regarding green agendas, which is not surprising given that Poland generates 70% of its electricity and two-thirds of its home heating from coal. Not long ago, Poland embodied Europe's worst nature-destroying tendencies by logging Europe's "most precious" forest, Białowieża, which attracted more than 70 activists from 12 European countries blocking heavy machines cutting down the forest.[107]

Nevertheless, the parliamentary election in October 2023, with the highest turnout in over a century, changed the whole picture. The nationalist populist government was rolled out and a new government of a liberal-left coalition has demonstrated its ambition to grow into a green player in Europe. It announced dedicated measures to safeguard the nature, including protecting 20% of the most valuable forests from logging, giving citizens new rights to oversee forests, and implementing a program to restore wetlands and peatlands.[108]

As the EU's Environment Council was holding informal meetings in January 2024 to discuss a 90% greenhouse gas reduction target for 2040, Polish state secretary for climate Urszula Zielińska conveyed a message that Poland is stepping up its efforts

[105] Monika Helak, *Europa przeciw katastrofie klimatycznej: Ranking najbardziej zielonych państw Unii Europejskiej*, Warszawa: Polska Fundacja im. Roberta Schumana, 2022, pp. 13. https://schuman.pl/wp-content/uploads/2022/11/Europa-przeciw-katastrofie_raport-Fundacji-Schumana_2022.pdf.
[106] Peter Kononczuk, "Poland ranks last in EU green index", Notes from Poland, Nov. 05, 2022, https://notesfrompoland.com/2022/11/05/poland-ranks-last-in-eu-green-index/.
[107] Augustyn Mikos, "While Europe's green backlash grows, Poland tells different story", Feb. 05, 2024, https://www.climatechangenews.com/2024/02/05/while-europes-green-backlash-grows-poland-protects-its-forests/.
[108] Ibid.

to fight climate change and cooperate with European Union from now on in a much faster, much smoother, and much more confident way. Domestically, the new government is reevaluating Poland's policies concerning climate and energy transitions and updating National Energy and Climate Plan (NCEP), which are anticipated to publish by mid-2024.[109] Such signals contribute to a smoother pathway of EU's green transition as one of the strongest climate spoilers of member states came to an end.

IV. Decarbonization of Bulgaria

Regarding EU climate governance, disparities in emission reduction targets persist among member states. Central and Eastern European countries face greater challenges in transitioning toward greener practices. Some, like Bulgaria, rely significantly on coal-fired power, with over 45% of electricity sourced from coal. The optimization removing coal reliance leaves an energy gap which lacks alternative to promptly fit in, and may also result in job losses in the domestic coal industry. Consequently, Bulgaria exhibits reservations on fully aligning with the Green Deal objectives.

In October 2021, Bulgaria committed to close domestic coal plants by 2038-2040 to secure EU funding for post-pandemic recovery. However, domestic political crisis since the Russia-Ukraine conflict created an instable landscape in government. In January 2023, over 1,500 miners and utility workers protested against decarbonization plans for an early phase-out of coal-fired power plants, forcing the Parliament to backtrack from its EU commitment to cut energy sector GHG emissions. Initially

[109] Nikolaus J. Kurmayer, "More climate and 'an end date' for coal: Poland's new green tide arrives in Brussels", EURACTIV, Jan. 15, 2024, https://www.euractiv.com/section/climate-environment/news/more-climate-and-an-end-date-for-coal-polands-new-green-tide-arrives-in-brussels/.

aiming for a 40% emissions reduction from 2019 levels by 2025, Bulgaria intended to close some coal plants early. Presently, due to economic and energy security concerns, Bulgaria advocates for maintaining full operations in power plants until 2038.[110]

While guarding the coal sector, Bulgaria is actively diversifying its energy landscape by advancing renewable energy sources. It has introduced an ambitious thirty-year energy strategy spanning 2023-2053, aiming for substantial developments in nuclear, solar, wind, hydropower, battery storage, and hydrogen energy projects.

The strategy outlines crucial targets: deploying 600 MW of battery storage systems by 2030 and expanding hydropower capacity with an additional 870 MW by 2050. Furthermore, plans include enhancing geothermal energy infrastructure and district heating systems. In the hydrogen segment, the document envisages the construction of 1 GW of electrolyzers by 2030 and 5 GW of electrolyzers by 2050 for domestic consumption and export. To boost infrastructure, the 30-year plan also includes upgrading existing power transmission lines, building new ones, digitalizing the distribution network, and installing 1,000 charging stations for electric vehicles by 2030. Addressing energy poverty and enhancing household energy efficiency are also pivotal aspects covered in the strategy.[111]

While Bulgaria ranks relatively low, second to the bottom, in the EU Innovation Scoreboard 2022 for "Performance of Member States Innovation Systems"[112], recent

[110] Euronews Green, "Bulgaria rolls back plans to phase out coal amid fears over energy and job security", Jan. 13, 2023, https://www.euronews.com/green/2023/01/13/bulgaria-rolls-back-plans-to-phase-out-coal-amid-fears-over-energy-and-job-security.

[111] Balkan Green Energy News, "Bulgaria's 2053 energy strategy: coal until 2030, new nuclear capacities", Jan. 18, 2023, https://balkangreenenergynews.com/bulgarias-2053-energy-strategy-coal-until-2030-new-nuclear-capacities/#:~:text=However%2C%20even%20if%20the%20negotiations%20fail%20and%20Bulgaria,larger%20than%20the%20potential%20losses%2C%20according%20to%20Hristov.

[112] European Commission, Directorate-General for Research and Innovation, Hollanders, H., Es-Sadki, N., Khalilova, A., *European Innovation Scoreboard 2022*, Publications Office of the European Union, 2022, pp. 7.

progress in the Bulgarian economy signals significant advancements in various sectors. Committedly, industries responsible for nearly 70% of the country's GHG emissions, such as chemicals, mining, metallurgy, cement, and transportation, are proactively engaged in decarbonization efforts and transitioning to a green economy. Many have initiated measures to enhance energy efficiency, boost productivity, and develop alternative technologies.

For instance, major companies across sectors have invested in solar photovoltaic power plants. Facing the energy crisis, the chemical industry has shifted part of its natural gas usage to ammonia, while transportation companies increasingly adopt biodiesel, constituting about 4% of gross consumption. It suggests that Bulgarian companies are aware of the competitive advantage such actions bring: lower energy costs, opportunities for new investment, and the image of a reliable partner.[113]

V. Summary

This section evaluates the diverse image of how EU member states navigate their realization of European Green Deal. From frontrunners leading ambitious targets to nations arguing for more tolerant schedule, struggling for a balance between tradition and transformation, the European Green Deal's implementation paints a vivid picture of the varying landscapes within the EU. As unfolded in the section, each member state is making substantial efforts to catch on to the progress required by EGD target figures, despite the domestic variety and challenging gap among these states.

Moreover, the EU plays an indispensable role in nurturing the green economy

[113] Martin Ivanov, "Decarbonise and democratise: How the European Green Deal could transform high-carbon economies", Jan. 19, 2023, https://ecfr.eu/article/decarbonise-and-democratise-how-the-european-green-deal-could-transform-high-carbon-economies/.

evolution. Top-bottom methods are essential in encouraging technological upgrades and providing policy and expertise guidance. This approach not only demonstrates the EU's commitment to assisting member states in executing the Green Deal, but also serves as a lighthouse for other carbon-intensive economies navigating their path toward a sustainable transformation.

In general, Europe is devotedly moving towards the carbon neutrality objective. Neither the pandemic nor Russia's subsequent invasion of Ukraine distracted its focus. On the contrary, Europe used these crises to put flesh on the bones of a green deal, accelerating its race to net zero.[114] However, there has been worrying signs across Europe as people are experiencing the painful costs in the green transition. The German public is fretting over the phaseout of gas boilers. Dutch farmers are up in arms over stringent limits on nitrogen emissions, arguing that they will make European agriculture financially unviable.[115]

In addition, as the European Parliament election is drawing closer, Europe is relatively losing appetite for more climate action. The prospect of adding new rules and targets to the already massive Green Deal project has encountered resistance from fiscally austere and conservative politicians, and environmental policies have triggered protests in several countries. Hungary, who holds the Council of the EU's rotating presidency in the second half of 2024 and has campaigned for less ambitious green legislation, intends to escalate the 2040 debate to the EU leaders' summits in Brussels, where decisions are made by consensus and Hungarian Prime Minister Viktor Orbán

[114] Nathalie Tocci, "After two years of real progress on climate, a European 'greenlash' is brewing", The Guardian, Jul. 12, 2023, https://www.theguardian.com/commentisfree/2023/jul/12/progress-climate-european-greenlash-populist-right.
[115] Ibid.

holds veto power.[116]

Across Europe, member states are actively engaged in implementing state support mechanisms, publishing favorable policies, and embracing technological updates to advance their national green strategies. However, apart from these collective efforts, political resistance persists, driven by concerns over the costs associated with transitioning to green economies. Additionally, the uncertainty introduced by new elections across Europe adds complexity to future green agendas. Nevertheless, there are encouraging signs of progress, such as the formation of a liberal-left coalition government in Poland, which signals a potential path toward smoother adoption of green initiatives. Despite ongoing challenges, it is crucial to maintain faith in the European Union's commitment to climate action, recognizing its key role as a dedicated player and leader on the global stage in addressing climate change.

[116] Zia Weise, "Poland's climate surprise pressures EU to pitch ambitious 2040 target", POLITICO, Jan. 15, 2024, https://www.politico.eu/article/poland-europe-green-deal-emissions-2040-target-urszula-zielinska/.

Conclusion

The European Green Deal stands as a pivotal initiative in EU's efforts to combat climate change and environmental degradation. It holds profound implications for Europe as a strategic framework aimed at fostering sustainable growth, enhancing industrial competitiveness, and facilitating a just transition within Europe.

Faced with challenges in green transition in terms of urgent needs of energy structure optimization, lack of policy support and sufficient legislation, and ambiguity among relevant DGs, the EU highlights the need for a comprehensive roadmap and a more feasible policy framework to address its climate ambition. In this way, EGD serves as the response to these challenges. Within Europe, however, member states exhibit divergent attitudes and policy stances influenced by factors such as energy endowment, political motivations, and socioeconomic considerations.

Central to the development and implementation of EGD is the coordination and compromise within the European Union. Despite the variance between progressive and conservative member states, the European Union has demonstrated its capability of coordination and collaboration to navigate diverse interests and foster collective action across the continent. With the legislative decision-making process grounding for its legitimacy, EGD also develops implementation roadmap and supervision mechanism to ensure its feasibility. Customized duty distribution and supportive plans further contribute to securing support from member states.

As the European Union unfolds its ambitious plan for a sustainable and climate-neutral future with EGD, the pathway exhibits significant variations among member states. With a majority of member states demonstrating substantial efforts to catch on to the timeline required by EGD target figures, there is also resistance from conservative

entities asking for more tolerant schedules. However, it is essential to recognize that discrepancies among EU members represent a framework division rather than a fundamental structural issue. Even nations in Central and Eastern Europe, characterized by relatively underdeveloped economies and traditional industrial structures, are navigating the challenges of transition while advocating for environmental preservation and industrial advancement.

The EU demonstrates a historical engagement in environmental policymaking, which necessitates the launch of EGD as it is a long called for response to the pressing challenges of environment as well as administrative deficiencies. It surpasses a mere package of policy measures to constitute a comprehensive mission for green transition, initiating profound adjustments across various sectors of member states, including energy, environment, and industry. On the other hand, a successful implementation of the European Green Deal requires the collaboration of member states and stakeholders across various levels, whose cohesion in turn further contributes to European integration. Integration, in this stance, is both a means and an outcome of the mutually constructive interaction.

Looking ahead, the EGD also faces undeniable uncertainties and challenges. It doesn't hurt to advocate on lips for a green planet, but green bills do. As the citizens and businesses are experiencing tangible costs along the green transition, there have been demonstrations against increasingly restrictive measures. Upcoming elections across Europe further distract the authority from devotion to the green agenda. 2024 is set to be a decisive year for the future of European climate and energy policy, as voters across the continent will head to the polls in a series of national, regional, and

transnational elections.[117] There is concern that populist parties may take advantage of the "greenlash" and regain electoral support. Yet the new Polish government of a liberal-left coalition also conveyed a positive signal in supporting the green transition.

In conclusion, while the European Green Deal faces significant challenges, its prospects remain promising as it aligns with Europe's longstanding tradition of environmental and climate awareness. Despite uncertainties and the emergence of a new European Parliament, the commitment to prioritizing environmental sustainability remains steadfast. However, navigating these challenges may require the European Union to step up its efforts to stay on track with its ambitious schedule. By leveraging its devoted engagement in environmental policymaking and fostering collaboration among member states, the EU can continue to lead the way towards a greener and more sustainable future for Europe and the world.

[117] Julian Wettengel, "Preview 2024: Elections to shape future of European Green Deal", Clean Energy Wire, Dec. 21, 2023, https://www.cleanenergywire.org/news/preview-2024-elections-shape-future-european-green-deal.

Bibliography

Books and reports

1. Andrea Ciffolilli, João Telha and Gonçalo Caetano, *Research for REGI Committee – Cohesion Policy and Climate Change*, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels, 2021.
2. Bertelsmann Stiftung*, Green and Digital Transition Challenge Europe's Cohesion,* M2 Presswire, Normans Media Ltd, 2022.
3. Cecilia Wikström et al., *Activity Report: Developments and Trends of the Ordinary Legislative Procedure*, European Parliament: Ordinary Legislative Procedure, 2019, http://www.epgencms.europarl.europa.eu/cmsdata/upload/f8966799-e04c-47c0-ace9-dd213ad20379/activity-report-2014-2019_en.pdf.
4. Citepa, *Gaz à effet de serre et polluants atmosphériques. Bilan des émissions en France de 1990 à 2022*. Paris: Rapport Secten éd. 2023, https://www.citepa.org/wp-content/uploads/publications/secten/2023/Citepa_Secten_ed2023_v1.pdf.
5. Delreux, Tom, and Sander Happaerts, *Environmental Policy and Politics in the European Union*, London: Macmillan Education, 2016.
6. European Commission, Directorate-General for Research and Innovation, Hollanders, H., Es-Sadki, N., Khalilova, A., *European Innovation Scoreboard 2022*, Publications Office of the European Union, 2022.
7. European Commission, *Monitoring the application of European Union law - 2022 Annual Report*, Publications Office of the European Union, Brussels, 2023, https://commission.europa.eu/document/download/10962779-e449-4e70-

9d16-30ca0683b9bf_en?filename=COM_2023_453_1_EN.pdf.

8. European Environment Agency, *Transforming the EU power sector: avoiding a carbon lock-in*, European Environment Agency, 2016.
9. International Energy Agency, *France 2021: Energy Policy Review*, Paris: IEA, 2021.
10. International Energy Agency, *Poland 2022: Energy Policy Review*, Paris: IEA, 2022.
11. Kjær, Christian, and Marton Leander Vølstad. *Renewable Energy in the Nordics 2021*, Nordic Energy Research, 2021, https://pub.norden.org/nordicenergyresearch2021-03/.
12. Monika Helak, *Europa przeciw katastrofie klimatycznej: Ranking najbardziej zielonych państw Unii Europejskiej*, Warszawa: Polska Fundacja im. Roberta Schumana, 2022, https://schuman.pl/wp-content/uploads/2022/11/Europa-przeciw-katastrofie_raport-Fundacji-Schumana_2022.pdf.
13. Pflugmann, Fridolin, et al. *Germany's energy transition at a crossroads*. McKinsey&Company, 2019.
14. Stoianoff, Natalie P., et al. *Green Fiscal Reform for a Sustainable Future Reform, Innovation and Renewable Energy*. Edward Elgar Pub., 2016.

Academic journals

1. Cencig, Elisa and Laura Sabani, "Voting Behaviour in the European Parliament and Economic Governance Reform: Does Nationality Matter?", *Open Economies Review*, vol. 28, 2017, pp. 967.
2. Delreux, Tom. "EU actorness, cohesiveness and effectiveness in environmental

affairs", *Journal of European Public Policy*, vol.21, no.3, 2014.

3. Dur, Andreas. "Interest Groups in the European Union: How Powerful Are They?" *West European Politics*, vol. 31, no. 6, 2008.
4. Gössling, Stefan, et al. "Inside the Black Box: EU Policy Officers' Perspectives on Transport and Climate Change Mitigation." *Journal of Transport Geography*, vol. 57, 2016.
5. Hafner, Manfred, and Pier Paolo Raimondi. "Priorities and Challenges of the EU Energy Transition: From the European Green Package to the New Green Deal." *Russian Journal of Economics (Moskva)*, vol. 6, no. 4, 2020.
6. Michalena, Evanthie, and Jeremy M. Hills. "Stepping up but Back: How EU Policy Reform Fails to Meet the Needs of Renewable Energy Actors." *Renewable & Sustainable Energy Reviews*, vol. 64, 2016.
7. Oberthür, Sebastian. "The European Union's Performance in the International Climate Change Regime," *Journal of European Integration*, vol.33, no.6, 2011.
8. Oswald, Michael T., et al. "Strategic Clustering in Right-Wing-Populism? 'Green Policies' in Germany and France." *Zeitschrift Für Vergleichende Politikwissenschaft*, vol. 15, no. 2, 2021.
9. Szabó, László, et al. "South East Europe Electricity Roadmap - Modelling Energy Transition in the Electricity Sectors." *Climate Policy*, vol. 19, no. 4, 2019.
10. Veugelers, Reinhilde. "Empowering the Green Innovation Machine." *Inter Economics*, vol. 51, no. 4, 2016.
11. Wang, Congcong, and Dan Keith, "The greening of European radical left parties: red and green politics", *Journal of Contemporary European Studies*, vol. 28, no. 4, 2020.

Official documents and websites

1. Augustyn Mikos, “While Europe’s green backlash grows, Poland tells different story”, Feb. 05, 2024, https://www.climatechangenews.com/2024/02/05/while-europes-green-backlash-grows-poland-protects-its-forests/.
2. Balkan Green Energy News, “Bulgaria’s 2053 energy strategy: coal until 2030, new nuclear capacities”, Jan. 18, 2023, https://balkangreenenergynews.com/bulgarias-2053-energy-strategy-coal-until-2030-new-nuclear-capacities/#:~:text=However%2C%20even%20if%20the%20negotiations%20fail%20and%20Bulgaria,larger%20than%20the%20potential%20losses%2C%20according%20to%20Hristov.
3. Chloé Farand, “Poland set to delay EU deal on 2050 ‘climate neutrality’ target”, EURACTIV, Jul. 19, 2019, https://www.euractiv.com/section/energy-environment/news/poland-set-to-delay-eu-deal-on-2050-climate-neutrality-target/.
4. Citepa, “Emissions de gaz à effet de serre et de polluants en France: premier aperçu de l’année 2023 avec le baromètre du Citepa”, Jun. 30, 2023, https://www.citepa.org/wp-content/uploads/publications/barometre-mensuel/Citepa_Communique_Barometre_emissions_30juin2023-1.pdf.
5. Council of European Union, “A new Circular Economy Action Plan For a cleaner and more competitive Europe”, Mar. 11, 2020, https://www.consilium.europa.eu/media/47572/st_6766_2020_init_en.pdf.
6. Council of the European Union, “Consolidated version of The Treaty on the Functioning of the European Union”, *Official Journal of the European Union*,

2012-10-26, https://eur-lex.europa.eu/resource.html?uri=cellar:2bf140bf-a3f8-4ab2-b506-fd71826e6da6.0023.02/DOC_2&format=PDF.

7. Council of the European Union, “European Green Deal”, Nov. 10, 2023, https://www.consilium.europa.eu/en/policies/green-deal/.
8. Council of the European Union, “Infographic - Renovation wave: creating green buildings for the future”, Jun. 30, 2021, https://www.consilium.europa.eu/en/infographics/renovation-wave/.
9. Council of the European Union, “The ordinary legislative procedure”, Nov. 20, 2023, https://www.consilium.europa.eu/en/council-eu/decision-making/ordinary-legislative-procedure.
10. Crist, Nathan, and Thomas Schwab. “The future of cohesion: The digital and green transition widens the gap between European regions”, *Study: The Future of EU Cohesion*, Bertelsmann Stiftung, Oct. 12, 2022, https://www.bertelsmann-stiftung.de/en/our-projects/europes-economy/project-news/the-future-of-cohesion.
11. Daisuke Wakabayashi, Claire Fu, “For China’s Auto Market, Electric Isn’t the Future. It’s the Present”, The New York Times, Sep. 26, 2022, https://www.nytimes.com/2022/09/26/business/china-electric-vehicles.html.
12. Dr. Gabriele Haas and Thomas Schubert, “German Federal Government paves the way for new era of hydrogen – What the National Hydrogen Strategy means for technology, innovation and industry”, Jun. 11, 2020, https://www.dentons.com/en/insights/alerts/2020/june/11/what-the-national-hydrogen-strategy-means-for-technology-innovation-and-industry#:~:text=As%20part%20of%20a%20%E2%82%AC130%20billion%20heavy%20economic,to%20the%20existing%20hydrogen-

related%20investments%20and%20R%26D%20programs.

13. Eddy Wax and Louise Guillot, “EU conservatives’ anti-Green Deal push falls short”, Jul. 12, 2023, https://www.politico.eu/article/eu-conservatives-anti-green-deal-push-falls-short-parliament/.
14. Euronews Green, “Bulgaria rolls back plans to phase out coal amid fears over energy and job security”, Jan. 13, 2023, https://www.euronews.com/green/2023/01/13/bulgaria-rolls-back-plans-to-phase-out-coal-amid-fears-over-energy-and-job-security.
15. EUROPA, EUR-Lex Access to European Union law, https://eur-lex.europa.eu/search.html?qid=1582727122133&text=regulation&scope=EURLEX&type=quick&lang=en&DTS_DOM=EU_LAW&FM_CODED=REG, accessed on Dec 30, 2023.
16. European Commission, “A Green Deal Industrial Plan for the Net-Zero Age”, Feb. 01, 2023, https://commission.europa.eu/system/files/2023-02/COM_2023_62_2_EN_ACT_A%20Green%20Deal%20Industrial%20Plan%20for%20the%20Net-Zero%20Age.pdf.
17. European Commission, “Available budget of Cohesion Policy 2021-2027”, Jul. 5, 2021, https://cohesiondata.ec.europa.eu/stories/s/2021-2027-EU-allocations-available-for-programming/2w8s-ci3y/.
18. European Commission, “Cohesion Fund”, https://ec.europa.eu/regional_policy/funding/cohesion-fund_en.
19. European Commission, “Energy Communities”, https://energy.ec.europa.eu/topics/markets-and-consumers/energy-communities_en.
20. European Commission, “EU Code of Conduct on Responsible Food Business

and Marketing Practices", Jun. 2021, https://food.ec.europa.eu/system/files/2021-06/f2f_sfpd_coc_final_en.pdf.

21. European Commission, "February infringements package: key decisions", Feb. 15, 2023, https://ec.europa.eu/commission/presscorner/detail/en/inf_23_525.
22. European Commission, "Just Transition funding sources", https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/finance-and-green-deal/just-transition-mechanism/just-transition-funding-sources_en.
23. European Commission, "Organic action plan", Sep. 25, 2023, https://agriculture.ec.europa.eu/farming/organic-farming/organic-action-plan_en.
24. European Commission, Press Corner, search for "infringements package: key decisions", https://ec.europa.eu/commission/presscorner/home/en?keywords=Infringements%20package#news-block.
25. European Commission, "Questions and Answers: Green Deal Industrial Plan for the Net-Zero Age", https://ec.europa.eu/commission/presscorner/detail/en/QANDA_23_511.
26. European Commission, "REGULATION (EU) 2020/2221 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 December 2020", *Official Journal of the European Union*, Dec. 28, 2020, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R2221.
27. European Commission, "REGULATION (EU) 2021/1056 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 June 2021 establishing the Just Transition Fund", *Official Journal of European Union*, Jun.

30, 2021, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1056.

28. European Commission, “REGULATION (EU) 2021/1057 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 June 2021 establishing the European Social Fund Plus (ESF+) and repealing Regulation (EU) No 1296/2013”, *Official Journal of European Union*, Jun. 30, 2021, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1057.
29. European Commission, “REGULATION (EU) 2021/1058 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 June 2021 on the European Regional Development Fund and on the Cohesion Fund”, *Official Journal of European Union*, Jun. 30, 2021, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1058.
30. European Commission, “REGULATION (EU) 2021/1060 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 June 2021”, *Official Journal of European Union*, Jun. 30, 2021, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1060.
31. European Commission, “Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system”, Mar. 28, 2011, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011DC0144.
32. European Commission, “Sustainable and Smart Mobility Strategy: Putting European transport on track for the future”, Jul. 20, 2021, https://transport.ec.europa.eu/system/files/2021-04/2021-mobility-strategy-and-action-plan.pdf.

33. European Commission, “The Green Deal Industrial Plan: Putting Europe’s net-zero industry in the lead”, https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/green-deal-industrial-plan_en.
34. European Council, “Conclusions on 2030 Climate and Energy Policy Framework”, Oct. 23, 2014, https://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/145356.pdf.
35. European Environment Agency, “Greening the power sector: benefits of an ambitious implementation of Europe’s environment and climate policies”, Dec. 12, 2018, https://www.eea.europa.eu/publications/greening-the-power-sector-benefits.
36. European Greens, “Priorities for 2019: What European Greens Fight For”, Jan. 11, 2019, https://www.datocms-assets.com/87481/1698236355-adopted-egp-priorities-for-2019_en.pdf.
37. European Parliament, “Climate action in France: Latest state of play”, Jun., 2021, https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/690686/EPRS_BRI(2021)690686_EN.pdf.
38. European Parliament, “Treaty of Rome (EEC)”, 1957-03-25, https://www.europarl.europa.eu/about-parliament/en/in-the-past/the-parliament-and-the-treaties/treaty-of-rome.
39. European Round Table for Industry, *Putting the EU Industrial Strategy into action*, 2020, Brussels, https://ert.eu/wp-content/uploads/2020/11/ERT-Publication-Putting-the-EU-Industrial-Strategy-into-action_Nov-2020.pdf.

40. Eurostat, “Energy statistics - an overview”, Sep. 27, 2023, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy_statistics_-_an_overview#Energy_intensity.
41. Eurostat, “Total energy supply by product”, Environment and energy, Energy statistics - main indicators, https://ec.europa.eu/eurostat/databrowser/view/ten00122__custom_8860968/default/table?lang=en.
42. Gesley, Jenny. “Germany: Amendment of Climate Change Act Codifies Climate Neutrality Goal by 2045”, Library of Congress, https://www.loc.gov/item/global-legal-monitor/2021-09-28/germany-amendment-of-climate-change-act-codifies-climate-neutrality-goal-by-2045/.
43. Hessian Ministry of Finance, “Green Bond Framework for the second Green Bond of the State of Hesse”, Apr. 28, 2023, https://finanzen.hessen.de/sites/finanzen.hessen.de/files/2023-06/framework_final_version_april_28th_2023_english.pdf.
44. International Energy Agency, “France 2021: Executive Summary”, https://www.iea.org/reports/france-2021/executive-summary.
45. Julian Wettengel, “Preview 2024: Elections to shape future of European Green Deal”, Clean Energy Wire, Dec. 21, 2023, https://www.cleanenergywire.org/news/preview-2024-elections-shape-future-european-green-deal.
46. Krukowska, Ewa, and Maciej Martewicz. “Blame the EU for High Energy Prices, Poland Tells Households”, Bloomberg, Jan. 31, 2022, https://www.bloomberg.com/news/articles/2022-01-31/blame-the-eu-for-high-energy-prices-poland-tells-households.

47. Leslie Hook and Nathalie Thomas, “Poland indicates likely support for net zero emissions”, Jun. 27, 2019, https://www.ft.com/content/8ea5bece-98dd-11e9-8cfb-30c211dcd229.
48. LobbyFacts.eu, “WWF European Policy Programme”, Dec. 05, 2023, https://www.lobbyfacts.eu/datacard/wwf-european-policy-programme?rid=1414929419-24.
49. Martin Ivanov, “Decarbonise and democratise: How the European Green Deal could transform high-carbon economies”, Jan. 19, 2023, https://ecfr.eu/article/decarbonise-and-democratise-how-the-european-green-deal-could-transform-high-carbon-economies/.
50. Nathalie Tocci, “After two years of real progress on climate, a European ‘greenlash’ is brewing”, The Guardian, Jul. 12, 2023, https://www.theguardian.com/commentisfree/2023/jul/12/progress-climate-european-greenlash-populist-right.
51. News Wires, “Thousands of trucks block French roads in tax protest”, France 24, Nov. 16, 2013, https://www.france24.com/en/20131116-french-truck-drivers-block-highways-protest-ecotax.
52. Nikolaus J. Kurmayer, “More climate and ‘an end date’ for coal: Poland’s new green tide arrives in Brussels”, EURACTIV, Jan. 15, 2024, https://www.euractiv.com/section/climate-environment/news/more-climate-and-an-end-date-for-coal-polands-new-green-tide-arrives-in-brussels/.
53. Paul Messad, “French government outlines energy and climate summer ‘roadmap’”, Jan. 12, 2023, https://www.euractiv.com/section/energy/news/headaches-ahead-as-french-renewable-energy-bill-preempts-eu-rules/? .

54. Peter Kononczuk, “Poland ranks last in EU green index”, Notes from Poland, Nov. 05, 2022, https://notesfrompoland.com/2022/11/05/poland-ranks-last-in-eu-green-index/.
55. Remi Deve, “France’s Green Commitment”, France Convention Bureau, https://meeting.france.fr/en/node/8191.
56. Sam Morgan, “Hungary backs 2050 climate neutrality goal, bringing EU total to 22”, EURACTIV, Jun. 18, 2019, https://www.euractiv.com/section/energy-environment/news/hungary-says-no-climate-neutrality-without-nuclear-but-backs-eu-target/.
57. Sisir Bhandari and Albert Michael Dijkstra, “Interest groups and the European Green Deal: An analysis of strategies used to influence European climate policy”, https://rucforsk.ruc.dk/ws/portalfiles/portal/66496698/Current_Issues_ENG.pdf.
58. Sören Amelang, “German government agrees on pulling forward climate neutrality to 2045”, Clean Energy Wire, May 12, 2021, https://www.cleanenergywire.org/news/german-government-agrees-pulling-forward-climate-neutrality-2045.
59. Statista, “Annual greenhouse gas emissions in the European Union (EU-27) from 1990 to 2021, by sector”, Apr. 2023, https://www.statista.com/statistics/1171183/ghg-emissions-sector-european-union-eu/.
60. Statista, “Gross Domestic Product per capita in the European Union in 2022, by member state”, May 24, 2023, https://www.statista.com/statistics/1373462/gdp-per-capita-eu-member-states-2022/.

61. Stella Schaller and Alexander Carius, *Convenient Truths: Mapping climate agendas of right-wing populist parties in Europe*, Berlin: Adelphi, 2019, pp.10-39.
62. Technopolis, *Energy Communities*, Nordic Energy Research, 2023, http://doi.org/10.6027/NER2023-03.
63. The Federal Government, "Climate Action Programme 2030", https://www.bundesregierung.de/breg-en/issues/climate-action.
64. The Federal Government, "Key elements of the Climate Action Programme 2030", Sep. 20, 2019, https://www.bundesregierung.de/breg-en/issues/climate-action/klimaschutzziele-finanzieren-1694724.
65. The Federal Government, "What is the German government doing for the climate?", https://www.bundesregierung.de/breg-en/issues/climate-action/government-climate-policy-1779414.
66. United green parties for Europe, "A Green New Deal for Europe: Manifesto for the European election campaign 2009", https://www.datocms-assets.com/87481/1698235353-2009_manifesto.pdf.
67. United Nations, *United Nations Human Rights Declaration*, United Nations: New York, NY, USA, 1948, https://www.un.org/sites/un2.un.org/files/2021/03/udhr.pdf.
68. U.S. Department of the Treasury, "Treasury Announces Guidance on Inflation Reduction Act's Strong Labor Protections", Nov. 29, 2022, https://home.treasury.gov/news/press-releases/jy1128#:~:text=The%20Inflation%20Reduction%20Act%20is,build%20a%20clean%20energy%20economy.
69. Website of the Republic of Poland, "Prime Minister Morawiecki: We have

ensured more time for Poland to implement climate transformation", Dec. 13, 2019, https://www.gov.pl/web/eu/prime-minister-morawiecki-we-have-ensured-more-time-for-poland-to-implement-climate-transformation.

70. World Economic Forum, "What you need to know about the European Green Deal - and what comes next", Jul. 13, 2021, https://www.weforum.org/agenda/2021/07/what-you-need-to-know-about-the-european-green-deal-and-what-comes-next/.
71. WorldAtlas, "Countries Doing The Most To Combat Climate Change", Sep. 26, 2020, https://www.worldatlas.com/articles/countries-doing-the-most-to-combat-climate-change.html.
72. WWF, "WWF in the EU", https://www.wwf.eu/.
73. Yasmeen Serhan, "The Far-Right View on Climate Politics", The Atlantic, Aug. 10, 2021, https://www.theatlantic.com/international/archive/2021/08/far-right-view-climate-ipcc/619709/.
74. Zia Weise, "Poland's climate surprise pressures EU to pitch ambitious 2040 target", POLITICO, Jan. 15, 2024, https://www.politico.eu/article/poland-europe-green-deal-emissions-2040-target-urszula-zielinska/.