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Course of European Union Law

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Introduction

This dissertation examines the evolution of European environmental law historically as well as current approaches, with an emphasis on the European Green Deal (EGD) and the RepowerEU programme. The examination covers the period from the 1960s to the present and explains how the European Union has developed into a world authority on environmental regulation.

It is essential to comprehend the development of European environmental law and the European Green Deal for several reasons. First, it offers insights into the development and application of extensive regulatory frameworks to solve complicated issues like climate change. Second, it illustrates how coordinated action at the supranational level can result in notable advancements in environmental goals and the role that political and economic integration plays in achieving them. Third, other nations and areas looking to improve their environmental laws and support international sustainability initiatives can learn a lot from the EU's experience. Policymakers, academics, and practitioners involved in the worldwide search for a sustainable and resilient future must be knowledgeable about these issues.

Important turning points in the evolution of European environmental law are highlighted in Chapter 1. Initially, the European Communities prioritized industrial and commercial policy over environmental concerns. However, as awareness grew in the 1970s, the EU committed to combining environmental conservation with economic progress with the First Environmental Action Programme, introduced in 1973. In the mid-1980s, the Third Environmental Action Programme placed a strong emphasis on the economic benefits of environmental policies and further integrated them with the European Internal Market. The Single European Act of 1987 marked the official entry of environmental policy into EU legislation. Subsequent treaties and action plans, including the 1999 Treaty of Amsterdam, further incorporated environmental protection into EU policy. With the goal of becoming carbon neutral by 2050, ambitious programmes like the Climate and Energy Package in 2009 and the European Green Deal in 2019 were launched in the twenty-first century.

An overview of the European Green Deal's key components, goals, and strategic framework is given in Chapter 2. By 2050, the EGD hopes to be carbon neutral, combining economic expansion with environmental sustainability. The chapter explores the viability of the EGD's targets and reviews the scientific evidence supporting them. It also discusses how the Climate Law has made the shift from voluntary pledges to legally enforceable obligations. A detailed analysis of the Fit for 55 Package, the first significant reform implemented under the EGD, demonstrates how it harmonizes EU policies with aims for reducing greenhouse gas emissions. The European Green Deal Investment Plan, which raises funds for environmentally friendly initiatives around the EU, is one of the financial instruments behind the EGD that is also examined in this chapter.

Chapter 3 looks at the European Green Deal's strengths and weaknesses in light of current events like the COVID-19 outbreak and the conflict in Ukraine. The EGD's resilience has been put to the test by these crises, which depend on strong institutional frameworks, robust political commitment, and powerful economic incentives. The chapter addresses how political forces could compromise the goals of the EGD and the dangers of politicizing it. It also critically examines the Farm to Fork Strategy, highlighting the difficulties in implementing extensive agricultural reforms. The chapter highlights the conflict between ecological urgency and economic stability, ending with recommendations for improving the efficacy of the EGD through long-term investment and creative financing strategies.

The RepowerEU plan, which employs energy reforms to address geopolitical and environmental issues, is the subject of Chapter 4. RepowerEU seeks to advance sustainable energy practices and lessen the EU's reliance on external energy sources. This chapter lists ways to increase energy efficiency and discusses how the EU is using energy diplomacy to diversify its gas imports. In addition, it discusses the legal and structural impediments to energy independence and offers solutions to overcome them to achieve strategic autonomy in energy production and use. The necessity of a unified energy policy is emphasized in this chapter to guarantee a safe and sustainable energy future for the European Union

Chapter 1 – History of European Environmental Law

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1.6 *A New Era:* The Climate and Energy Package and birth of The European Green Deal

1.1. *The Embryonic stage:* 1960s-1970s

This first chapter will bring a historical analysis of the major steps that led to the development of European environmental law as it is known today.

The European Union has developed some of the strictest environmental standards in the world. Environmental strategies enhance the eco-friendliness of the EU economy, conserve natural habitats, and uphold the health and well-being of its residents.

Before starting, however, it is necessary to understand what is meant by environment.

The Treaty on the Functioning of the European Union (TFEU) does not provide a definition of Environment, but it is possible to use the notion of Ecosystem: "An ecosystem is a system in which living things (plants, animals, bacteria, etc.) and their non-living surroundings interact as a functional unit"[1].

However, it is not a static concept, but a dynamic one, and this can be seen in the evolution of environmental policy at the European level. The founding Treaties of the European Communities did not include any provisions concerning environmental protection. At that

[1] *Ecosystem*. EUR. (n.d.). https://eur-lex.europa.eu/EN/legal-content/glossary/ecosystem.html

stage, a common environmental policy was not deemed necessary: the dangers arising from the lack of said policy, were not as perceptible as they became in the following years and as they are today. At that time, it was considered far more urgent to implement other policies, such as agricultural and industrial policies[2].

During the 1970s, new environmental emergencies led to the recognition of the urgent need to establish common rules in this area. The European Union's policy on the environment dates right back to 1972, more precisely to the Paris Summit held in the French capital from October 19th to 21st of that year. On that occasion, national leaders, following the first United Nations conference on the environment, acknowledged the necessity for a Community environmental policy to support economic growth, advocating for an action program.

For this reason, in November 1973, The European Union launched the First Environmental Action Program. This established an interdependence between economic development and environmental protection.

This declaration affirmed that safeguarding the environment constitutes a fundamental duty of the Community, and thus underscored the imperative that all policy measures formulated by European legislative authorities across various sectors should prevent any harm to the environment.

The goals of this initiative, set with a hopeful outlook on the potential for significant policy shifts, encountered obstacles over the years of environmental policy development. However, the initial actions recommended by the First Environmental Action Programme (EAP) were more pragmatic, advocating for a step-by-step method to establish environmental quality goals. This began with investigating the impact of pollutants, their origins, and benchmarks for setting environmental targets. Eventually, this led to the creation of standards for product and environmental quality, focusing on the conservation of individual elements like water, air, and soil. The First EAP primarily focused on safeguarding water and managing waste, incorporating a sector-specific strategy, notably in agriculture and urban planning, and laid the groundwork for regulating emissions[3].

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[2] Haigh, N. (2016). *EU environmental policy: Its journey to centre stage*.
[3] Orlando, E. (2013, April). The evolution of EU policy and Law in the environmental ... https://www.iai.it/sites/default/files/TW_WP_21.pdf

The Second EAP (1977-1981) built upon the foundation of its predecessor, broadening its scope to address a wider array of challenges, with a particular emphasis on conserving natural habitats.

Both the First and Second EAPs (1973-1981) promoted strict standards for drinking water quality and set achievable air quality targets without the need for aggressive policy measures.

Anyway, while at the external level the union actively participated in promoting the concept of environmental protection, at the internal level the first environmental preservation provisions were actually promoted in order to achieve a fair internal market. The early environmental regulations were implemented because they were considered profitable for achieving an harmonious development of economic activities or because they were raising the standard of living[4].

These two objectives were the ones that permitted the council to adopt environmental measures under Article 352 of the Treaty of Functioning of the European Union (former article 235 of Treaty of European Economic Community).

Therefore, is possible to say that environmental regulations, as well as those concerning other areas of social welfare, were being implemented because they were considered fundamental to the process of economic integration.

However, the attitude toward environmental protection on the part of the European union at this stage (1960s-1970s) is still considered by many scholars to be incidental and inarticulate.

1.2. *The First turning Point:* The 3rd EAP

A lot changed with the Third Environmental Action Programme since differently from its predecessors it was highly connected to the completion of the Internal Market objective.

[4] Halmaghi, E.-E. (2016). Environmental action programmes of the European Union – programmes supporting the Sustainable Development Strategy of the European Union. *Scientific Bulletin*, *21*(2), 87–90. https://doi.org/10.1515/bsaft-2016-0040

The Third EAP highlighted the interplay between environmental policy and the European Internal Market, recognizing the importance of aligning environmental and market policies to drive strategic planning and actions. To maintain competitive equality among industries, it was crucial to standardize environmental emission norms and product standards, thereby preventing trade barriers caused by varying national regulations. Furthermore, the Third Environmental Action Plan emphasizes the economic benefits of environmental initiatives, particularly the potential for job creation.

In order to maintain equal competition between industries, it is crucial to standardize environmental emission standards and product standards, thereby preventing trade barriers caused by different national regulations.

There is also a strategic pivot in environmental policy. Instead of focusing on quality, the third EAP promoted direct emissions controls and proposed emission caps for stationary and mobile sources. This shift is designed to accelerate the adoption of advanced filtration technologies to curb emissions at source, while reaffirming the goals set out in previous environmental action plans. The third EAP recognized the first global strategy for "sustainable development" proposed by the International Union for Conservation of Nature (IUCN) in 1980, whose priorities include waste reduction, efficient use of resources and the use of integrated environmental technologies[5].

Following the third EAP, unions have now taken a concrete path towards green legislation. However, there is still no explicit reference in the treaty to protecting the environment as a priority for the EU.

1.3. *Now It's Official:* The Single European Act and the 4th EAP

The Single European Act of 1987 responded to this need by introducing a new heading: "Environment", which provided the first for a common environmental policy aimed at safeguarding environmental quality, protecting human health and ensuring the rational use of natural resources.

[5] Hey, C. (1AD). III. EU environmental policies: A short history of the policy strategies. EU Environmental Policy Handbook. AEI Banner. http://aei.pitt.edu/98675/

This legislation aimed to remove obstacles to the unrestricted movement of goods, services, capital, and people among member states. By doing so, it set the foundation for creating a cohesive European market, fostering economic integration and collaboration. The Single European Act played a pivotal role in propelling the process of European integration forward, paving the way for subsequent advancements in the establishment of the European Union.

With the Single European Act a full-fledged Title devoted to the environment (Title VII) was inserted into the Community Treaty, thus a formal legal basis was given to environmental policy.

According to the SEA, the Council, deciding unanimously and consulting with parliament, can implement real environmental policies. Clearly, the fact that unanimity was required made the procedure very limited. However, for the first time an explicit legal basis for environmental action was mentioned. The new title promoted a proactive decision-making process at the EU level. In addition, key principles such as "Preventive Action" and the "Polluter Pays" principle were introduced for the first time. The former reflected the idea that all kinds of environmental damage must be stopped with preventive action and thus at the root. This implies that it is often necessary to act with measures regarding environmental protection when no environmental damage has yet occurred.

The second, on the other hand, refers to the distribution of environmental pollution costs and responsibilities, that is, polluters must bear the cost of environmental protection measures; its explanation can also be extended to the cost of measures to eliminate or compensate for environmental damage.

The 1980s marked a particularly prolific period in terms of environmental legislation since more than 200 pieces of legislation were enacted by the union. At the same time, however, an increasing number of infringement proceedings by the commission toward the member states on this matter called into question the effectiveness of such measures. Indeed, the ECJ had an important role in this phase. It decided to initiate proceedings against member states that do not comply with EU environmental directives and regulatory obligations. Through its rulings, the ECJ can require member states to implement and enforce EU environmental law, thereby ensuring that environmental objectives are achieved across the Union.

In this same period, the Fourth EAP introduced a significant evolution in environmental policy strategy, addressing the limitations of previous methodologies. The reliance on environmental quality targets was seen as insufficient, often resulting in the displacement of problems to different environments or regions, such as with long-range transboundary pollution. Similarly, emission control measures targeting stationary sources were deemed inadequate for meeting broader ecosystem or health-oriented quality goals. In response, the Fourth EAP advocated for a holistic approach, integrating environmental protection directly into the entire manufacturing and production lifecycle for the first time. This comprehensive strategy aimed at reducing the consumption of energy and materials and promoting the closure of loops to diminish waste production. Pollution management was envisioned to cover all environmental facets thorough assessment of problematic substances. This era also marked the beginning of considering a "sectoral approach", evaluating the environmental footprint of key economic sectors.

In the late 1980s, the union adopted a new technique in the effort of protecting the environment by getting private actors more involved as well[6].

1.4. *Resilience:* The Rio Conference and the Failure of the 5th EAP

In 1992, representatives from 172 countries met as part of the United Nations Conference on Environment and Development, UNCED, in Rio de Janeiro, to try to solve problems such as poverty, the growing disparity between industrialized and developing countries as well as increasing difficulties in the social, economic and environmental spheres, laying the foundation for sustainable development worldwide. In its work, the Conference attached equal importance to environmental protection, economic development and social development.

Participating countries signed three internationally non-binding agreements (the Agenda 21, the Rio Declaration and the Declaration of Principles for the Sustainable Management of Forests) and two binding Conventions (the Framework Convention on Climate Change and the Convention on Biological Diversity).

[6] Orlando, E. (2013, April). The evolution of EU policy and Law in the environmental ... https://www.iai.it/sites/default/files/TW_WP_21.pdf

Subsequently, riding the wave of the Rio Conference, with the Treaty on European Union (Maastricht Treaty 1992), the concept of Sustainable Development was incorporated into EU legislation, which gave birth to the sustainable economy, leaning at least in part on the so-called green economy.

In connection with it the Union prepared in March 1992, in parallel with the preparatory work for the Rio Conference and approved in early 1993 the fifth EAP.

This assumed in its entirety the principles of sustainable development and constituted the instrument for implementation in the community sphere - thus binding on all member states - of Agenda 21.[7]

This daring move by the Commission did not garner the necessary backing from the Member States. Following the Rio conference, a shift in focus emerged among several Member States, prioritizing industry competitiveness and the devolution of environmental policy. This shift was somewhat at odds with the forward-thinking proposals of the Fifth EAP, leading to minimal progress on its more groundbreaking initiatives.

The most prominent example of the commission incapability was the rejection of its proposal for an energy/CO2 tax. This was intended as a test case for the new strategy, was significantly weakened over two years of discussions and ultimately abandoned as a Community-wide tax in 1994. Furthermore, numerous other initiatives and reform ideas were halted due to substantial resistance from specific sectors, various departments within the European Commission, and Member States themselves.[8]

In response to the 5th EAP's ambitious proposals, several Member States called for a return to national control over environmental policies, citing the principle of subsidiarity.

The reasons behind this step backward are several[9]:

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[7] United Nations. (n.d.-a). *Agenda 21 .:. sustainable development knowledge platform*. United Nations. https://sustainabledevelopment.un.org/outcomedocuments/agenda21

[8] *Environment in the European Union - 1995 - report for the review of the Fifth Environmental Action Programme*. European Environment Agency. (2016, June 28). https://www.eea.europa.eu/publications/92-827-5263-1

[9] Hey, C. (1AD). III. EU environmental policies: A short history of the policy strategies. EU Environmental Policy Handbook. AEI Banner. http://aei.pitt.edu/98675/

- The economic crisis and the difficulties in ratifying the Maastricht Treaty led the commission to be more cautious and guarded in adopting extremely innovative and stringent regulations.
- The commission was overly optimistic in almost assuming that member states would accept and indeed support provisions leading to pragmatic change.
- With the fall of the Berlin Wall, a new actor became central to the European scene: Germany. For this one, given its post-reunification problems, environmental policies were no more than a marginal issue.

Despite all this, things were about to change again. Indeed, the late 1990s were marked by important international agreements and conferences that set ambitious environmental goals. In particular, the Kyoto Protocol adopted in 1997 requires its parties to reduce greenhouse gas emissions. These international commitments require the EU and its member states to adopt new laws to achieve agreed goals.

In addition, public awareness and concern about environmental issues increased significantly during this period. High-profile environmental disasters, growing signs of climate change, and a growing understanding of the long-term effects of pollution and resource depletion are driving awareness. This public concern has forced governments and international agencies to take stronger action to protect the environment.

1.5. *Expansion and Consolidation:* The Treaty of Amsterdam and The Second Wave of Regulations.

European competencies in this area were then further expanded to become, with the Treaty of Amsterdam (1999), one of the priority objectives of the European Union. The treaty also established the obligation to integrate environmental protection into all sectoral policies of the Union in order to promote sustainable development. In 1997, more than 180 countries drafted the Kyoto Protocol on December 11, 1997 in Kyoto, Japan. This was an international environmental treaty to combat global warming as part of the United Nations Framework Convention on Climate Change (UNFCCC).

This brought a new wave of European environmental legislation.

The first important provision was the EU Water Framework Directive (WFD)[10], the core piece of EU legislation in the field of water policy, which was adopted on 23 October 2000 and marked a major change in the way water resources are managed across Europe.

Although progress has been made, achieving the goals of the directive remains a work in progress, as many water bodies in the EU still do not meet the criteria of "good status". Nonetheless, the WFD has had a profound impact on water management in the EU and promoted a more comprehensive and sustainable approach to water policy.

The WFD was followed in the next few years by a series of measures inspired by its approach. Some of these proved equally innovative and functional.

For example, in January 2005 Directive 2003/87/EC entered into force marking the birth of The European Union Emissions Trading System (EU ETS).

This new system follows the "cap and trade" principle. Places a cap on the total amount of certain greenhouse gases that facilities covered by the system may emit. Within this limit, companies receive or purchase emission certificates and can trade them with each other if necessary[11].

The initial phase of the rollout is considered a "testing phase" to establish the market and give facilities time to adapt to the new system. It included carbon dioxide (CO2) emissions from power plants, refineries, steel plants and other factories of particularly polluting sectors in the then 25 EU member states.

After 2008, coinciding with the commitment period of the Kyoto Protocol, a “Phase II” began; the scope of the system was expanded to include other gases and sectors. Emissions caps are tightened, and a greater proportion of certificates are auctioned off rather than given away for free.

The EU Emissions Trading System has had a significant impact on European and global carbon markets. It has driven emission reductions in related industries, promoted

[10] Water framework directive. WISE - Water Information System for Europe. (n.d.). https://water.europa.eu/freshwater/europe-freshwater/water-framework-directive

[11] 2024, 10 Apr, Kerstine Appunn, Julian Wettengel, Appunn, K., Wettengel, J., 2023, 02 Feb, Wettengel, K. A., 2024, 26 Mar, 2024, 07 Feb, Wettengel, F. Q., & Quecke, F. (2024, April 10). *Understanding the European Union’s Emissions Trading Systems (EU ETS)*. Clean Energy Wire. https://www.cleanenergywire.org/factsheets/understanding-european-unions-emissions-trading-system

innovation in low-carbon technologies, and influenced the development of carbon markets in other countries and regions.

1.6. *A New Era:* The Climate and Energy Package and the birth of The European Green Deal

The directive that permitted to this last system to arrive to such results and the one that marked the birth of the so called "Phase II" was the The EU Emissions Trading System Directive (2009/29/EC). This was actually part of a larger package of legislation defined as "The Climate and Energy Package" of 2009[12].

This set of legislation was composed, in addition to the EU ETS Directive, by:

- **The Effort Sharing Decision[13] (406/2009/EC)**: It set binding national targets for emissions from sectors not covered by the EU ETS, such as transport, buildings, agriculture, and waste.
- **The Renewable Energy Directive[14] (2009/28/EC)**: It established binding national targets for all member states to raise the share of energy consumption produced from renewable sources.
- **The Carbon Capture and Storage Directive[15] (2009/31/EC)**: It created a legal framework for the environmentally safe geological storage of carbon dioxide.

[12] Kulovesi, K., Morgera, E., & Muñoz, M. (2011). Environmental integration and multi-faceted international dimensions of EU law: Unpacking the EU's 2009 Climate and energy package. *Common Market Law Review*, *48*(Issue 3), 829–891. https://doi.org/10.54648/cola2011034

[13] *Evaluation and support for impact assessment of the effort sharing decision (ESD)*. Trinomics. (2019, January 8). https://trinomics.eu/project/evaluation-and-support-for-impact-assessment-of-the-effort-sharing-decision-esd/

[14] Coelho, S. T., Perecin, D., Rei, F., Escobar, J. F., Freiria, R. C., & Kimura, W. J. (2022). Bioenergy Policies Worldwide. *Comprehensive Renewable Energy*, 1–21. https://doi.org/10.1016/b978-0-12-819727-1.00040-6

[15] *Legal provisions of com(2023)657 - implementation of directive 2009/31/EC on the geological storage of carbon dioxide - main contents*. Legal provisions of COM(2023)657 - Implementation of Directive 2009/31/EC on the Geological Storage of Carbon Dioxide - EU monitor. (n.d.). https://www.eumonitor.eu/9353000/1/j4nvhdfcs8bljza_j9vvik7m1c3gyxp/vm7ligfgjfz0#:~:text=The%20CCS%20Directive%20aims%20to,transport%20network%20or%20storage%20sites.

- **The Fuel Quality Directive (2009/30/EC)**[16] and **The Energy Taxation Directive**: They aimed at promoting cleaner fuels and energy efficiency through taxation measures.

The Climate and Energy Package represented a pivotal moment in the EU's environmental policy since it marked the EU's early ambitious steps towards addressing climate change, tested mechanisms for reducing emissions and promoting renewables, and underscored the importance of a comprehensive and inclusive approach to environmental policy.

It also positioned the EU as a global leader in climate action, influencing international climate policy and negotiations.

All this laid the groundwork for something bigger, a deal that could represent a holistic approach in order to tackle some of the most pressing challenges of our time: climate change, environmental degradation, and the need for sustainable economic transformation.

For this reason, in 2019 the Green Deal was finally born marking a fundamental turning point in the history of European Environmental Law.

[16] *Fuel quality*. Climate Action. (n.d.). https://climate.ec.europa.eu/eu-action/transport/fuel-quality_en#:~:text=The%20Fuel%20Quality%20Directive%20required,the%20revised%20Renewable%20Energy%20Directive%20.

Chapter 2 – The European Green Deal: A general overview on its functioning

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2.1 *An introduction to the EGD:* It's main features and purposes

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2.5 *The engine of the EGD:* The European Green Deal Investment Plan

2.1. *An introduction to the EGD:* Its main features and purposes

The European Green Deal represents a bold sustainable development program launched by the European Commission in response to the Council's request in December 2019[17], which received the endorsement, albeit amidst difficulties, of both the European Council and Parliament. This initiative commits the Commission to manage environmental and climate issues by positioning the protection of these aspects as an essential condition and goal of any new EU policy, in order to align the economy with the environment.

The Green Deal's explicit goal is to achieve carbon neutrality by 2050, i.e. the elimination of net greenhouse gas emissions through a more efficient synchronisation of environmental, economic and social policies, aiming to position sustainability and the well-being of citizens at the core of EU economic development.

The specific goal of this new growth policy is to limit global warming to 1.5°C[18] and prevent a drastic decline in biodiversity with the implementation of a Just Transition Mechanism to be specially formulated by European entities to assist those areas, industries and workers in Europe that will be most economically impacted by the carbon

[17] European Green deal - consilium. (n.d.). https://www.consilium.europa.eu/en/policies/green-deal/

[18] *The European Green deal*. European Commission. (n.d.). https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en

neutrality goal. This transition towards a fair and inclusive green economy also seeks to defend, maintain, and improve the EU's natural resources while protecting the health and welfare of its citizens against environmental hazards.

In line with the UN's 2030 Agenda[19], the Green Deal - which continues and reinforces the virtuous path to environmental protection that the EU has been on for several years now - calls for a comprehensive rethinking of European economic policy from an eco-sustainable perspective and aspires to bring about the EU's most important environmental revolution.

With this new growth strategy, the EU, as a world leader in the fight against climate change and environmental degradation, proudly claims its leading role in promoting a concerted and global environmental policy.

Indeed, the situation at the international level appears particularly complex: the EU is responsible for only 9% of global emissions, while the economies of China and the USA are responsible for about 45% of harmful emissions[20]. This means that it will not be enough for the EU to make ambitious and laudable domestic commitments, but it will also be essential to initiate a multilateral process at the international level that involves the largest emitters in particular, continuing along the path embarked upon at the Rio Conference in 1992.

For this reason too, it is the European executive's firm intention to be at the forefront of coordinating international efforts To prioritize sustainability and the welfare of citizens in economic strategy and to position the sustainable development goals at the core of EU policy formulation and execution[21].

An initial element of novelty compared to the past is therefore represented by the admission of the inadequacy of the results obtained so far with the current policies on the reduction of climate-changing emissions and, above all, by the announced acceleration

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[19] United Nations. (n.d.). *Transforming our world: The 2030 agenda for sustainable development | department of economic and social affairs*. United Nations. https://sdgs.un.org/2030agenda

[20] Iea. (n.d.). *Greenhouse gas emissions from Energy Data Explorer – Data Tools*. IEA. https://www.iea.org/data-and-statistics/data-tools/greenhouse-gas-emissions-from-energy-data-explorer

[21] Raimondi, P. P., Bianchi, M., Sartori, N., & Lelli, M. (2023, June 27). *The external dimension of the green deal, between cooperation and competition*. IAI Istituto Affari Internazionali. https://www.iai.it/en/pubblicazioni/external-dimension-green-deal-between-cooperation-and-competition

towards sustainability to be implemented through a close synergy between interventions, investments and innovation.

2.2. *A very ambitious target:* Scientific data behind the EGD and their interpretation

For decades now, the European Union has recognised the effect of human presence on the Earth's climate and environment and has been committed to counteracting it. Decarbonisation is a long and complex process, as many human activities involve the production and consumption of energy, which is still largely dependent on oil products and natural gas, which are responsible for the emission of large quantities of pollutants into the atmosphere. These agents have the effect of altering temperatures and thus the balance of ecosystems. They cause a series of harmful knock-on effects, which also have important repercussions on human health and development.

As the European Environmental Agency (EEA) points out[22], energy is the leading sector in terms of greenhouse gas emissions, contributing 26% of the total. This is followed by transport and industry (both 22%).

From 1990 to 2020, emissions decreased by 33.3%, from 4.69 to 3.12 kt Co2. A significant decrease, but still rather far from the targets set by the green deal for 2030. In addition to the fact that 2020 was a very special year from an environmental point of view, due to the temporary cessation of many polluting activities during the lockdown. In fact, the more reliable 2019 figure sees the decline at a more moderate 25%, less than half of the final target, which should be reached by now in less than 6 years.

This modest progress underscores the urgent need for innovative strategies and the acceleration of green policies. The ongoing challenges highlight the necessity for a more radical transformation of the energy sector. This encompasses not only a transition to renewable energy sources, such as wind, solar, and hydro, but also the adoption of energy efficiency as a cornerstone of the economy. Beyond energy, comprehensive changes in

[22] *EEA Greenhouse Gases - Data viewer*. European Environment Agency. (2023, May 8). https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer

urban planning, transportation networks, and industrial processes are essential to curb emissions. While technological advancements hold promise, there is a critical role for legislation, as well as for behavioral change among consumers and businesses.

In addition to that, as identified by organizations like Greenpeace, is that while the goals set forth appear to be ambitious, they fall short of what is necessary to achieve true climate neutrality[23]. The European Union's strategy involves marrying economic growth with sustainability—a concept that is increasingly being challenged. Reports examining this balance suggest that such a compromise might be unattainable. The European Environment Agency (EEA) itself has voiced concerns over this matter[24], indicating that the dissociation of economic development from resource use—and consequently from environmental impact—is becoming ever more unattainable. The EEA has underscored that, given current strategies and commitments, the prospect of Europe fulfilling its climate objectives is quite bleak. This signals a critical junction where the policies and economic paradigms may need a substantial overhaul to align with the stringent demands of climate science. Policymakers are thus confronted with the formidable task of devising and implementing a framework where environmental imperatives are not just an adjunct to economic policies but a central axis around which the future economy is structured.

2.3. *From aspirations to legal obligations:* The Climate Law

The committee presented its proposal for the first European climate law in March 2020.

The European Climate Law's role in establishing binding targets is fundamental to steering the EU towards its 2050 climate neutrality goal. This law formalizes the commitment made under the European Green Deal and the EU's adherence to the Paris Agreement. It represents a crucial step in the EU's efforts to transition to a green economy and a sustainable future.

[23] Greenpeace European Unit. (n.d.). *European Green deal misses the mark*. https://www.greenpeace.org/eu-unit/issues/climate-energy/2517/european-green-deal-misses-the-mark/
[24] *Growth without economic growth*. European Environment Agency. (2023b, April 20). https://www.eea.europa.eu/publications/growth-without-economic-growth

Transforming climate goals into legal obligations mandates that the European Union and its member states adhere to a definitive, enforceable framework. Such legal bindingness transitions climate action from a mere aspirational concept to a mandatory objective that informs policy and legislative actions across all sectors. The establishment of an interim target for 2030, aimed at reducing net greenhouse gas emissions by at least 55% relative to 1990 levels, serves as an essential milestone that promotes steady progress toward the overarching 2050 objective.

Through the incorporation of these targets into the European Climate Law, consistency is ensured across EU policies in various sectors such as energy, transportation, agriculture, and industry, aligning efforts with the designated emission reduction goals. This alignment prevents the formulation of contradictory policies and fosters a comprehensive strategy for addressing climate change, thus facilitating consistency in the EU's domestic and international initiatives.

The definitive nature of these targets motivates governments, businesses, and investors to engage in long-term planning, underpinned by a clear trajectory of EU climate policy. This supports an environment conducive to the transition towards a green economy, encouraging innovation, infrastructure enhancements, and investments in clean technologies that are in harmony with the 2050 climate neutrality aspiration. With the establishment of legally binding targets, non-compliance triggers mechanisms for legal recourse, thereby strengthening accountability. Although the primary aim is to secure compliance through positive measures, the potential for legal challenges acts as a deterrent to inaction, ensuring commitment from all member states to shared objectives.

The European Climate Law places strong emphasis on accountability and predictability, vital for sustaining momentum in climate actions and establishing trust among stakeholders. It prescribes robust monitoring and reporting protocols[25], obliging the European Commission and member states to routinely evaluate and communicate their advancement toward set targets, including the submission of national energy and climate

[25] *National Energy and Climate Plans*. European Commission. (n.d.-a). https://commission.europa.eu/energy-climate-change-environment/implementation-eu-countries/energy-and-climate-governance-and-reporting/national-energy-and-climate-plans_en#final-necps

plans[26] and regular progress reports. Such transparency enables the early identification of any progress shortfalls, permitting timely corrective interventions.

Moreover, the European Climate Law provides for the periodic review and, if necessary, the adjustment of the EU's climate and energy policies to ensure coherence with long-term goals. This adaptive mechanism enables the EU to respond to emerging scientific insights, technological advances, and global shifts in climate policy, thereby ensuring that its actions remain relevant and impactful.

Predictability is also essential in securing enduring investments in green technologies and infrastructure. By delineating a definitive and legally binding trajectory, the European Climate Law instills confidence in investors regarding the stability and direction of the EU's climate policy, mitigating the risks associated with potential policy fluctuations and promoting investment in sustainable initiatives.

Officially published on July 9, 2021, and entering into force on July 29, 2021, the European Climate Law is perceived as a binding pledge to future generations, catalyzing innovation, investment, and modernization across the EU's economic spectrum.

The president of the commission Ursula Von der Leyen described the importance of this act affirming that: *"The Climate Act concretises our political commitment in a legal act and places us irreversibly on the path to a more sustainable future. This act is the centrepiece of the European green deal and provides predictability and transparency for European industry and investors."*[27]

Over the following months, a series of specific strategies and action plans were adopted, targeting numerous sectors. From industry and chemicals to transport and even architecture and design. To promote a greater focus on sustainability within them.

Plans have also been formulated to reduce polluting emissions, to combat deforestation, to encourage the spread of organic farming and the implementation of a circular economy model. But there was also no lack of proposals on the level of civic participation, for

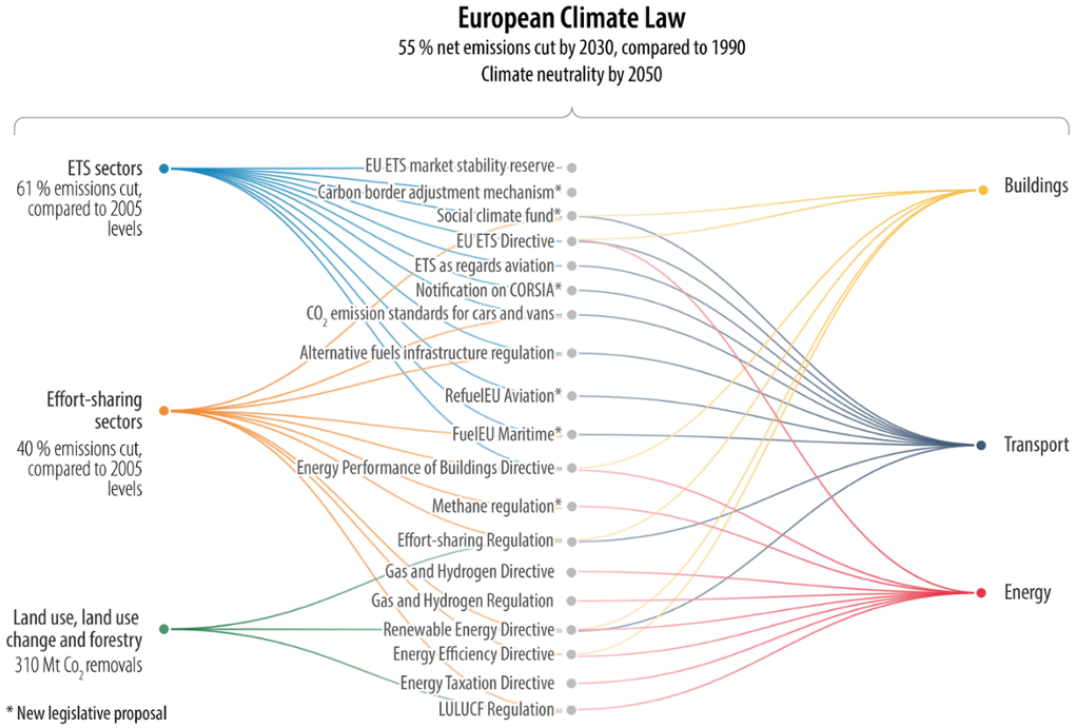
[26] Iea. (n.d.-a). *European Climate Law – Policies*. IEA. https://www.iea.org/policies/11705-european-climate-law

[27] *Press corner*. European Commission - European Commission. (n.d.). https://ec.europa.eu/commission/presscorner/detail/de/statement_20_381

example with the European Climate Pact, a space for exchange and interaction with the aim of creating a movement to raise awareness of climate change.

2.4. First round of reforms: The Fit for 55 Package

The most significant package of legislation was the one proposed by the commission headed by Ursula Von Der Leyen in July 2021. The package, named **"Fit for 55"**, aims to ensure that the European Union's climate policies are aligned with its ambitious goal to reduce net greenhouse gas emissions by at least 55% by 2030.



This comprehensive legislative overhaul includes proposals to update the EU Emissions Trading System (ETS), introduce new carbon taxes, implement stricter CO2 standards for cars, and expand the use of renewable energy, among other measures.[28]

[28] *ETS2 : Buildings, road transport and additional sectors*. Climate Action. (n.d.-a). https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/ets2-buildings-road-transport-and-additional-sectors_en

Regarding the former mentioned, the Commission has proposed a wide-ranging set of changes to the existing ETS that should lead to an overall reduction in emissions in the relevant sectors of 61% by 2030 compared to 2005 levels.

The goal is to enhance and expand the existing framework of the program. Specifically, the proposal intends to incorporate emissions from maritime transportation into the EU ETS and to gradually eliminate the free allocation of emission allowances for aviation and industries affected by the Carbon Border Adjustment Mechanism (CBAM) [29].

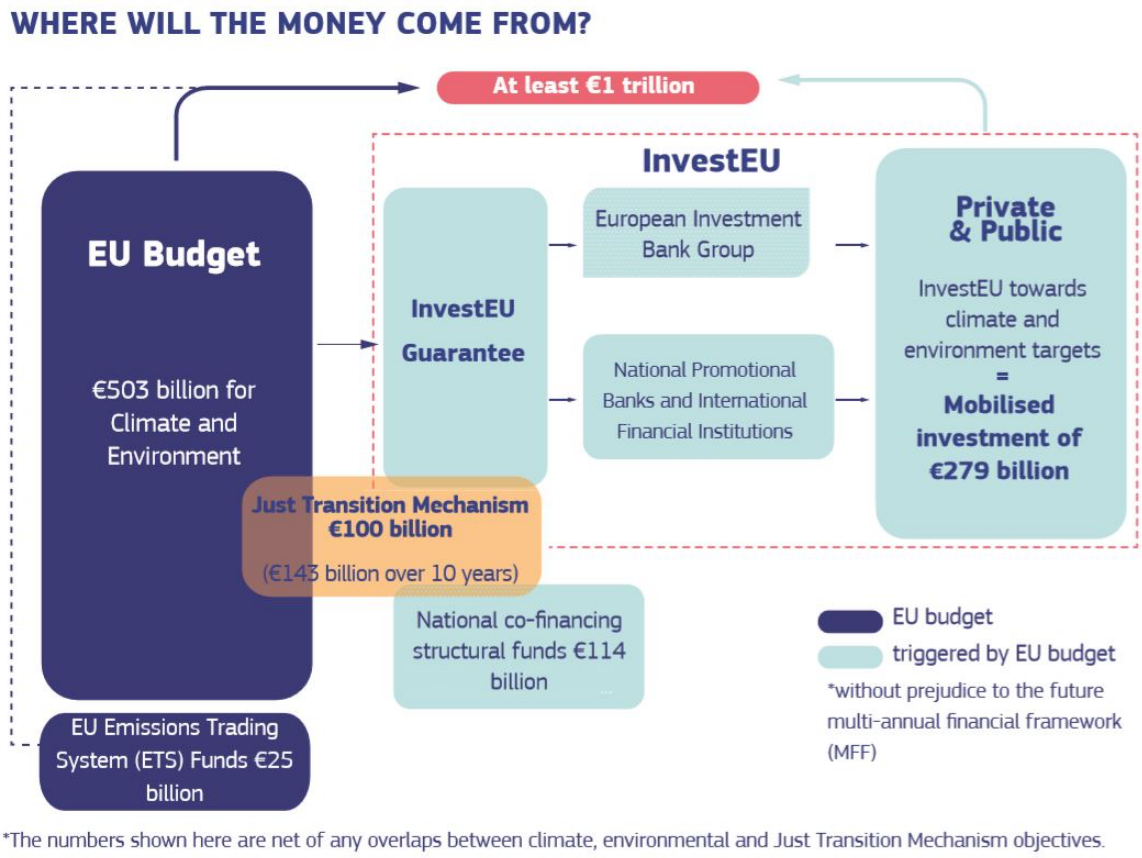
Furthermore, the Commission suggests establishing a separate emissions trading system for buildings and road transport to assist Member States in achieving their national objectives under the Effort Sharing Regulation more cost efficiently[30].

This regulation currently mandates specific yearly reductions in greenhouse gas emissions for Member States in areas not included in the EU Emissions Trading Scheme or the Land Use, Land Use Change, and Forestry Regulation (LULUCF) [31].

The primary amendment recommended by the Commission to the current laws pertains to the 2030 targets in these sectors. The proposal seeks to raise the EU-wide target for reducing greenhouse gas emissions from 29% to 40% relative to 2005 levels and to adjust the national targets as necessary. The method for setting these national targets continues to rely on GDP per capita, with a few targeted modifications to reflect considerations of cost efficienc

[29] *Carbon Border Adjustment Mechanism*. Taxation and Customs Union. (n.d.). https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en
[30] *Effort sharing 2021-2030: Targets and flexibilities*. Climate Action. (n.d.-a). https://climate.ec.europa.eu/eu-action/effort-sharing-member-states-emission-targets/effort-sharing-2021-2030-targets-and-flexibilities_en
[31] Quari, S. (2023, June 12). *The revision of the LULUCF Regulation: Making Europe's countryside "fit for 55."* Diritti Comparati. https://www.diritticomparati.it/the-revision-of-the-lulucf-regulation-making-europes-countryside-fit-for-55/

2.5. *The engine of the EGD:* The European Green Deal Investment Plan



The European Green Deal Investment Plan (EGDIP), alternatively known as the Sustainable Europe Investment Plan, stands as the primary financial supporter for the Green Deal, with a target to generate at least 1 trillion EUR in sustainable investments by 2030.

More than half of this sum should come from the EU Budget (EUR 503B) with an additional contribution of EUR 25 billion from the extended EU ETS.

In addition, at least 40 per cent of the NextGenerationEU funds are to be used for climate action investments and projects.

The Union, through funds contained in its 2021-2027 budget, is promoting initiatives such as Horizon Europe[32], which is dedicated to research and innovation, LIFE[33], which addresses climate and environmental challenges, and both the Cohesion Fund and European Regional Development Fund[34], which enhance regional development. These programs are undergoing adjustments to align with the Green Deal's objectives, ensuring that they play a role in achieving the set sustainability goals.

However, it is understood within the plan that public funding is insufficient to meet the Green Deal's high ambitions, thus there is a focus on enticing private investment. Public funds are allocated to create guarantees and other financial mechanisms to reduce risks and channel private investment into green projects[35].

Financial instruments from the InvestEU Programme are relied upon by the EGDIP to attract private investment. InvestEU is a a segment of the EU's budget for 2021-2027 and it is designed to amalgamate public and private investment across the EU through an integrated investment support mechanism[36]. It has a critical function in underwriting sustainable infrastructure, innovation, assistance for small and medium enterprises, focusing intensely on the progression towards a green economy[37].

The investment plan targets a diverse range of sectors that are crucial for the transition to an environmentally-friendly economy such as energy efficiency, sustainable transportation, biodiversity protection, and the circular economy. The plan is designed to overcome market failures and fill investment gaps that could obstruct this transition,

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[32] *Horizon Europe*. Research and innovation. (n.d.). https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en

[33] *Life programme*. Internal Market, Industry, Entrepreneurship and SMEs. (n.d.). https://single-market-economy.ec.europa.eu/industry/strategy/hydrogen/funding-guide/eu-programmes-funds/life-programme_en

[34] *European Regional Development Fund (ERDF) and Cohesion Fund*. Internal Market, Industry, Entrepreneurship and SMEs. (n.d.-a). https://single-market-economy.ec.europa.eu/sectors/tourism/eu-funding-and-businesses/funding-guide/european-regional-development-fund-erdf-and-cohesion-fund_en

[35] The European Green Deal Investment Plan and Just Transition Mechanism explained. https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_24

[36] Industry, R. (2020, January 16). *What is the Green Deal Investment Plan?*. Recycling Industry. https://www.recyclind.com/eng/2996/whatisthegreendealinvestmentplan/

[37] Ondernemen, A. I. &. (n.d.). *EU funding overview*. EU Funding Overview. https://eufundingoverview.be/funding/investeu-programme

ensuring that funds are directed towards areas with the potential for significant environmental and climate impact.

The Just Transition Mechanism (JTM) is a key element for financing the European Green Deal, aiming to facilitate a fair transition to a carbon-neutral economy without leaving any communities behind. It is anticipated to allocate around 100 billion EUR from 2021 to 2027 to regions most susceptible to the negative effects of the transition, particularly those reliant on fossil fuels or greenhouse gas-intensive industries.

The JTM is formed by three main pillars[38]:

- Just Transition Fund (JTF) – With a budget of 30-50 billion of EUR, the JTF allocates grants to regions that face the most daunting challenges during the transition to a green economy. It supports economic diversification, the creation of new jobs in emerging sectors, and workforce re-skilling. The JTF is nested within the broader Cohesion Policy framework and targets regions in need of support to handle the social and economic effects of the green transition.
- InvestEU Just Transition Scheme – Endowed with 45 billion EUR, this scheme is an extension of the InvestEU framework and provides financial products like loans, guarantees, and equity to draw private investments into the most affected regions. It concentrates on projects that may be bypassed due to their perceived risks or lower returns. By offering financial instruments that share the investment risk with private entities, the scheme is crucial in mobilizing substantial private capital for the ecological transformation.
- Public Sector Loan Facility – Holding funds of 25-30 billion EUR, this facility merges EU grants with loans from the European Investment Bank (EIB). It specifically finances public sector projects in just transition regions, supporting investments in energy and transport infrastructure, energy efficiency, and social infrastructure. The aim is to alleviate the economic impact of the shift from coal, peat, and oil shale industries

[38] Just transition mechanism. (n.d.-b). https://errin.eu/system/files/2020-05/just-transitionmechanismcharalambous.pdf

Chapter 3 - Resilience and Risk: The European Green Deal's Fortitude and Vulnerabilities

3.1 *The EGD in time of crisis:* The COVID-19 pandemic and the war in Ukraine

3.2 *The reasons behind the EGD solidity:* Three main factors

3.3 *The risk of politicization:* How the EGD could become a boomerang for the Union

3.4 *An example of failure:* The Farm to Fork Strategy

3.5 *The European Green Dilemma*: Economic Stability vs. Ecological Urgency

3.6 *Suggestions and conclusion:* Catalyzing Europe's Green EconomyThrough Investment

3.1. The EGD in time of crisis: The COVID-19 pandemic and the war in Ukraine

The EGD, endorsed by the Commission in December 2019 and confirmed by the Parliament in January 2020, confronted the EU with significant crisis situations in subsequent years, such as the COVID-19 pandemic and the energy crisis post-2022 following Russia's incursion into Ukraine.

The pandemic initially induced a significant downturn in the global economy, with substantial but temporary consequences. The situation deteriorated for the Union with a surge in gas prices, predominantly due to Russia's strategic gas flow restrictions, precipitating immediate and widespread impacts on electricity costs[39]. The energy turmoil escalated after Ukraine's invasion by Russia in 2022, cutting off most Russian gas, compelling Europe to secure LNG at elevated global market prices. At the crisis's peak, wholesale prices surged past EUR 300/MWh, contrasting sharply with the previous

[39]Alcaro, R., Gallelli, B., Giuli, M., & Mikhelidze, N. (2022, August 30). *Focus Euroatlantico n. 20 (Febbraio-Luglio 2022)*. IAI Istituto Affari Internazionali 54-66. https://www.iai.it/it/pubblicazioni/focus-euroatlantico-n-20-febbraio-luglio-2022

decade's average of about EUR 20/MWh, resulting in an estimated EUR 700 billion financial hit to European nations in 2022 alone[40].

Historical economic downturns, particularly the financial and sovereign debt crisis post-2008, illuminate a potentially adverse relationship between economic downturns and environmental agendas, often linked to fiscal or regulatory contractions with possible pro-cyclical consequences. Generally, in crisis modes, resources pivot from long-term structural plans to immediate critical needs. This tendency[41], echoed in the early 2010s, led to the climate discussion being sidelined, evident in 2014's proposal for the 2030 framework, which misaligned with long-range environmental goals.

Similar patterns emerged from past energy crises, where the dual concerns of energy security and climate objectives, although aligned in the long-term perspective, often diverged in immediacy[42], posing a risk of conflicting priorities. The 2009 crisis and the initial 2013-14 disputes with Russia propelled Europe towards bolstering natural gas import capacities, ensuring diversified access and ironically, continued Russian gas inflow by bypassing Ukraine, then viewed as politically volatile[43].

These crises often deepened existing divisions, with narratives spotlighting the unequal distributional impacts of the transition, amplified by the narrative that energy security and decarbonisation are inherently contradictory, despite the pricing spikes being a market response to manipulated supply flows. These accounts potentially seed resistance by linking expected transition-related inflation with wider economic strains[44].

Nonetheless, the EGD demonstrated impressive solidity. The pandemic didn't notably derail or alter the initiative's direction. Indeed, pivotal developments like the climate law's enactment and the Fit for 55's unveiling occurred amid the pandemic. Contrary to the

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[40] Sgravatti, G., Tagliapietra, S., Trasi, C., Zachmann, G., & McWilliams, B. (2024, April 3). *National fiscal policy responses to the energy crisis*. Bruegel. https://www.bruegel.org/dataset/national-policies-shield-consumers-rising-energy-prices

[41] Gheuens, J., & Oberthür, S. (2021). EU Climate and Energy Policy: How Myopic is it? *Politics and Governance*, *9*(3), 337–347. https://doi.org/10.17645/pag.v9i3.4320

[42] Dupont, C., & Oberthür, S. (2012). Insufficient climate policy integration in EU Energy policy: The importance of the long-term perspective. *Journal of Contemporary European Research*, *8*(2). https://doi.org/10.30950/jcer.v8i2.474

[43] GUIVARCH, C., MONJON, S., ROZENBERG, J., & VOGT-SCHILB, A. (2015). Would climate policy improve the European Energy Security? *Climate Change Economics*, *06*(02), 1550008. https://doi.org/10.1142/s2010007815500086

[44] *L'action climatique : Un enjeu macroéconomique*. Accueil. (n.d.). https://www.strategie.gouv.fr/node/5776

2008-2010 trend of relegating environmental focus, the Council advocated for simultaneous economic revival and ecological progression, with the Commission proposing additional measures like the Biodiversity and Farm to Fork strategies. A critical junction was the inauguration of the NextGenEU (750 billion) and the broader financial framework, mandating a minimum of 37% allocation towards ecological transition[45] and adhering to the 'Do no significant harm' (DNSH) principle[46].

The subsequent energy crisis incited a defensive positioning of the climate agenda, catalysing heightened eco-ambitions. The RePowerEU strategy, designed to phase out Russian gas by the decade's end, predicted gas import diversification to compensate for merely a fraction of the Russian reduction, with the balance offset by climate-driven demand decreases. Notably, an augmented role was envisaged for renewable sources and efficiency enhancements. The Commission's revised targets in the Renewable Energy Directive (REDIII)[47] and RePowerEU proposals reflect a substantial uplift from initial Fit for 55 goals. EU frameworks have since exerted a moderating influence on national plans to expand fossil fuel infrastructure to mitigate Russian reliance.

Prior to these crises, the 2022 Trans-European Networks for Energy (TEN-E) reform[48] already excluded future backing for fossil fuel infrastructure, congruent with the EIB's 2019 cessation of fossil project funding. While some NextGenEU funds were reallocated to RePowerEU[49], the DNSH principle remained intact, with stipulations essentially barring fund use for non-urgent gas infrastructure.

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[45] Borré, L. (2022, December 9). *Next generation EU: A paradigm shift in European mobility?*. ISPI. https://www.ispionline.it/en/publication/next-generation-eu-paradigm-shift-european-mobility-34978

[46] "Do no significant harm" definitions and criteria across the EU ... (n.d.-a). https://www.esma.europa.eu/sites/default/files/2023-11/ESMA30-379-2281_Note_DNSH_definitions_and_criteria_across_the_EU_Sustainable_Finance_framework.pdf

[47] *Renewable energy directive (REDIII) - european panel federation*. European Panel Federation -. (2023, February 8). https://europanels.org/european-policy-developments/climate-energy/renewable-energy-directive-recast-red-ii/

[48] Iea. (n.d.-a). *Cross-border energy infrastructure, new rules for ten-E – policies*. IEA. https://www.iea.org/policies/13642-cross-border-energy-infrastructure-new-rules-for-ten-e

[49] The repowereu plan explained - consilium.europa.eu. (n.d.-c). https://www.consilium.europa.eu/en/infographics/repowereu/

3.2. The reasons behind the EGD solidity: Three main factors

The notable durability of the EGD, unexpected given past critical points in European climate policy, warrants examination of the underpinnings of this resilience, offering insights into potential future policy directions. Specifically, three contextual elements relating to ideology, institutions, and interests point to significant departures from historical precedents and may elucidate the ongoing robustness of Europe's climate commitments.

Firstly, recent crises have played out against a backdrop of a paradigm shift in how climate challenges are perceived and communicated. The discourse has escalated, framing climate change as a critical security issue and an existential threat, a narrative adopted by both the European Commission and the Council and echoing the increasingly urgent warnings from the IPCC. This has translated into a predominant discourse across global institutions, such as the International Energy Agency, which has recently refocused on promoting energy decarbonization[50]. Additionally, the Commission, closely aligned with the EGD, has promoted a narrative of synergy between economic revival, energy security, and climate action—contrasting with previous crisis periods which tended to highlight the trade-offs between emissions reduction and economic and energy goals[51].

Secondly, the present political and institutional environment supports the EGD's resilience in the face of crises. The ambitious global climate targets set by the Paris Agreement, and their incorporation into binding objectives, coupled with enhanced cross-departmental collaboration—with the climate agenda taking precedence—stand as pillars not present in past crises. Earlier economic and geopolitical disturbances, such as those in 2008-2010 and the initial 2014 Ukraine conflict, did not operate under such binding long-term commitments, nor was there a well-integrated approach between energy and climate considerations. In contrast, the Paris Agreement and the 2030 Agenda have mobilized international financial institutions, making the carbon footprint a critical

[50] Iea. (n.d.-d). *Net zero by 2050 – analysis*. IEA. https://www.iea.org/reports/net-zero-by-2050
[51] Eckert, S. (2021). The European Green Deal and the EU's regulatory power in times of crisis. *JCMS: Journal of Common Market Studies*, *59*(S1), 81–91. https://doi.org/10.1111/jcms.13241

investment consideration and reinforcing the trend of declining costs for low and zero-emission technologies.

Lastly, substantial material stakes have characterized the EGD's crisis resilience. Despite Poland's resistance and calls for the ETS suspension during the crisis, the situation with Russia has facilitated a reconciliation of the longstanding division between Eastern and Western Europe on climate policy. The unpredictability in fossil fuel prices, along with a growing acknowledgment of renewables and energy efficiency as essential to energy security, could tip the scales even in regions historically hesitant about aggressive climate measures. Additionally, Europe has demonstrated considerable infrastructural robustness, managing to maintain supply even amidst drastic price swings. This resilience owes significantly to the existing infrastructure and Europe's capacity to navigate stress, particularly with the underperformance of nuclear and hydro sectors within the continent[52].

3.3. *The risk of politicization:* How the EGD could become a boomerang for the Union

Among the various emerging risks regarding the implementation of the EGD, the obstacle of the European elections in June 2024 and the subsequent reshaping of the European Parliament certainly stands out. A weakening of the so-called green parties in favour of political forces of a more conservative nature could lead to a slowdown of the environmental legislation envisaged by the EGD. But even before the European elections, the climate issue is already becoming increasingly politicised. One example was the farmers' protest, which started in the Netherlands and then spread throughout Europe, against the 50% reduction by 2030 of polluting emissions such as nitrogen oxide and ammonia[53].

From these protests clearly, some parties started real political campaigns against the Green Deal commission. Afd's main candidate for the European elections, Maximilian

[52] Von Homeyer, I., Oberthür, S., & Jordan, A. J. (2021). EU climate and energy governance in times of crisis: Towards a new agenda. *Journal of European Public Policy*, *28*(7), 959–979. https://doi.org/10.1080/13501763.2021.1918221

[53] Polizzi, F. (2022, July 7). *Gli agricoltori Olandesi agitano i Forconi contro il piano per la transizione*. Domani. https://www.editorialedomani.it/fatti/gli-agricoltori-olandesi-agitano-i-forconi-contro-il-piano-per-la-transizione-akmxutl3

Krah, described the Green Deal as unnecessary and to be abolished. The draft of the Afd election programme goes even further, even talking about a kind of conspiracy: "The deliberately brought about energy shortage is intended to produce a citizen helplessly at the mercy of the Brussels central state and dependent on monetary benefits" [54].

The words used by Afd are against any empirical evidence but at the same time ride on the discontent of certain sectors of the population regarding the consequences and the still too high costs of the green transition.

The politicization of environmental policy poses a serious challenge to the unity and forward momentum of the European Union's climate strategy. As the EGD becomes a hotly contested point in the arena of public opinion, the EU must navigate these tumultuous political waters with great care. With rhetoric heating up, the EU's challenge will be to engage in constructive dialogue, addressing legitimate concerns about the green transition without capitulating to reactionary forces. The elections may indeed become a referendum on the Green Deal, and as such, it is crucial for the EU to demonstrate the tangible benefits of the transition, making clear the economic, health, and societal advantages that come with a greener economy.

3.4. *An example of failure:* The Farm to Fork Strategy

One of the sectors in which the Green Deal is proving to be a failure is agriculture[55]. The most relevant plan within this sector of the EGD is the 'Farm to Fork' initiative[56]

The Farm to Fork programme set bold goals, such as a marked cut in the use of fertilisers and pesticides, which are responsible for impacts on multiple species vital to ecosystems, the conversion of a quarter of farmland to organic production, and the planting of no less than 3 billion trees. Several initiatives have been maintained, while others have undergone

[54] 2023, 31 Jul, Wettengel, J., 2023, 09 Jun, 2023, 19 Jun, 2023, 17 Jul, & Wehrmann, B. (2023, July 31). *Far-right AFD lead candidate for EU election rejects green deal*. Clean Energy Wire. https://www.cleanenergywire.org/news/far-right-afd-lead-candidate-eu-election-rejects-green-deal

[55] *Over half of von der leyen's food policy promises weren't met, analysis shows*. euronews. (n.d.). https://www.euronews.com/my-europe/2024/02/19/over-half-of-von-der-leyens-food-policy-promises-werent-met-analysis-shows

[56] *Farm to fork strategy*. Food Safety. (n.d.). https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy_en

modifications and contractions in their scope to accommodate the needs of the agricultural sector. In some circumstances, changes have been necessary due to the infeasibility of certain interventions; in others, concessions have been made as a result of agricultural lobbies, which have shown considerable persuasive force[57] on national and European plans, particularly in pre-election periods.

The most visible and discussed case is the Sustainable Use Regulation (SUR)[58], which envisages a gradual reduction in pesticide use by 2030 as part of the Green Deal. In 2023, 6,000 scientists signed a letter in support of SUR[59], emphasising the importance of no longer delaying decisions on pesticides. Despite this, the European Commission decided on 6 February 2024 to abandon the SUR[60], as the reduction proposals had been rejected by the European Parliament in November 2023 and were therefore already at risk of being discarded or at least thoroughly revised.

Regardless of the legitimacy of the challenges raised by the agricultural sector, a palpable disconnect has emerged between agricultural decisions and environmental policies.

Stricter and more complex regulations to mitigate the environmental effect of agriculture have been introduced, but they have not fully resolved certain critical issues, especially for small and medium-sized farmers, who face greater obstacles in making investments and staying up-to-date with new regulations.

There are advanced technological solutions for greening agriculture, some of which have been available for some time, but many remain out of reach, especially in Europe. Restrictions on the use of genetically modified organisms (GMOs), for example, could increase dependence on pesticides as plants are more vulnerable to pest attacks. Consequently, the need to decrease the use of pesticides could have a major impact on

[57] Mambro, A. D. (2024, March 4). *Map: Farmers protests lead to concessions almost everywhere*. www.euractiv.com. https://www.euractiv.com/section/agriculture-food/news/snapshot-of-farmers-protests-and-its-not-over/
[58] *Sustainable use of pesticides*. Food Safety. (n.d.-b). https://food.ec.europa.eu/plants/pesticides/sustainable-use-pesticides_en
[59] *Scientists support the EU's green deal and reject the unjustified argumentation against the sustainable use regulation and the Nature Restoration Law*. Zenodo. (n.d.). https://zenodo.org/records/8128624
[60] *Governments caught off guard by von der leyen's U-turn on pesticides*. euronews. (n.d.-a). https://www.euronews.com/green/2024/02/06/governments-caught-off-guard-by-von-der-leyens-u-turn-on-pesticide-cuts

agricultural production, which is already lower than in countries where the use of GMOs is permitted without restrictions.

Many European countries depend on the import of GMO soya and maize seeds from nations such as Brazil, Argentina, the USA and Canada for livestock feed, often at lower prices than the corresponding non-GMO products on the domestic market[61].

This situation creates a marked market inequality, which tends to favour imported products, with which it is difficult to compete.

This reality raises critical questions about the future of agriculture in Europe. To balance the scales, there must be concerted efforts to support farmers in the transition to more sustainable practices. Investment in research and development can produce resilient crop varieties that do not require GMOs but are less dependent on chemical inputs. Moreover, policies could incentivize and subsidize the adoption of organic farming methods and advanced ecological techniques, which can be cost-prohibitive without financial support. At the heart of this issue lies the need for a reimagined agricultural policy that supports farmers, encourages sustainable practices, and bridges the gap between environmental goals and agricultural viability. Education and training initiatives are crucial in equipping farmers with the knowledge and tools needed to adapt to these new practices. Furthermore, creating a robust local market for non-GMO, organic products could also mitigate reliance on imports and bolster the EU's agricultural independence. The EU faces the challenge of navigating these complexities in a way that aligns with both the immediate needs of its farmers and its long-term environmental objectives. It will require dialogue with all stakeholders, a reevaluation of trade policies, and an integrated approach that takes into consideration the multifaceted nature of agriculture and its fundamental role in society. The future of European agriculture could hinge on finding viable pathways to combine productivity with sustainability, ensuring that environmental policies reinforce rather than undermine the agricultural sector's capacity to thrive.

[61] Andrés, P. (2023, December 11). *Low-speed zone: Europe's Super Crops Revolution hits bottleneck*. POLITICO. https://www.politico.eu/article/gmo-agriculture-farming-low-speed-zone-europes-super-crops-revolution-hits-bottleneck/

3.5. *The European Green Dilemma:* Economic Stability vs. Ecological Urgency

The Farm to Fork initiative is not the only provision that is creating particular discontent among the European population. In general, so many provisions contained in the EGD require time both for companies to adapt to the new standards and for governments to be able to arrive at a situation of economic stability to be able to finance companies during the transition process.

This was discussed by French President Emanuel Macron at a meeting with representatives of French industry on 11 May 2023. The French president affirmed: “We are implementing what we have decided, but we must stop adding to it. The risk we run is, basically, of being the best performers in terms of regulation and the worst performers in terms of financing”[62].

Addressing European policymakers, he then called for a regulatory pause in order to give companies time to adapt to the new green standards.

The Union's response was not long in coming. The now former European Climate Commissioner Frans Timmermans wanted to send a strong message to the member states on this occasion. He argued that "The world is facing a risk of ecocide that poses a threat to the survival of humanity and therefore there is no time to lose"[63].

From these statements, a problem seems to emerge at the heart of the EGD. On the one hand, there are countless scientific research centres that, given the alarming climate forecasts, suggest extremely stringent timelines for the green transition. On the other hand, however, there is a political environment and an industrial fabric that, for technological, economic, and social reasons, cannot cope with this process in the

[62] Messad, P. (2023, May 12). *Macron calls for “regulatory break” in EU green laws to help industry*. www.euractiv.com. https://www.euractiv.com/section/energy-environment/news/macron-calls-for-regulatory-break-in-eu-green-laws-to-help-industry/?_ga=2.58900269.1253225163.1685421643-896325372.1652691269

[63] Bourgery-Gonse, T. (2023, June 4). *Green deal: EU’s Timmermans Rules Out “break” in the green transition*. www.euractiv.com. https://www.euractiv.com/section/energy-environment/news/green-deal-eus-timmermans-rules-out-break-in-the-green-transition/

timeframe set with these conditions. For the first time in its history, the EU is abandoning its reformist approach in the climate sphere and switching to a revolutionary one.

Clearly, the gravity of the situation and the scientific evidence somehow compel it to take strong action. And the fact that the EU is the first institution to take such a bold path certainly confirms that this institution has at the basis of its political choices the will to create a better world for its current and future citizens. That said, however, this approach, especially in this political context, also entails a number of serious risks for the Union.

If the EGD were to prove, as in part is unfortunately already happening, burdensome to European households' accounts and consequently create economic and social crises, anti-European and nationalist parties would find fertile ground in the following internal elections in the member states. This has already happened in Italy and the prospects for the next elections in Germany and France are certainly not rosy with parties such as AFD in Germany and Rassemblement National (led by Marine Le Pen) in France soaring in the polls.

If, for the first time in recent history, the three most influential countries in the Union (Germany, France, and Italy) were to be led by openly anti-European and anti-Green Transition governments, there would be a risk of a serious weakening of the Union and a greater ineffectiveness in performing its functions. Moreover, these governments, for idealistic as well as electoral purposes, would do everything in their power to dismantle the Green Deal and any future green transition plans.

The question is now whether the EU can adapt its policies to be flexible enough to withstand political tides while remaining firm in its commitment to global climate leadership. The solution might lie in creating transitional policies that can buffer the economic impact on households, investing in education and training to equip the workforce for green jobs, and building consensus through participatory democracy. These actions may mitigate the risks posed by populist backlash and present a united front in the global effort against climate change. The goal is to forge a path that is economically viable, socially equitable, and environmentally sustainable, leveraging the full potential of the Green Deal to lead the way in the international arena for a comprehensive and just ecological transition.

3.6. *Suggestions and conclusion:* Catalyzing Europe's Green Economy Through Investment

It can therefore be said that the commission, together with the other European institutions, in implementing the Green Deal policies will have to make sure that it has a business plan to support the population and companies at every step of the transition and thus place the least possible burden on the shoulders of European families.

All this can certainly be facilitated by a process of technological innovation, and technological innovation is driven by investment.

A hint of this comes from the 2007 Nobel Peace Prize winner Al Gore, who has made the battle against climate change almost a reason for living.

In an interview[64] with the Financial Times he argued: "As an industry, we urgently need to rethink how capital is allocated in order to achieve real progress towards climate neutrality commitments. there is a capital gap. But above all there is an impact gap. If we look at opportunities to decarbonise the economy faster, we see that there are not enough capital flows."

This finding highlights that, faced with an increasingly environmental-focused consumer and investor orientation, markets will adapt accordingly. In addition, markets are an effective means of channeling resources towards investment and innovation and see the pursuit of profit as inescapable. The motivation for attracting capital does not derive from the generosity of investors, but from their self-interest, which manifests itself in areas such as medium-term financial gain, image and corporate ethics resulting from such decisions.

To achieve the goal of net zero carbon emissions without compromising individual wellbeing, and indeed promoting growth, the development of advanced technologies is indispensable. It is unknown which of these will prevail, but this will be discovered through a process of trial and error, as is customary. The financial sector plays a crucial

[64] Mooney, A. (2021, October 27). Al gore launches climate change asset manager. *Financial Times*. Retrieved April 8, 2023, from https://www.ft.com/content/c109225a-4702-4164-90be-3b3c2886a508.

role as a facilitator in coordinating capital, innovation and the practical application of various technologies.

Furthermore, it is crucial that the population understands the importance and the reasons behind the EGD. It is therefore necessary for the union to continue and intensify a non-political but informative campaign on the EGD, its functioning, the reasons behind it and its consequences.

All this is to arrive at a condition where the transition is backed up by a strong social push, since without it the transition will never occur.

If this did not happen, a situation of serious instability would be created, with major popular uprisings against the Union (similar to those carried out by the farmers in 2024) and Europe would be left in the hands of politicians who so far do not make the fight against climate change one of their priorities, and who, indeed, at times seem almost to disown it.

The Green Deal is clearly a very ambitious plan, mobilising considerable resources for important and difficult goals. A great opportunity, but also a challenge.

First of all, it will be a question of how these funds will be used and whether it will indeed always be possible to find a meeting point between the climate and environmental issue and other social, economic and political dynamics. Tensions of this kind have already emerged with the energy crisis, when geopolitical issues (European support for Ukraine through the boycott of Russia) and socio-economic issues (the inflation affecting the energy sector for this reason) tested the Union.

But it will also have to be verified whether the resources will be used for projects with real impact (and not for mere greenwashing). And therefore, that decarbonisation always remains the priority. In this sense, the considerable weight of the private sector in the funding programme may be a problematic aspect, which will need to be monitored.

Chapter 4 - Redefining Energy in Europe: Strategic Insights from the RepowerEU Initiative

4.1 *RepowerEU:* Addressing Geopolitical and Environmental Challenges Through Energy Reform.
4.2 *Addressing the Energy Efficiency Gap*: Strategies and Challenges in the EU.
4.3 *Energy Diplomacy in Action:* The EU's Strategy to Diversify Gas Imports in the REPowerEU Plan.
4.4 *Energy Independence in the EU:* Physical and Legislative Barriers to Strategic Autonomy

4.1. *RepowerEU:* Addressing Geopolitical and Environmental Challenges Through Energy Reform

The RepowerEU plan is the plan presented by the commission on 18 May 2022 to lead the union towards independence from Russian gas by 2027. This, however, is not its only goal. In fact, the long-term objective is that of a sustainable, cost-efficient energy system that is safe from exogenous events that could cause serious disruptions. The plan envisages achieving these goals through three main strategies[65]:

- Reduction of energy demand
- Diversification of energy imports and infrastructure developments
- Accelerating the green transition with an increase in energy from renewable sources.

The first two are the most critical and they will be further analyzed later in the chapter.

[65] *Repowereu*. European Commission. (n.d.). https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/repowereu-affordable-secure-and-sustainable-energy-europe_en

This strategy is of particular significance as it untangles geopolitical crises, environmental goals and industrial policies.

In fact, the plan was initially created as part of the strategic response to the Russian invasion of Ukraine.

The event in question turned what a temporary energy crisis was, triggered by the simultaneity of the reinvigoration of the economy after the pandemic (and the consequent increased demand for energy) and the tight world energy supply, into a long-lasting crisis. The escalating cost of natural gas had already impacted the electricity market, but the conflict extended price increases to the oil sector and its derivatives, as well as to multiple essential minerals of which Russia is a leading exporter.

Although Russia's main energy revenues come from the sale of oil and its derivatives, the European Union gave special attention to gas, due to its technical and political peculiarities in trade. The latter was also considered strategic for the transition to a greener economy, as it was previously perceived as a relatively less environmentally damaging fossil fuel that could contribute to lower emissions through its use in place of coal and oil in various areas, as well as being seen as a reserve for renewable energy systems.

In Europe, gas supplies have historically depended on pipeline deliveries from neighbouring countries such as Russia, Norway and Algeria, and to a lesser extent on imports of liquefied natural gas (LNG) transported by sea. In fact, pipeline deliveries were plentiful until the autumn of 2021 and less expensive than LNG. As a result, the gas market in Europe has remained essentially local, with LNG imports from other continents playing a limited role until recently[66]. This has given a marked influence to the major distributors operating via pipelines, such as Russia.

The energy crisis that began in the second half of 2021 has challenged this dynamic and the Russian aggression against Ukraine has shaken it even more deeply, converting customary conceptions (especially in the larger members of the Union) of the major gas distributor from a secure source to a security risk[67].

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[66] Marco Siddi Leading Researcher, Siddi, M., & Researcher, L. (2022, October 18). Assessing the European Union's Repowereu Plan. FIIA. https://www.fiia.fi/en/publication/assessing-the-european-unions-repowereu-plan

[67] Boersma, T. (2015). Energy Security and Natural Gas Markets in Europe. https://doi.org/10.4324/9781315758596

Therefore, as pointed out in the previous chapter, the renewed concern for Europe's security and geopolitical dynamics have become key elements for the Union's policy orientation towards an early diversification of import sources, the encouragement of energy savings and a fast evolution towards more sustainable energy sources.

4.2. *Addressing the Energy Efficiency Gap:* Strategies and Challenges in the EU

Since the European Union is heavily dependent on imports to cover its needs for oil and gas, a decrease in demand will directly imply a decrease in import needs. In this context, the REPowerEU Plan aims to increase the energy efficiency target and to revise the Member States' National Energy and Climate Plans accordingly. On this matter the most relevant pirce of legislation is represented by the Energy Efficiency Directive (EED)[68].

The Union adopted the EED as a legislative framework to improve energy efficiency among its member states. By the deadlines specified, the EU must reduce its primary and final energy consumption by the percentages set forth in this directive. Periodically, these goals are examined and revised to better reflect the EU's more comprehensive energy and climate goals.

National Energy Efficiency Action Plans (NEEAPs), which outline the policies and initiatives each nation will take to accomplish the targeted increases in energy efficiency, must be written, submitted, and implemented by all member nations[69]. In order to find opportunities for efficiency gains, the directive also requires big businesses to perform routine energy audits. It also promotes the implementation of energy management systems.

Furthermore, the public sector is required to set an example by improving the energy efficiency of its buildings and acquiring energy-saving goods and services. In order to

[68] *Energy efficiency directive*. Energy. (n.d.). https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficiency-targets-directive-and-rules/energy-efficiency-directive_en

[69] Zangheri, P., Economidou, M., & Labanca, N. (2019). Progress in the implementation of the EU Energy Efficiency Directive through the lens of the National Annual Reports. *Energies*, *12*(6), 1107. https://doi.org/10.3390/en12061107

help customers better regulate and minimise their energy use, the EED makes sure that they have improved rights to timely and reliable information about it.

The directive also promotes the reuse of waste heat and cold produced by industrial or other operations by accelerating the efficiency of heating and cooling networks.

Together with the Energy Performance of Buildings Directive (EPBD)[70], the Plan emphasises the renovation of buildings, a sector with vast potential for improvement across the European continent.

This last point is particularly critical because in some countries, such as Italy and Spain, the real estate market is largely composed of historic properties that are particularly difficult to remodel and upgrade[71]. In these countries, in fact, the EPBD has led to negative distorting effects on the housing market. In Italy, for example, houses considered energy-inefficient, thus of low energy class, have not appreciated in value while new houses, thus of a tendentially high energy class, have increased in price exponentially. The rift has remote origins and is widening. Between 2010 and the end of 2023, the value of existing homes decreased by 8.8 percent, while the value of new construction increased by 24.4 percent[72]. The differences vary, as obvious, by city and area. The most critical situations, however, are found in urban centers with high population density. In these urban areas, the price difference between new and historic properties hardly falls below 30 percent. In the 2 major Italian cities, Rome and Milan, the price difference averages 32% and 38%, respectively[73]. That means tens and hundreds of thousands of euros for buyers.

As a result of all this, to make matters even worse, many banking institutions are altering loan proposals based on the energy efficiency of properties: less environmentally friendly homes are unlikely to increase in value, so loan terms are getting worse. Many banks are

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[70] Energy Performance of Buildings directive. Energy. (n.d.-b). https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/energy-performance-buildings-directive_en

[71] Up, B. (2019, December 26). Assessment of second long-term renovation strategies under the Energy Efficiency Directive. construction21.org. https://www.construction21.org/articles/h/assessment-of-second-long-term-renovation-strategies-under-the-energy-efficiency-directive.html

[72] TG24, S. (n.d.). *Case green, Salgono I Prezzi: Fino a 40% in più di Quelle "Inquinanti."* Case green in Italia, gli effetti sul mercato immobiliare: si amplia il divario prezzi tra classi energetiche. https://tg24.sky.it/economia/2024/03/26/vendita-case-green-prezzi

[73] STV, R. (2024, April 2). Case green: Ci sarà uno stravolgimento del mercato immobiliare?. Studio Tecnico Varrà - News. https://studiotecnicovarra.it/news/case-green-ci-sara-uni-stravolgimento-del-mercato-immobiliare/

offering so-called "green mortgages" for class A and B properties, and in some cases even for class C. According to an analysis by Facile.it, the most advantageous rate can be 2.68 percent, while for lower energy classes it does not fall below 3 percent, resulting in a difference of more than 10 percent.

These circumstances signal a problem in the standards imposed by the EPBD. It is important to remember in relation to energy efficiency that houses are categorized into seven classes: from A (the best class) to G (the worst).

By 2030, residential buildings must achieve at least in energy class E and then arrive to class D in 2033[74].

Clearly, achieving these goals is more or less difficult for EU countries depending on how their housing sector is composed. For this reason, a diversification of the timeline for achieving these standards should be made among the different countries depending on the historicity of each country's housing sector.

4.3. *Energy Diplomacy in Action:* The EU's Strategy to Diversify Gas Imports in the REPowerEU Plan

The REPowerEU plan aims to diversify the union's partners in terms of gas imports. This is in order to reduce dependence on imported Russian gas, which until 2022 corresponded to more than half of the gas consumed in the union. Specifically, the plan calls for an increase in imports of 10 billion cubic meters of non-Russian gas and 50 billion cubic meters of LNG that is expected to arrive in Europe via gas carriers.

This clearly entails an increase in receiving facilities and thus the construction of new terminals and pipelines for internal transport within the union.

This last point could be critical as there is a possibility of a diversion of investment on renewables to facilities to increase gas-capacity[75].

[74] Agedi. (2023, March 6). *The Energy Performance of Buildings Directive (EPBD): A reflection on Italy and France*. Agedi Group. https://agedigroup.com/en/2023/03/06/the-energy-performance-of-buildings-directive-epbd-a-reflection-on-italy-and-france/

[75] Vezzoni, R. (2023). Green growth for whom, how and why? the repowereu plan and the inconsistencies of European Union Energy Policy. *Energy Research & Social Science*, *101*, 103134. https://doi.org/10.1016/j.erss.2023.103134

The European Commission has attempted to resolve this matter by suggesting that new LNG terminals might later serve for importing renewable hydrogen and ammonia. Nonetheless, the feasibility of this remains questionable. The danger of allocating public funds to substantial fossil fuel projects that may soon become obsolete or, in the worst case, ensnare the EU in new fossil fuel dependencies is significant. This concern was intensified by the Commission's move to categorize gas infrastructure investments within the EU's green taxonomy in 2022. Consequently, such investments can be presented and promoted as environmentally friendly, thereby garnering easier access to political and financial backing, albeit under certain stipulations.

In addition, from an environmental protection point of view, a large amount of imports by sea leads to a high environmental impact given by the CO2 emissions of the ships that transport the gas from the countries of origin (often far away) to a port of arrival in the union. In addition, as in the case of the United States, gas in some countries is extracted using particularly environmentally harmful techniques such as fracking, which is illegal in some union countries[76].

From a strategic point of view, on the other hand, new partnerships with countries such as Erdogan's Turkey (as a transit country) and Ilham Aliyev-ruled Azerbaijan could bring the union into a new position of energy dependence on these countries[77]. Given that one of the reasons for wanting to reduce imports from Russia is that Russia is a non-democratic state where there is no rule of law it is controversial how these conditions are not applied to the above-mentioned countries. Moreover, these countries are involved in critical geopolitical dynamics that could bring disruptions in imports from these countries.

The case of Algeria in this respect is the most critical and also the most emblematic given the tension with Morocco over control of the Western Sahara region.

Western Sahara spans a vast area in northwest Africa, bordered by Morocco, Mauritania, and Algeria. Originally a Spanish colony, the region is now contested between Morocco

[76] Marco Siddi Leading Researcher, Siddi, M., & Researcher, L. (2022, October 18). Assessing the European Union's Repowereu Plan. FIIA. https://www.fiia.fi/en/publication/assessing-the-european-unions-repowereu-plan

[77] Osička, J., & Černoch, F. (2022). European energy politics after Ukraine: The road ahead. Energy Research & Social Science, 91, 102757. https://doi.org/10.1016/j.erss.2022.102757

and the Polisario Front, with the latter proclaiming the Sahrawi Arab Democratic Republic as an independent entity[78].

Algeria supports the Polisario Front, and Italy has historically aligned with the Sahrawi people. The UN categorizes it as a "non-self-governing territory" due to the lack of a permanent resolution[79]. For many years, Morocco has controlled 80 percent of the area, contrary to the desires of the separatist movement. Rabat has offered a plan for self-governance under its control.

Spain, which receives gas from Algeria through two pipelines for about 15 billion cubic meters (corresponding to 47 percent of Spanish needs), took a pro-Moroccan position in 2022, calling "the Moroccan autonomy plan, presented in 2007, as the most serious, realistic and credible basis for resolving the dispute"[80].

The reason for this decision is to repel as much of the migratory flow as possible and to defend and expand extractive projects in the North African territory.

Algeria's response, of course, was not long in coming. The government in Algiers immediately broke the friendship agreement with the country led by Pedro Sanchez and increased the price of gas supplies through the Medgaz pipeline.

This event confirms Algeria's use of energy supply as a political weapon, creating the same situation seen with Russia. A circumstance that the Union, through the REPowerEU plan wants to avoid.

The European Commission, through the High Representative for Foreign and Security Policy, Josep Borrell, reassured on the issue. He affirmed that: "The EU has consistently worked to strengthen its partnership with Algeria, focusing on the priorities set out in the Association Agreement. Moreover, following the EU's decision to cut its gas imports from

[78] Fabiani, R. (2023, October 9). *The Western Sahara Conflict: A fragile path to negotiations*. ISPI. https://www.ispionline.it/en/publication/the-western-sahara-conflict-a-fragile-path-to-negotiations-137512

[79] United Nations. (n.d.). Western Sahara | The United Nations and decolonization. United Nations. https://www.un.org/dppa/decolonization/en/nsgt/western-sahara

[80] France 24. (2022, April 7). Morocco's autonomy plan for the western sahara. https://www.france24.com/en/live-news/20220407-morocco-s-autonomy-plan-for-the-western-sahara

Russia, Algeria has committed to increase its gas supplies to Europe in 2022 and subsequent years"[81].

The EU's strategy certainly has its own logic. Algeria remains part of the Organization of the Petroleum Exporting Countries (Opec). It is true that the Union has chosen the path of sustainability and moving away from fossil fuels, but in the transition having privileged interlocutors within the group that sets crude barrel prices can be a strength.

The situation, however, is highly controversial, as the commission has always favored the Moroccan side in dealing with the Saharawis, drawing up with the Rabat government a series of bilateral agreements on the export of agricultural products often from the Western Sahara region to European countries[82]. The Union is the African country's largest trading partner, and this is the largest for Europe, if the North African states are considered. European imports from Morocco are estimated at €15.2 billion, of which 2.5 (16.2%) are agricultural products. The first agreement for a free trade area between the two was signed in 1996 and was followed by a series of other specific treaties[83].

The conflict of interest for the Union is clear and obvious and shows how gas agreements with countries involved in critical geopolitical situations put the Union in a position of total weakness as it is exposed to blackmail by them.

4.4. *Energy Independence in the EU:* Physical and Legislative Barriers to Strategic Autonomy

The Algerian case shows how in the energy sphere there are two constraints that make policymaking particularly critical for the union this field. The first is physical in nature, as there are no countries among the union countries that are particularly rich in terms of natural resources. This leads to an inevitable dependence on external actors, both in the case of energy derived from fossil fuels and in the case of solar energy since the

[81] Https://www.europarl.europa.eu/doceo/document/E-9-... Press Corner. (2023, March 7). https://www.europarl.europa.eu/doceo/document/E-9-2023-000749-ASW_EL.docx
[82] Lovatt, H. (2021, September 30). Western Sahara, Morocco, and the EU: How good law makes good politics. ECFR. https://ecfr.eu/article/western-sahara-morocco-and-the-eu-how-good-law-makes-good-politics/
[83] Morocco. Morocco - ISS African Futures. (n.d.). https://futures.issafrica.org/geographic/countries/morocco/

production of photovoltaic panels requires the use of minerals such as germanium, which is present in very scarce quantities in the union[84].

The second constraint, on the other hand, is legislative in nature. Once the first physical limit is considered and accepted, in order to maximize its energy choices, a single, coordinated approach would be essential for the union. However, this is often hampered by the fact that according to Art. 4(2) TEU energy is considered a shared competence and therefore, as stated in Art. 194 (2) TFEU, states remain free in choosing their energy mix and the country from which to import their energy sources. This leads to a collective action problem in which energy decisions are characterized by conflicts of interest instead of the principle of solidarity.

The instrument used so far by the Union in order to operate in a more coordinated way in times of geopolitical crises has been Art.122 (1) TFEU. This article corresponds to former Art.103 EEC and was amended once it was introduced in the TFEU (TITLE VIII) and gives the council the possibility to take appropriate economic measures in order to deal with severe supply disruptions after a proposal of the EC and with a qualified majority[85].

Previous judicial decisions have demonstrated that the Council possesses significant latitude in its actions under what is currently known as Article 122(1) TFEU.

In fact, this instrument was crucial in the 1970s in order to act in response of the oil crisis. In 2022, in the case of the energy crisis caused by the Russian invasion of Ukraine, the script was not dissimilar. The Council has acted on the basis of Article 122 (1) by drafting pieces of legislation such as Regulation 2022/1369 and Regulation 2022/1854 to coordinate energy actions across the Union[86].

Clearly the situation is controversial. The use of Article 122 (1) clearly presupposes extraordinary situations and thus of temporary solutions. Often, however, regulations

[84] What are gallium and germanium and which countries are producers? | Reuters. (n.d.). https://www.reuters.com/markets/commodities/where-are-strategic-materials-germanium-gallium-produced-2023-07-04/

[85] Hancher, L., & de Hauteclocque, A. (2024). Strategic autonomy, REPowerEU and the internal energy market: Untying the gordian knot. Common Market Law Review, 61(Issue 1), 55–92. https://doi.org/10.54648/cola2024003

[86] Hancher, L. (2023, February 8). Solidarity on Solidarity Levies and a choice of energy mix: A sound legal basis for emergency action in the EU's energy markets. Verfassungsblog. https://verfassungsblog.de/solidarity-on-solidarity-levies-and-a-choice-of-energy-mix/

enacted under this article have long-term and permanent effects that impact the energy choices of member states.

Essentially, the only situation in which the EU succeeds in directing and coordinating the energy policies of the member states in an instrumental way for the purposes of the union is when there is a supply crisis condition. This is why the energy crisis is often portrayed as a great opportunity for the union to accelerate toward the energy transition.

Consequently, given the wide discretion available to the Council, the use of Article 122 (1) has often been the subject of legal disputes. The latest episode was the pending Case C-675/22, Poland v. Council over Regulation 2022/1369 regarding coordinated demand-reduction measures for gas[87].

In this case the applicant is seeking to invalidate the entire disputed regulation, and if the Court of Justice affirms its legal foundation, then specifically to overturn Article 5(1) and (2) of the same regulation.

In its legal challenge, Poland presents three arguments: firstly, it contends that the legal foundation for enacting the regulation (Article 122(1) TFEU) is flawed, as it significantly impacts a Member State's ability to select among various energy sources and affects the overall framework of its energy infrastructure, suggesting that Article 192(2)(c) TFEU, which requires a special legislative process involving unanimous Council decisions, is more suitable; secondly, Poland claims that the regulation violates the principle of legal certainty by endowing EU bodies with the discretionary authority to initiate a Union alert without clarifying how the regulation's measures will fulfill its aims; and thirdly, Poland argues that the regulation contravenes the principle of energy solidarity[88].

Lastly, it is possible to say, given recent events as well, that in the area of energy policies there is a structural flaw in the decision- making process of the union. Given that a country's energy choices do not only affect the country itself but often affect other countries in the European community, both for pollution and strategic reasons. An uncoordinated approach allows outside actors to dominate and control the European

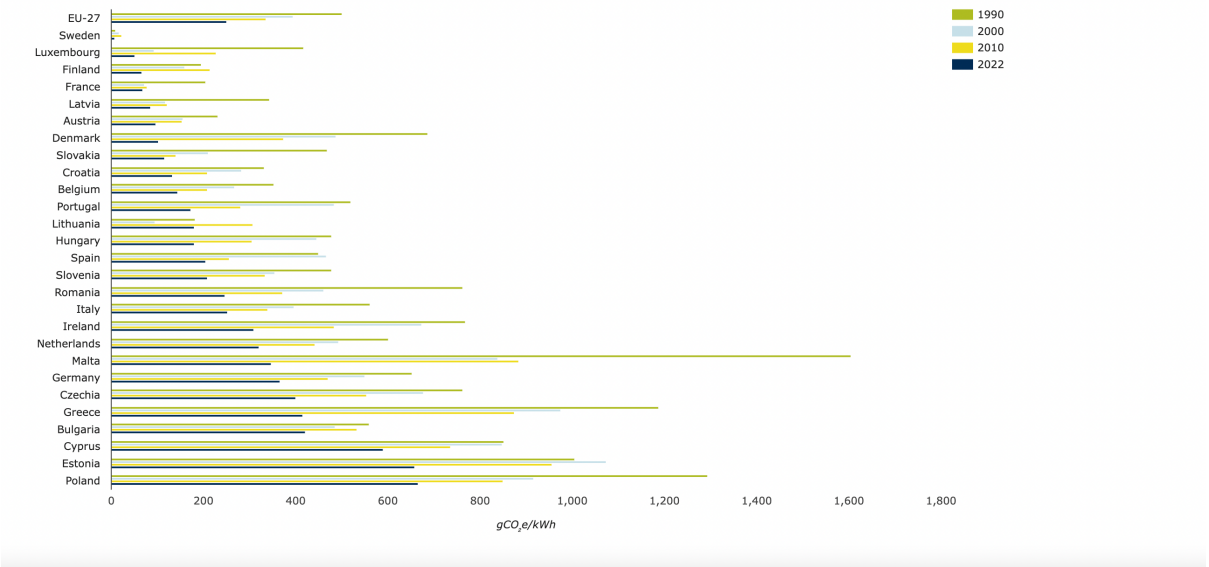
[87] Case C-675/22: Action brought on 2 November 2022 - EUR-Lex. (n.d.-a). https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:62022CN0675

[88] Action brought against Council by Poland over regulation on coordinated demand-reduction measures for Gas . EU Law Live. (2023, January 9). https://eulawlive.com/action-brought-against-council-by-poland-over-regulation-on-coordinated-demand-reduction-measures-for-gas/

energy market by disrupting it for its own purposes such as Russia has been doing for the past few years.

Given the lack of raw materials within the countries of the European community, the only way the union can avoid dependencies on external actors in the energy sector is to have a single, coordinated approach when enacting energy policies.

Moreover, this approach is key to achieving a green transition in the sector. In fact given the competence regarding the choice of the energy mix left to the member states by Article 194 (2), extremely different realities have been generated in energy production over time and therefore also with extremely different environmental impacts as shown in the graph below produced by the European Environment Agency[89].



The graph firstly shows that on a general level there is a general improvement regarding the level of emissions per kwh from power plants used for electricity production. At the same time, however, the huge differences between some states show how choices about the energy mix have a macroscopic impact on the amount of CO2 per kWh produced.

[89] Greenhouse gas emission intensity of electricity generation in Europe. European Environment Agency's home page. (n.d.). https://www.eea.europa.eu/en/analysis/indicators/greenhouse-gas-emission-intensity-of-1

Looking at the most extreme case, the greenhouse gas (GHG) emission intensity of Sweden in 2022 was 7 grams of CO2/kWh. In the same year Poland's greenhouse gas (GHG) emission intensity was 666 grams of CO2/kWh. This indicator is more than 95 times higher than the one of Sweden[90].

This means that in energy production, thanks to the autonomy in the choice of energy mix guaranteed by Article 194 (2), one country in the union (in this case Poland) pollutes 95 times more than another (Sweden).

Clearly countries like Poland at this point given the many fossil fuel energy production facilities already on its territory has no intention of revolutionizing its energy sector as this would entail immense costs.

The European Union's capability, both politically, organizationally, and practically, to independently follow a feasible route towards an energy composition free from carbon emissions is defined in the 2024 Common Market Law Review as Strategic Energy Autonomy (SEA). The authors in this text pose the question of how the Union can get to the SEA.

In conclusion, the answer to their question: *"Can the rights of a Member State to choose its energy mix be temporarily or even permanently set aside in the interests of solidarity? Or will a different set of instruments and a new division of competences be needed to allow the EU to reach SEA and realize its climate ambitions?"*[91] is that in order to achieve its climate ambitions and avoid dependence on external actors, a radical change in the division of competencies within the union regarding energy choices is necessary and essential. Until there is a more centralized approach in Europe, policies in this area will often remain ineffective and characterized by internal conflicts of interest.

[90] Greenhouse gas emission intensity of electricity generation in Europe. European Environment Agency's home page. (n.d.). https://www.eea.europa.eu/en/analysis/indicators/greenhouse-gas-emission-intensity-of-1

[91] Hancher, L., & de Hauteclocque, A. (2024). Strategic autonomy, REPowerEU and the internal energy market: Untying the gordian knot. Common Market Law Review, 61(Issue 1), 55–92. https://doi.org/10.54648/cola2024003

Conclusion

The development of European environmental legislation shows how committed the EU is to tackle environmental issues with all-encompassing and cutting-edge measures. The European Union (EU) has consistently combined environmental preservation with economic growth, establishing a global benchmark for sustainability, starting with the First Environmental Action Programme in the 1970s and continuing with the innovative European Green Deal (EGD) of 2019.

The Single European Act, which legally included environmental policy into EU legislation, and the ensuing action programmes that emphasised the significance of sustainable development were among the significant turning points in the historical evolution of EU environmental law that were traced in Chapter 1. The foundation for the EU's more ambitious climate policies in the twenty-first century was built by these pioneering activities.

A thorough analysis of the European Green Deal was given in Chapter 2, with special attention to the legal commitments it enshrines and its strategic framework. The EU is a global leader in climate policy, as demonstrated by the EGD's goal of becoming carbon neutral by 2050, which is backed by extensive legislative measures including the Fit for 55 Package and the Climate Law as well as scientific facts.

In Chapter 3, the EGD's ability to withstand and its weaknesses in the face of current crises like the COVID-19 epidemic and the conflict in Ukraine were discussed. It emphasised how crucial it is to have strong institutional frameworks, strong political commitment, and strong economic incentives in order to keep the EGD moving forward. In addition, the chapter discussed possible dangers like the politicisation of environmental laws and provided suggestions for maintaining the EU's transition to a green economy.

The RepowerEU effort, which aims to improve the EU's energy security and sustainability, was the subject of Chapter 4. It looked at ways to diversify petrol imports, increase energy efficiency, and lessen reliance on outside energy sources. In order to guarantee the strategic independence and environmental sustainability of the EU, this chapter underlined the necessity of coherent and progressive energy policy.

In conclusion, the green transition is and will be at the heart of the policies of the European Union and all its member states, in all sectors. Indeed, its transversality represents a particularly challenging and, at times, controversial aspect. It is about radically changing the way citizens consume and produce. How to achieve this goal? This is the question European policymakers have asked themselves, are asking themselves, and will ask themselves in the future. The absence of historical precedents from which to draw inspiration makes this a unique moment with totally unpredictable outcomes. In this context, it is possible to say that the work done so far by the European Union is admirable, precisely because it is unprecedented. The difficulties, as analyzed in the course of this dissertation, are innumerable and sometimes seem to present problems without real solutions and the blanket is often too short. However, a fundamental question must be asked: what other option do we have? The scientific data are clear and point out that there is no turning back now. At this point, human beings, faced with a real existential threat, have no choice but to try what is possible. Only time will tell whether our efforts will be sufficient but, in the meantime, we will have done all we can to save ourselves.

For this reason, European citizens should be proud to have institutions that are undeniably doing their best to meet this challenge.

Bibliography

Academic References:

- Boersma, T. (2015). Energy Security and Natural Gas Markets in Europe. https://doi.org/10.4324/9781315758596
- Coelho, S. T., Perecin, D., Rei, F., Escobar, J. F., Freiria, R. C., & Kimura, W. J. (2022). Bioenergy Policies Worldwide. Comprehensive Renewable Energy, 1–21. https://doi.org/10.1016/b978-0-12-819727-1.00040-6
- Dupont, C., & Oberthür, S. (2012). Insufficient climate policy integration in EU Energy policy: The importance of the long-term perspective. Journal of Contemporary European Research, 8(2). https://doi.org/10.30950/jcer.v8i2.474
- Eckert, S. (2021). The European Green Deal and the EU's regulatory power in times of crisis. JCMS: Journal of Common Market Studies, 59(S1), 81–91. https://doi.org/10.1111/jcms.13241
- Gheuens, J., & Oberthür, S. (2021). EU Climate and Energy Policy: How Myopic is it? Politics and Governance, 9(3), 337–347. https://doi.org/10.17645/pag.v9i3.4320
- GUIVARCH, C., MONJON, S., ROZENBERG, J., & VOGT-SCHILB, A. (2015). Would climate policy improve the European Energy Security? Climate Change Economics, 06(02), 1550008. https://doi.org/10.1142/s2010007815500086
- Halmaghi, E.-E. (2016). Environmental action programmes of the European Union – programmes supporting the Sustainable Development Strategy of the European Union. Scientific Bulletin, 21(2), 87–90. https://doi.org/10.1515/bsaft-2016-0040
- Haigh, N. (2016). EU environmental policy: Its journey to centre stage.

- Hancher, L., & de Hauteclocque, A. (2024). Strategic autonomy, REPowerEU and the internal energy market: Untying the gordian knot. Common Market Law Review, 61(Issue 1), 55–92. https://doi.org/10.54648/cola2024003
- Hey, C. (1AD). III. EU environmental policies: A short history of the policy strategies. EU Environmental Policy Handbook. AEI Banner. http://aei.pitt.edu/98675/
- Kulovesi, K., Morgera, E., & Muñoz, M. (2011). Environmental integration and multi-faceted international dimensions of EU law: Unpacking the EU's 2009 Climate and energy package. Common Market Law Review, 48(Issue 3), 829–891. https://doi.org/10.54648/cola2011034
- Marco Siddi Leading Researcher, Siddi, M., & Researcher, L. (2022, October 18). Assessing the European Union's Repowereu Plan. FIIA. https://www.fiia.fi/en/publication/assessing-the-european-unions-repowereu-plan
- Orlando, E. (2013, April). The evolution of EU policy and Law in the environmental ... https://www.iai.it/sites/default/files/TW_WP_21.pdf
- Osička, J., & Černoch, F. (2022). European energy politics after Ukraine: The road ahead. Energy Research & Social Science, 91, 102757. https://doi.org/10.1016/j.erss.2022.102757
- Raimondi, P. P., Bianchi, M., Sartori, N., & Lelli, M. (2023, June 27). The external dimension of the green deal, between cooperation and competition. IAI Istituto Affari Internazionali. https://www.iai.it/en/pubblicazioni/external-dimension-green-deal-between-cooperation-and-competition
- Sgravatti, G., Tagliapietra, S., Trasi, C., Zachmann, G., & McWilliams, B. (2024, April 3). National fiscal policy responses to the energy crisis. Bruegel. https://www.bruegel.org/dataset/national-policies-shield-consumers-rising-energy-prices
- Vezzoni, R. (2023). Green growth for whom, how and why? the repowereu plan and the inconsistencies of European Union Energy

Policy. Energy Research & Social Science, 101, 103134. https://doi.org/10.1016/j.erss.2023.103134

- Von Homeyer, I., Oberthür, S., & Jordan, A. J. (2021). EU climate and energy governance in times of crisis: Towards a new agenda. Journal of European Public Policy, 28(7), 959–979. https://doi.org/10.1080/13501763.2021.1918221
- Zangheri, P., Economidou, M., & Labanca, N. (2019). Progress in the implementation of the EU Energy Efficiency Directive through the lens of the National Annual Reports. Energies, 12(6), 1107. https://doi.org/10

Newspaper References:

- 2023, 31 Jul, Wettengel, J., 2023, 09 Jun, 2023, 19 Jun, 2023, 17 Jul, & Wehrmann, B. (2023, July 31). Far-right AFD lead candidate for EU election rejects green deal. Clean Energy Wire. https://www.cleanenergywire.org/news/far-right-afd-lead-candidate-eu-election-rejects-green-deal
- 2024, 10 Apr, Kerstine Appunn Julian Wettengel, Appunn, K., Wettengel, J., 2023, 02 Feb, Wettengel, K. A., 2024, 26 Mar, 2024, 07 Feb, Wettengel, F. Q., & Quecke, F. (2024, April 10). Understanding the European Union's Emissions Trading Systems (EU ETS). Clean Energy Wire. https://www.cleanenergywire.org/factsheets/understanding-european-unions-emissions-trading-system
- Andrés, P. (2023, December 11). Low-speed zone: Europe's Super Crops Revolution hits bottleneck. POLITICO. https://www.politico.eu/article/gmo-agriculture-farming-low-speed-zone-europes-super-crops-revolution-hits-bottleneck/
- Bourgery-Gonse, T. (2023, June 4). Green deal: EU's Timmermans Rules Out "break" in the green transition. www.euractiv.com.

https://www.euractiv.com/section/energy-environment/news/green-deal-eus-timmermans-rules-out-break-in-the-green-transition/

- Evaluation and support for impact assessment of the effort sharing decision (ESD). Trinomics. (2019, January 8). https://trinomics.eu/project/evaluation-and-support-for-impact-assessment-of-the-effort-sharing-decision-esd/
- Fabiani, R. (2023, October 9). The Western Sahara Conflict: A fragile path to negotiations. ISPI. https://www.ispionline.it/en/publication/the-western-sahara-conflict-a-fragile-path-to-negotiations-137512
- Messad, P. (2023, May 12). Macron calls for "regulatory break" in EU green laws to help industry. www.euractiv.com. https://www.euractiv.com/section/energy-environment/news/macron-calls-for-regulatory-break-in-eu-green-laws-to-help-industry/?_ga=2.58900269.1253225163.1685421643-896325372.1652691269
- Mooney, A. (2021, October 27). Al gore launches climate change asset manager. Financial Times. Retrieved April 8, 2023, from https://www.ft.com/content/c109225a-4702-4164-90be-3b3c2886a508.
- Polizzi, F. (2022, July 7). Gli agricoltori Olandesi agitano i Forconi contro il piano per la transizione. Domani. https://www.editorialedomani.it/fatti/gli-agricoltori-olandesi-agitano-i-forconi-contro-il-piano-per-la-transizione-akmxutl3
- Quari, S. (2023, June 12). The revision of the LULUCF Regulation: Making Europe's countryside "fit for 55." Diritti Comparati. https://www.diritticomparati.it/the-revision-of-the-lulucf-regulation-making-europes-countryside-fit-for-55/

Other References:

- “do no significant harm” definitions and criteria across the EU ... (n.d.-a). https://www.esma.europa.eu/sites/default/files/2023-11/ESMA30-379-2281_Note_DNSH_definitions_and_criteria_across_the_EU_Sustainable_Finance_framework.pdf
- Action brought against Council by Poland over regulation on coordinated demand-reduction measures for Gas. EU Law Live. (2023, January 9). https://eulawlive.com/action-brought-against-council-by-poland-over-regulation-on-coordinated-demand-reduction-measures-for-gas/
- Agedi. (2023, March 6). The Energy Performance of Buildings Directive (EPBD): A reflection on Italy and France. Agedi Group. https://agedigroup.com/en/2023/03/06/the-energy-performance-of-buildings-directive-epbd-a-reflection-on-italy-and-france/
- Alcaro, R., Gallelli, B., Giuli, M., & Mikhelidze, N. (2022, August 30). Focus Euroatlantico n. 20 (Febbraio-Luglio 2022). IAI Istituto Affari Internazionali. https://www.iai.it/it/pubblicazioni/focus-euroatlantico-n-20-febbraio-luglio-2022
- Borré, L. (2022, December 9). Next generation EU: A paradigm shift in European mobility?. ISPI. https://www.ispionline.it/en/publication/next-generation-eu-paradigm-shift-european-mobility-34978
- Carbon Border Adjustment Mechanism. Taxation and Customs Union. (n.d.). https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en
- Case C-675/22: Action brought on 2 November 2022 - EUR-Lex. (n.d.-a). https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:62022CN0675
- EEA Greenhouse Gases - Data viewer. European Environment Agency. (2023a, May 8). https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer
- Effort sharing 2021-2030: Targets and flexibilities. Climate Action. (n.d.-a). https://climate.ec.europa.eu/eu-action/effort-sharing-member-

states-emission-targets/effort-sharing-2021-2030-targets-and-flexibilities_en

- Energy efficiency directive. Energy. (n.d.-a). https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficiency-targets-directive-and-rules/energy-efficiency-directive_en
- Energy Performance of Buildings directive. Energy. (n.d.-b). https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/energy-performance-buildings-directive_en
- Environment in the European Union - 1995 - report for the review of the Fifth Environmental Action Programme. European Environment Agency. (2016, June 28). https://www.eea.europa.eu/publications/92-827-5263-1
- ETS2: Buildings, road transport and additional sectors. Climate Action. (n.d.-b). https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/ets2-buildings-road-transport-and-additional-sectors_en
- European Climate Law. Climate Action. (n.d.-c). https://climate.ec.europa.eu/eu-action/european-climate-law_en
- European Green deal - consilium. (n.d.-b). https://www.consilium.europa.eu/en/policies/green-deal/
- European Regional Development Fund (ERDF) and Cohesion Fund. Internal Market, Industry, Entrepreneurship and SMEs. (n.d.-a). https://single-market-economy.ec.europa.eu/sectors/tourism/eu-funding-and-businesses/funding-guide/european-regional-development-fund-erdf-and-cohesion-fund_en
- Farm to fork strategy. Food Safety. (n.d.-a). https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy_en
- France 24. (2022, April 7). Morocco's autonomy plan for the western sahara. https://www.france24.com/en/live-news/20220407-morocco-s-autonomy-plan-for-the-western-sahara
- Fuel quality. Climate Action. (n.d.). https://climate.ec.europa.eu/eu-action/transport/fuel-quality_en#:~:text=The%20Fuel%20Quality%20Directive%20required,the%20revised%20Renewable%20Energy%20Directive%20.

- Governments caught off guard by von der leyen's U-turn on pesticides. euronews. (n.d.-a). https://www.euronews.com/green/2024/02/06/governments-caught-off-guard-by-von-der-leyens-u-turn-on-pesticide-cuts
- Greenhouse gas emission intensity of electricity generation in Europe. European Environment Agency's home page. (n.d.). https://www.eea.europa.eu/en/analysis/indicators/greenhouse-gas-emission-intensity-of-1
- Greenpeace European Unit. (n.d.). European Green deal misses the mark. https://www.greenpeace.org/eu-unit/issues/climate-energy/2517/european-green-deal-misses-the-mark/
- Growth without economic growth. European Environment Agency. (2023b, April 20). https://www.eea.europa.eu/publications/growth-without-economic-growth
- Horizon Europe. Research and innovation. (n.d.). https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en
- Press Corner. (2023, March 7) https://www.europarl.europa.eu/doceo/document/E-9-2023-000749-ASW_EL.docx
- Iea. (n.d.-a). Cross-border energy infrastructure, new rules for ten-E – policies. IEA. https://www.iea.org/policies/13642-cross-border-energy-infrastructure-new-rules-for-ten-e
- Iea. (n.d.-b). European Climate Law – Policies. IEA. https://www.iea.org/policies/11705-european-climate-law
- Iea. (n.d.-c). Greenhouse gas emissions from Energy Data Explorer – Data Tools. IEA. https://www.iea.org/data-and-statistics/data-tools/greenhouse-gas-emissions-from-energy-data-explorer
- Iea. (n.d.-d). Net zero by 2050 – analysis. IEA. https://www.iea.org/reports/net-zero-by-2050

- Industry, R. (2020, January 16). What is the Green Deal Investment Plan?. Recycling Industry. https://www.recyclind.com/eng/2996/whatisthegreendealinvestmentplan/
- Just transition mechanism. (n.d.-c). https://errin.eu/system/files/2020-05/just-transitionmechanismcharalambous.pdf
- L'action climatique : Un enjeu macroéconomique. Accueil. (n.d.). https://www.strategie.gouv.fr/node/5776
- Legal provisions of com(2023)657 - implementation of directive 2009/31/EC on the geological storage of carbon dioxide - main contents. Legal provisions of COM(2023)657 - Implementation of Directive 2009/31/EC on the Geological Storage of Carbon Dioxide - EU monitor. (n.d.). https://www.eumonitor.eu/9353000/1/j4nvhdfcs8bljza_j9vvik7m1c3gyxp/vm7ligfgjfz0#:~:text=The%20CCS%20Directive%20aims%20to,transport%20network%20or%20storage%20sites.
- Life programme. Internal Market, Industry, Entrepreneurship and SMEs. (n.d.-b). https://single-market-economy.ec.europa.eu/industry/strategy/hydrogen/funding-guide/eu-programmes-funds/life-programme_en
- Lovatt, H. (2021, September 30). Western Sahara, Morocco, and the EU: How good law makes good politics. ECFR. https://ecfr.eu/article/western-sahara-morocco-and-the-eu-how-good-law-makes-good-politics/
- Mambro, A. D. (2024, March 4). Map: Farmers protests lead to concessions almost everywhere. www.euractiv.com. https://www.euractiv.com/section/agriculture-food/news/snapshot-of-farmers-protests-and-its-not-over/
- Morocco. Morocco - ISS African Futures. (n.d.). https://futures.issafrica.org/geographic/countries/morocco/
- National Energy and Climate Plans. European Commission. (n.d.-a). https://commission.europa.eu/energy-climate-change-environment/implementation-eu-countries/energy-and-climate-

governance-and-reporting/national-energy-and-climate-plans_en#final-necps

- Ondernemen, A. I. &. (n.d.). EU funding overview. EU Funding Overview. https://eufundingoverview.be/funding/investeu-programme
- Over half of von der leyen's food policy promises weren't met, analysis shows. euronews. (n.d.-b). https://www.euronews.com/my-europe/2024/02/19/over-half-of-von-der-leyens-food-policy-promises-werent-met-analysis-shows
- Repowereu. European Commission. (n.d.). https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/repowereu-affordable-secure-and-sustainable-energy-europe_en
- Scientists support the EU's green deal and reject the unjustified argumentation against the sustainable use regulation and the Nature Restoration Law. Zenodo. (n.d.). https://zenodo.org/records/8128624
- STV, R. (2024, April 2). Case green: Ci sarà uno stravolgimento del mercato immobiliare?. Studio Tecnico Varrà - News. https://studiotecnicovarra.it/news/case-green-ci-sara-uni-stravolgimento-del-mercato-immobiliare/
- Sustainable use of pesticides. Food Safety. (n.d.-b). https://food.ec.europa.eu/plants/pesticides/sustainable-use-pesticides_en
- Swedish Institute for european policy studies. Sieps. (n.d.). https://www.sieps.se/en/
- TG24, S. (n.d.). Case green, Salgono I Prezzi: Fino a 40% in più di Quelle "Inquinanti." Case green in Italia, gli effetti sul mercato immobiliare: si amplia il divario prezzi tra classi energetiche. https://tg24.sky.it/economia/2024/03/26/vendita-case-green-prezzi
- The European Green deal. European Commission. (n.d.-b). https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en
- The repowereu plan explained - consilium.europa.eu. (n.d.-d). https://www.consilium.europa.eu/en/infographics/repowereu/

- United Nations. (n.d.-a). Agenda 21 .:. sustainable development knowledge platform. United Nations. https://sustainabledevelopment.un.org/outcomedocuments/agenda21
- United Nations. (n.d.). Transforming our world: The 2030 agenda for sustainable development | department of economic and social affairs. United Nations. https://sdgs.un.org/2030agenda
- United Nations. (n.d.). Western Sahara | The United Nations and decolonization. United Nations. https://www.un.org/dppa/decolonization/en/nsgt/western-sahara
- Up, B. (2019, December 26). Assessment of second long-term renovation strategies under the Energy Efficiency Directive. construction21.org. https://www.construction21.org/articles/h/assessment-of-second-long-term-renovation-strategies-under-the-energy-efficiency-directive.html
- What are gallium and germanium and which countries are producers? | Reuters. (n.d.-b). https://www.reuters.com/markets/commodities/where-are-strategic-materials-germanium-gallium-produced-2023-07-04/