

THE EUROPEAN GREEN DEAL – CAN IT REALLY BE EUROPE’S MAN ON THE MOON?

Code:
KFM123

Budapest
2024.06.10.

TABLE OF CONTENTS

LIST OF ABBREVIATIONS.....	1
ABSTRACT	1
1. Introduction	1
2. Method.....	2
3. History of European climate change mitigation.....	3
4. The European Green Deal.....	6
4.1 Overview of the eight pillars of the European Green Deal.....	7
5. Assessment of the success of the European Green Deal.....	12
5.1 Net zero emissions of greenhouse gases by 2050.....	12
5.2 Supplying clean, affordable and secure energy	14
5.3 Creating a clean and circular economy.....	18
5.4 Efficient building and renovating.....	19
5.5 Accelerating the shift to sustainable and smart mobility	21
5.6 Farm to Fork.....	25
5.7 Ecosystem and biodiversity preservation and restoration	27
5.8 A zero pollution ambition for a toxic-free environment.....	30
6. Possible reasoning.....	34
6.1 War in Ukraine	34
6.2 COVID-19	35
7. Future path?	37
8. Conclusion.....	38
LIST OF FIGURES.....	41
BIBLIOGRAPHY	41

LIST OF ABBREVIATIONS

CEAP	Circular economy action plan
CMUR	Circular material use rate
COVID	Coronavirus disease
DG	Directorates-General
EAP	Environment Action Programme
EC	European Commission
ECFR	European Council on Foreign Relations
EGD	European Green Deal
EU	European Union
EV	Electric vehicle
GHG	Greenhouse gases
IEA	International Energy Agency
IPCC	Intergovernmental Panel on Climate Change
MPA	Marine protected areas
OECD	Organization for Economic Cooperation and Development
PVV	Partij voor de Vrijheid, Party for Freedom
SUR	Sustainable Use Regulation
SUV	Sports Utility Vehicle

ABSTRACT

Under President Ursula von der Leyen's direction, the European Commission started an ambitious 2019 journey to address urgent environmental concerns and put the EU on a sustainable path. The European Green Deal - which seemed to be the most expansive and ambitious integrated program of reform, investment, and research ever imagined by the European Union- an expansive and revolutionary program designed to achieve carbon neutrality, promote economic growth, and improve the welfare of EU citizens, was at the center of this endeavor. This research explores the subject from the perspective and tools of social science. Using both qualitative and quantitative methodologies, examining the numbers and targets set in the Green Deal, this paper analyzes the emergence of sustainability as an objective and its implementation in European Union policy. In light of the growing concerns about the environment and the pressing need to slow down global warming, the paper thoroughly examines the plans, programs, and tactics that the European Commission has implemented, seeking to offer an in-depth analysis of whether the European Green Deal has fulfilled its promises and whether the objectives set forth in 2019 have been accomplished.

1. Introduction

"The Earth is a fine place and worth fighting for.", said Ernest Hemingway, but can it rightfully be said that we are fighting for it? Are humans doing everything they can to preserve our homeland? Is climate change at the top of the agenda for all world leaders? Global public discourse surrounding decarbonization and climate policy has gained impetus, particularly in the European Union (EU), which has made a firm commitment to spearheading this global energy revolution. For European policymakers, it is becoming increasingly urgent to realize a low-carbon future and cut greenhouse gas (GHG) emissions to zero by the middle of the century.¹ Under President Ursula von der Leyen's direction, the European Commission started an ambitious 2019 journey to address urgent environmental concerns and put the EU on a sustainable path. The European Green Deal - which seemed to be the most expansive and ambitious integrated program of reform, investment, and research ever imagined by the European Union- an expansive and revolutionary program designed to achieve carbon neutrality, promote economic growth, and improve the welfare of EU citizens, was at the center

¹ Manfred Hafner, Pier Paolo Raimondi (2020) - Priorities and challenges of the EU energy transition: From the European Green Package to the new Green Deal [Access date: 2024.01.02.] Available at: <https://rujec.org/articles.php?id=55375>

of this endeavor. With the intention of encouraging a green transformation, the Green Deal is essentially a growth strategy, a chance to put Europe on a road toward inclusive and sustainable growth. Given the recent recession that followed the business closures caused by the Covid-19 pandemic, the prospect of expansion has taken on additional importance.²

This paper is the first phase of a three-year research process, of which this first stage seeks to offer a broad overview of the success of the eight pillars of the European Green Deal, examining sustainability as a horizontal public policy objective in the Von der Leyen Commission. By analyzing the results achieved and the figures available, the aim of this study is to find an answer to the research question of whether the European Green Deal has been successful, especially in terms of its horizontal - cross-policy - character, and to what extent it has been able to achieve its quantitative objectives.

After providing an introduction to the issue as well as elaborating on the methods used in the first two Chapters, this paper offers a short historical overview of climate change mitigation in the European Union between 1971 and nowadays in Chapter 3. Then, Chapter 4 will move on to a synopsis of the European Green Deal. Subsequently, in Chapter 5, an analyzation of the eight pillars is presented, to see if the European Green Deal truly succeeded in achieving its stated objectives. Afterwards, in Chapter 6, after proving that the Deal has not deemed to be successful, possible reasoning is given, including the COVID-19 pandemic as well as the war in Ukraine. Thereafter, in Chapter 7, the possible future path is analyzed, mentioning upcoming elections worldwide, as well as in the European Union. Finally, Chapter 8 delivers a conclusion.

2. Method:

This research explores the subject from the perspective and tools of social science. Mostly using sources in English, using both qualitative and quantitative methodologies, examining the numbers and targets set in the Green Deal, this paper analyzes the emergence of sustainability as an objective and its implementation in European Union policy, highlighting the obstacles as well as the achievements made in the quest for a robust and sustainable future for the European Union. The data was gathered from the last available European Statistical System (Eurostat) datasets, mainly from the area of sustainable development (sdg), environment (env), and energy (nrg). Among the metrics for sustainable development, the following were used create this analysis: *net greenhouse gas emissions*, *renewable energy % of gross final energy consumption*,

² ESDN Report – The European Green Deal [Access date: 2024.01.09.] Available at: https://www.esdn.eu/fileadmin/ESDN_Reports/ESDN_Report_2_2020.pdf

inability to keep home adequately warm, circular material use rate, deep energy renovation rate, percentage of zero-emission vehicles out of total new registered vehicles, share of bus and trains in total inland passenger transport, sale of pesticides, marine protected area coverage, terrestrial protected area coverage, number of premature deaths due to exposure to fine particulate matter, nitrate in groundwater. By examining all of the eight pillars of the Green Deal, this study investigates the goal set forth in each area, to offer an in-depth analysis of whether the European Green Deal has fulfilled its promises and whether the objectives set forth in 2019 have been accomplished.

3. History of European climate change mitigation

The European Community started its road on sustainable development with a comprehensive environmental policy initiative. This included a lot of the concepts of "sustainable development" that are prevalent today. Following the 1972 Stockholm United Nations Conference on the Environment and increasing public and scientific apprehension about the boundaries of expansion, the Commission took the lead in proposing an innovative policy. The first Environmental Action Programme (EAP) was decided on in November 1973 based on the European Council's 1972 promises to create a community environmental strategy. In an attempt to prevent harmful practices, the First EAP emphasized the necessity of an in-depth examination of the effects of alternative policies. Thus, many of the concepts of "sustainable development" that would subsequently be developed were already included in the First EAP in an embryonic form.³ Then, in 1977, in terms of strategy and goal, the Second EAP (1977–1981) was largely a continuation of the First EAP, except with a wider variety of issues to address. Particular consideration was given to nature protection. Adopted in 1982, the Third Environmental Action Programme (1982–1986) aimed to offer a comprehensive plan for safeguarding the environment and natural resources within the European Community. It expanded the definition of environmental protection to encompass land use planning and the incorporation of environmental concerns into other EC policies, and it changed the focus from pollution control to pollution prevention. The Fourth EAP (1987–1992) proposed a more integrated approach, and for the first time, environmental conservation was seen as an integrated activity inside the entire production process rather than an add-on. The late 1990s saw a staggering implementation of the Fifth EAP Law. Among the things it contained were new, intricate, comprehensive framework laws as the IPPC Directive (1996/61), the Water Framework

³ Dr. Christian Hey (2007)- EU Environmental Policies: A short history of the policy strategies [Access date: 2024.01.09.] Available at: https://aei.pitt.edu/98675/1/enviro_n_policies...pdf

Directive (2000/60), and the Ambient Air Quality Directive (96/62), which formulated an ambitious work program spanning several decades.⁴ A further great step was when the industrialized nations decided on a set of specific GHG emission targets at the Kyoto climate summit in December 1997. The European Union committed to reducing GHG emissions by 8% between 2008 and 2012 (in comparison to 1990 levels). Then, on July 22, 2002, the European Parliament and Council adopted the Sixth EAP. Essentially, the Sixth Environmental Action Programme established a broad framework of principles and goals that will be further detailed by "thematic strategies" addressing important concerns such pesticides, resources, recycling, soils, the urban environment, the marine environment, and clean air. Among the major policy concerns for the first ten years of the new millennium are measures to overhaul the EU's chemical regulations and to cut greenhouse gas emissions.⁵ The next larger milestone was in March of 2007, when a target on greenhouse gas emissions, renewable energy, and energy efficiency were among the three goals known as "20-20-20 by 2020" were agreed upon by EU heads of state. Following this, in 2008, the European Commission unveiled the "Climate and Energy Package" in order to put the new goals into practice.⁶ At the European Council meeting in December 2008, French President Nicolas Sarkozy mediated the final version of said package, though member states were able to weaken the Commission's initial package in a number of ways.⁷ Shifting to November of 2013, the seventh EAP was adopted by the European Parliament and the European Council, of which the motto was the following: 'Living well, within the limits of our planet'.⁸ Later, the European Council decided on a revised 2030 target framework in October 2014, utilizing the same three-pronged strategy as for 2020.⁹ Then, in 2019, the European Commission unveiled the European Green Deal, a comprehensive set of

⁴ Elisabeta-Emilia Halmaghi (2016) - Environmental Action Programmes of the European Union – Programmes Supporting the Sustainable Development Strategy of the European Union [Access date: 2024.01.07.] Available at: https://www.researchgate.net/publication/313589077_Environmental_Action_Programmes_of_the_European_Union_-_Programmes_Supporting_the_Sustainable_Development_Strategy_of_the_European_Union

⁵ ICT Train - History of the Environmental EU Legislation [Access date: 2024.01.11.] Available at: https://www.researchgate.net/publication/313589077_Environmental_Action_Programmes_of_the_European_Union_-_Programmes_Supporting_the_Sustainable_Development_Strategy_of_the_European_Union
<https://hiz.hr/icttrain/en/trainings/01/01.html>

⁶ Climate Policy Info Hub - European Climate Policy - History and State of Play [Access date 2024.01.23.] Available at: <https://climatepolicyinfohub.eu/european-climate-policy-history-and-state-play.html>

⁷ Pavese, Carolina B., Torney, Diarmuid (2012) - The contribution of the European Union to global climate change governance: explaining the conditions for EU actorness [Access date 2024.01.24.] Available at: <https://www.redalyc.org/pdf/358/35824642008.pdf>

⁸ European Environment Agency - 7th Environment Action Programme [Access date: 2024.02.25.] Available at: <https://www.eea.europa.eu/policy-documents/7th-environmental-action-programme>

⁹ Katharina Knoop, Stefan Lechtenböhmer (2016)- The Potential for Energy Efficiency in the EU Member States – A Comparison of Studies [Access date: 2024.01.23.] Available at: https://epub.wupperinst.org/frontdoor/deliver/index/docId/6398/file/6398_Knoop.pdf

policies aimed at achieving carbon neutrality by 2050.¹⁰ Finally, the 8th EAP came into force on the 2nd of May in 2022. By striving to speed the EU's transition to a clean, circular economy that is resource-efficient and climate neutral in a just and inclusive manner, and by fully adopting the environmental and climatic objectives of the European Green Deal, the new 10-year program supports the vision for 2050 set forth in the 7th EAP.¹¹

EAP Series	Adoption date	Main objectives
1 st EAP	1973	Suggested defining environmental quality objectives using a graduated approach.
2 nd EAP	1977	Essentially a continuation of the previous in terms of methodology and goal, with particular consideration given to nature protection.
3 rd EAP	1982	It shifted the emphasis from pollution management to prevention, and broadened the scope of environmental protection, including the integration of environmental concerns into other EC policies.
4 th EAP	1987	A more integrated strategy. Environmental protection was seen as an integrated activity inside the production process rather than an additive.
5 th EAP	1992	The Water Framework Directive (2000/60), and the IPPC Directive (1996/61) are examples of the comprehensive, framework legislation that formulated an ambitious work of this EAP.
6 th EAP	2002	Developed a set of overarching guidelines, which will be further refined through the implementation of thematic strategies focusing on important concerns such pesticides, soil health, marine environments, and clean air.
7 th EAP	2014	Aims to support EU environmental and climate change action until 2020 and beyond, guided by the vision 'In 2050, we live well, within the planet's ecological boundaries'.
8 th EAP	2022	To guarantee that EU environmental and climate legislation are properly carried out, it urges active participation from all stakeholders at all governmental levels, in order to achieve the Sustainable Development Goals and the 2030 Agenda of the United Nations.

Figure 1: The Eight EAP-s, self-edited

¹⁰ European Commission – The European Green Deal [Access date: 2023.12.02.] Available at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en

¹¹The Parliament - New Environment Action Programme: The direction of travel [Access date: 2023.02.26.] Available at: <https://www.theparliamentmagazine.eu/news/article/the-direction-of-travel>

4. The European Green Deal

Knowing that a healthy planet is essential to Europe's future, fulfilling their obligations under the Paris Agreement, EU nations are determined to achieve carbon neutrality by 2050, therefore the European Commission launched the expansive and ambitious European Green Deal policy framework to steer the European Union in the direction of a more ecologically conscious and sustainable future. Unveiled in December 2019, the Green Deal is the EU's roadmap to address urgent climate change, biodiversity loss, and environmental degradation issues. The main objective is for the EU to transition to a circular economy that is climate neutral by 2050.¹² It emphasizes the necessity of an all-encompassing, cross-sectoral strategy in which all pertinent policy domains support the ultimate climate-related goal. Initiatives pertaining to energy, transportation, industry, agriculture, climate change, environment, and sustainable finance are all included in the package, as these areas are all closely related.¹³

The EU's pre-Green Deal climate plans, which called for a 60% decrease in emissions from 1990 levels by 2050, were also ambitious, but generally in line with those of the international community.¹⁴ However, the goal of reaching net zero, or a balanced budget for emissions by 2050, was only established with the Green Deal. This means that the European economy is no longer allowed to contribute a single metric ton of greenhouse gases to the atmosphere; instead, each metric ton that is emitted must be offset by an equal amount that is absorbed by biomass or other systems. This is what makes the Deal so aspirational. The Paris Agreement of 2015 made it clear, and climate science has also demonstrated, that limiting global warming to 1.5 degrees over pre-industrial average temperatures is the only viable approach to prevent irreversible effects on ecosystems. While this is the ultimate objective, the EU has also set an intermediate target for 2030, by which decade it hopes to cut emissions by 55% from 1990 levels. With China aiming to peak carbon emissions in 2030 and achieve carbon neutrality by 2060 at the latest, this goal has gained geopolitical weight as well.¹⁵ Many different countries and areas have also stated similar objectives. While achieving climate targets and halting global warming is the primary goal of the Green Deal, its execution also holds great promise for the

¹² European Commission – The European Green Deal [Access date: 2023.12.02.] Available at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en

¹³ Council of the European Union - European Green Deal [Access date: 2023.12.02.] Available at: <https://www.consilium.europa.eu/en/policies/green-deal/>

¹⁴ ENEL - The European Green Deal: How the 27 EU countries are preparing for 2050 [Access date: 2023.12.02.] Available at: <https://www.enel.com/company/stories/articles/2023/04/european-green-deal>

¹⁵ The World Bank - China's Transition to a Low-Carbon Economy and Climate Resilience Needs Shifts in Resources and Technologies [Access date: 2023.12.02.] Available at: <https://www.worldbank.org/en/news/press-release/2022/10/12/china-s-transition-to-a-low-carbon-economy-and-climate-resilience-needs-shifts-in-resources-and-technologies>

economies, populations, and territories of Europe. This includes objectives such as more livable cities as a result of the development of public transportation and non-polluting forms of mobility, cleaner air, water, and soil due to decreased environmental pollution, putting an end to dependence on fossil fuels and the ensuing geopolitical tensions, and lastly, this being a very critical point, if Europe is able to lead the way "green" technologies, there will be economic growth, jobs, and improved prospects for the coming generation.¹⁶

4.1 Overview of the eight pillars of the European Green Deal

Examining the European Green Deal reveals that it is composed of eight major policy areas, eight so-called pillars. In the first pillar, this being section 2.1.1 of the document, the EU is aiming higher on climate change, with targets for 2030 and 2050, the latter of which is a more aggressive goal. As written in the document, the Green Deal has the overall objective of becoming climate neutral by 2050, and in order to achieve this, one important milestone would be reducing greenhouse gas emissions (GHG) by 55% by 2030, compared to the levels that were present in 1990. The Deal indicates that the European Union has already initiated steps in the past to modernize and alter its economy in order to achieve carbon neutrality, taking into consideration the fact that between 1990 and 2018, it was able to perform a 23% decrease in greenhouse gas emissions, despite a 61% growth in the economy. However, it is important to point out that by 2050, the regulations that are currently in place will only cut greenhouse gas emissions by 60%, indicating that here is still a great deal to be done, starting with more aggressive climate action in the upcoming ten years.¹⁷ *This paper will examine the progress concerning the net greenhouse gas emissions between 1990 and 2022, which will be elaborated on in Chapter 5.1.*

Addressing the second pillar, which is contained in section 2.1.2. of the Green Deal, the main objective is being able to supply clean, affordable and secure energy. This pillar has high importance, as the production and use of energy together account for almost 75% of the greenhouse gas emissions in the EU. This means that achieving the 2030 climate targets and the longer-term 2050 carbon emission neutrality goals will require decarbonizing the EU energy system through measures including increasing the use of renewable energy sources. Besides this, it is also mentioned in the Deal that the energy supply in the EU must be both economical and safe for both consumers and companies. For this to occur, ensuring complete integration,

¹⁶ ENEL - The European Green Deal: How the 27 EU countries are preparing for 2050 [Access date: 2024.01.10.] Available at: <https://www.enel.com/company/stories/articles/2023/04/european-green-deal>

¹⁷ European Commission – The European Green Deal [Access date: 2023.12.02.] Available at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en

interconnectivity, and digitalization of the European energy market while upholding technology neutrality is crucial. Also addressed in this pillar is the question of energy poverty, stating that in order to maintain a minimal quality of living, households that are unable to pay essential energy services must be protected against the possibility of energy poverty. Effective programmes, such as financing schemes for households to renovate their houses, shall be used to reduce energy bills, and tackle this ongoing problem.¹⁸ *This paper will examine the rate of energy poverty in the EU, as well as the rate of renewable energy compared to gross total energy consumption, which will be elaborated on in Chapter 5.2.*

As far as the third pillar is concerned, the EU also aims to mobilize the industry for a clean and circular economy, this being included in the title of section 2.1.3. of the document. The complete mobilization of industry is necessary for creating a circular economy that is climate neutral. It is estimated that the transformation of an industrial sector and all of its value chains will take 25 years, therefore, decisions and actions must be made before 2025 in order to be prepared in 2050. The text also highlights a major global risk, this being the fact that the yearly global material extraction tripled between 1970 and 2017 and is still growing to this day.¹⁹ It is also pointed out that material, fuel, and food processing, along with resource extraction, account for over 90% of biodiversity loss and water stress and provide around half of global greenhouse gas emissions. Although European industry has begun to change, 20% of the EU's greenhouse gas emissions still come from it. To address the issue, the EU plans to prioritize material reuse and reduction above recycling, encourage the development of alternative business models, as well as establish minimum requirements to prevent products that are environmentally harmful from being placed on the EU market.²⁰ *This paper will examine the circular material usage rate in the EU, which will be elaborated on in Chapter 5.3.*

Moving on to the fourth pillar of the document, contained in section 2.1.4., as the title also indicates, another key policy area concerns building and renovating in an energy and resource efficient way. Buildings require a lot of energy and material resources, like sand, gravel, and cement, for their construction, use, and renovation. Additionally, they consume 40% of the energy generated. The yearly rate of building stock renovation in the Member States ranged from 0.4% to 1.2% when the European Green Deal was agreed upon in 2021. In order to meet

¹⁸ European Commission – The European Green Deal [Access date: 2023.12.02.] Available at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en

¹⁹ Global Resources Outlook 2019: Natural Resources for the Future We Want: The International Resource Panel. [Access date: 2023.12.04.] Available at: <https://wedocs.unep.org/20.500.11822/27517>

²⁰ European Commission – The European Green Deal [Access date: 2023.12.02.] Available at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en

the EU's energy efficiency and climate targets, which prioritize low-emission technologies and sustainable goods and services, the Green Deal sets out a target that this rate must at least double.²¹ In specifics, in order to stay on course, by 2030, there must be a minimum yearly refurbishment rate of 3% and an average improvement in energy efficiency of 75%. Buildings must do this in order to do their fair part to energy and greenhouse gas reductions and to avoid overly depending on the electricity sector, in particular, for the decarbonization of heat. Furthermore, a portion of the answer to enable a significant contribution from variable renewable power production sources is offered by highly efficient heat-electric smart buildings.²² *This paper will examine the deep energy renovation rate in the EU, which will be elaborated on in Chapter 5.4,*

The fifth pillar is found in section 2.1.5 of the European Green Deal, entitled “Accelerating the shift to sustainable and smart mobility”. An important goal of the Green Deal is to cut greenhouse gas emissions associated with transportation by 90% by the year 2050. Transportation by air, sea, rail, and road will all need to contribute to the reduction. To achieve this goal and make sure that the EU transportation industry is ready for a clean, digital, and modern economy, the Commission planned to implement a comprehensive strategy. Increasing the use of zero-emission cars, providing the general public and businesses with sustainable alternative options, promoting automation and digitalization, and enhancing connection and access were some of the objectives of this plan.²³ The Deal furthermore stipulates that the cost of transportation needs to be proportional with its effects on the environment and human health. Fossil fuel subsidies ought to end, and the Commission promised to rigorously examine the present tax exemptions—such as those for aviation and marine fuels—as well as how to best address any loopholes in the framework of the revision of the Energy Taxation Directive. In a similar vein, the Commission suggested lowering the allowances granted to airlines under the EU carbon Trading System and expanding European carbon trading to the maritime industry. Additionally, the Commission said it would consider politically how to implement efficient road pricing inside the EU.²⁴ *This paper will examine the % of zero-emission vehicles out of*

²¹ Enhesa - European Green Deal: 8 key policy areas [Access date: 2024.01.08.] Available at:

<https://www.enhesa.com/resources/article/european-green-deal-key-policies/>

²² Eurima (2018) - The key role of energy renovation in the net-zero GHG emission challenge [Access date: 2024.03.17.] Available at:

https://www.eurima.org/uploads/files/modules/articles/1584371842_C&E%20climact_role-of-energy-renovation-in-net-zero-ghg-emission_2050-final.pdf

²³ European Commission - Sustainable and Smart Mobility Strategy [Access date: 2024.01.09.] Available at: https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12438-Sustainable-and-Smart-Mobility-Strategy_en

²⁴ European Commission – The European Green Deal [Access date: 2024.01. 09.] Available at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en

total new registered vehicles, as well as the share of bus and trains in total inland passenger transport in the EU, which will be elaborated on in Chapter 5.5.

Proceeding to the sixth pillar in section 2.1.6, the Commission emphasizes the "Farm to Fork" goal, which it hopes to accomplish by creating a just, healthful, and sustainable food system. Our current food systems need to be redesigned because they contribute nearly one-third of the world's greenhouse gas emissions, use a lot of natural resources, reduce biodiversity, have a negative impact on health (due to both under- and overnutrition), and prevent equitable economic returns and means of subsistence for all parties involved, especially primary producers. Operators across the food value chain will have new opportunities as we move toward a sustainable food system. All parties involved will gain from new scientific findings and technological advancements as well as rising public awareness and demand for sustainably produced food.²⁵ The Farm to Fork Strategy acknowledges the interdependence of a healthy environment, healthy society, and healthy individuals.²⁶ In order to do this, under the Green Deal, the Commission intends to ensure food security in the face of biodiversity loss and climate change, lower the EU food system's impact on the environment and the climate, and enhance the resilience of the EU's food system, directing the world's shift from "farm to fork" toward competitive sustainability. As part of the Farm to Fork Strategy, the European Commission unveiled a pesticide reduction goals in May 2020. This would mean a 50% decrease in the amount of pesticides used. *This paper will examine the progress concerning the use of pesticides, which will be elaborated on in Chapter 5.6.*

With respect to the seventh pillar, found in section 2.1.7. of the Deal, the Commission aims to focus on the preservation and restoration of ecosystems and biodiversity. The text emphasizes that essential services like food, clean air, fresh water, and shelter are all provided by ecosystems, and that they help control the climate and lessen the effects of diseases, pests, and natural calamities. However, it also states that nonetheless, the European Union is falling short of several of its most crucial environmental targets for 2020, including the Aichi targets stipulated in the Convention on Biological Diversity, therefore, the EU and its international allies must step up to stop the loss of biodiversity. For these reasons, targets for environmental preservation, species and ecosystem loss, and the management of forests and maritime areas

²⁵ European Economic and Social Committee – Communication 2020/381 - A From Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system [Access date: 2024.01.09.] Available at: <https://effat.org/wp-content/uploads/2021/02/PS-A-From-Farm-to-Fork-Strategy-for-a-fair-healthy-and-environmentally-friendly-food-system.pdf>

²⁶ EUROPARC Federation – EU Farm to Fork [Access date: 2024.01.09.] Available at: <https://www.europarc.org/european-policy/farm-to-fork-protectes-areas/>

are also outlined in the European Green Deal. For instance, the main goals of the new EU forest strategy are around planting new trees to establish new forests, also known as effective afforestation, raising the rate of CO₂ absorption, lowering the frequency and intensity of wildfires, as well as advancing the bioeconomy while adhering strictly to ecological principles that support biodiversity.²⁷ Furthermore, this seventh pillar highlights that reducing the numerous demands on the land resources of the EU and combating climate change will require a sustainable "blue economy." Oceans play an increasingly important role in both reducing and adapting to climate change. The industry may help by enhancing the utilization of marine and aquatic resources and, for instance, by encouraging the development and application of novel protein sources that can reduce the strain on arable land.²⁸ *This paper will examine the progress concerning the protection of maritime, as well as terrestrial areas, which will be elaborated on in Chapter 5.7.*

Proceeding to the final pillar of the European Green Deal found in section 2.1.8., the Commission's objective is entitled „A zero pollution ambition for a toxic-free environment". Man-made chemical pollution is a serious and expanding threat to both human health and the environment. Even the most distant regions of the world, from the highest mountains to the deepest oceans, are currently experiencing chemical pollution. Our bodies have become so contaminated by industrial pollutants that kids born today are considered to be "pre-polluted," according to researchers.²⁹ The EU must do a better job of monitoring, reporting, preventing, and correcting pollution from the air, water, soil, and consumer goods in order to safeguard its citizens and ecosystems. Therefore, the text of the Deal states that EU and its member states will need to examine all laws and regulations more methodically. The Commission committed to adopting a zero-pollution action plan for air, water, and soil in 2021 in order to address these interconnected concerns. Quoting Ursula von der Leyen, „For the health of our citizens, our children and grandchildren, Europe needs to move towards a zero-pollution ambition. I will put forward a cross-cutting strategy to protect citizens' health from environmental degradation and pollution, addressing air and water quality, hazardous chemicals, industrial emissions, pesticides and endocrine disruptors.”³⁰ *This paper will examine the progress concerning*

²⁷ Shared Green Deal – Preserving biodiversity [Access date: 2024.01.10.] Available at: <https://sharedgreendeal.eu/preserving-biodiversity>

²⁸ European Commission – The European Green Deal [Access date: 2024.01.09.] Available at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en

²⁹ European Environmental Bureau - Towards a toxic-free environment [Access date: 2024.01.08.] Available at: <https://eeb.org/library/towards-a-toxic-free-environment/>

³⁰ European Commission – A Union that strives for more [Access date: 2024.01.09.] Available at: https://commission.europa.eu/system/files/2020-04/political-guidelines-next-commission_en_0.pdf

enhancing air quality in order to reduce the amount of air pollution-related premature deaths by 55%, and cutting groundwater nitrates by at least 50% by 2030, which will be elaborated on in Chapter 5.8.

After having overviewed the eight pillars of the European Green Deal, it is clear that it is a wide-ranging, all-encompassing plan with a single, nevertheless ambitious, objective in mind, to promote and execute long-term improvements to the way industries throughout the continent function. The European Commission hopes and aims to enhance the welfare of current and future generations through the implementation of these policies by offering biodiversity, pure water, good soil, fresh air, renovated structures with low energy use, food that is both inexpensive and nourishing, greater utilization of public transportation, cleaner energy and cutting edge clean technological innovation, as well greater durability goods that are recyclable, repairable, and reusable.³¹ Nevertheless, the questions remain: Does the document reflect the kind of advancement and creativity that deserves praise and comparison to the landing of humans on the moon? Is the European Green Deal a success story?

5. Assessment of the success of the European Green Deal

The European Green Deal serves as the model for a revolutionary shift that would see a fair transition that leaves no one behind and make Europe the first climate-neutral continent in history by 2050. The eight previously described pillars will be examined in the upcoming chapter to determine whether or not the specified goals were met and if the European Green Deal can be really deemed a success.

5.1 Net zero emissions of greenhouse gases by 2050

As mentioned in the first pillar, by 2050, the EU wants to have an economy with net-zero greenhouse gas emissions, or in other words, aims to reach climate neutrality. The European Climate Law has made this goal - which is at the core of the European Green Deal - a legally binding target.³² As can be seen from the figure below, from 1990 to 2022, the EU has reduced its greenhouse gas emissions steadily, with a total of –32.5%.³³ It is also visible from the graph, that 2020's COVID lockdown measures resulted in a record decrease in emissions, which was

³¹ Enhesa - European Green Deal: 8 key policy areas [Access date: 2024.01.08.] Available at: <https://www.enhesa.com/resources/article/european-green-deal-key-policies/>

³² European Commission – 2050 long-term strategy [Access date: 2023.03.01.] Available at: https://climate.ec.europa.eu/eu-action/climate-strategies-targets/2050-long-term-strategy_en

³³ World Economic Forum - The European Union has cut greenhouse gas emissions in every sector - except this one [Access date: 2024.03.03.] Available at: <https://www.weforum.org/agenda/2022/09/eu-greenhouse-gas-emissions-transport/>

followed by a significant increase in 2021. Emissions in 2022 were however lower, than in 2019. Even though it is too early to tell whether this goal will be accomplished, according to a European Commission review of national energy and climate plans filed thus far, the EU will just fall short of its legally-binding 55% target by 2030, reducing emissions by a maximum of 51% based on present policies.³⁴ Wopke Hoekstra, the commissioner for climate change, stated in a statement issued on December 18th in 2023, that " It is clear we need stronger commitments in the final plans to put us firmly on the right track to climate neutrality,".³⁵

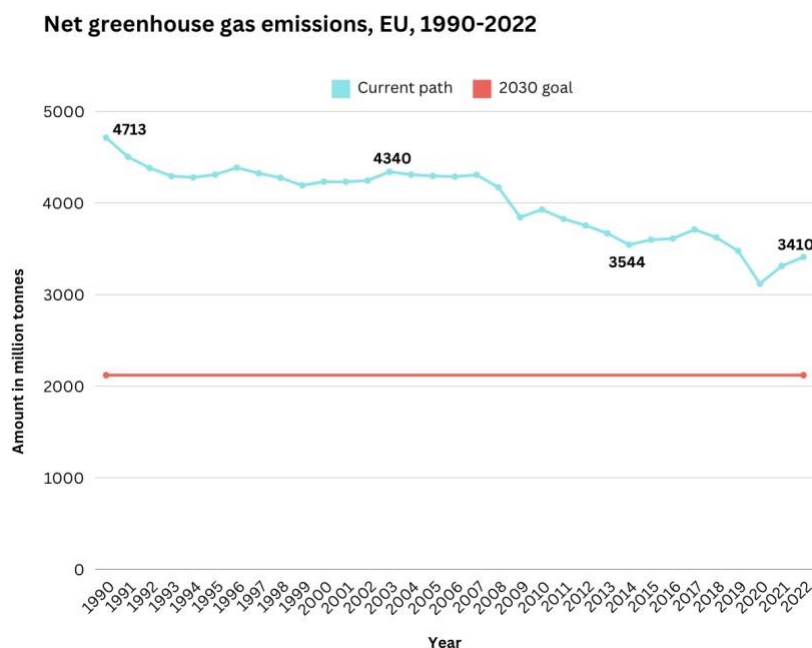


Figure 2: Net greenhouse gas emissions, EU, 1990- 2022, self-edited, source: Eurostat³⁶

A thorough impact assessment on potential routes to achieving the consensus to make the European Union climate neutral by 2050 was released by the Commission on the 5th of February this year. Based on this impact assessment, the Commission proposed to reduce net greenhouse gas emissions by 90% by 2040 compared to 1990 levels, in order to still have a chance to reach

³⁴ EURACTIV - EU significantly off-track from 2030 climate goal, Commission warns [Access date: 2024.02.17.] Available at: <https://www.euractiv.com/section/energy-environment/news/eu-significantly-off-track-from-2030-climate-goal-commission-warns/>

³⁵ Bloomberg - EU States Off Track for Hitting Climate and Clean Energy Goals [Access date: 2024.02.17.] Available at: <https://www.bloomberg.com/news/articles/2023-12-18/eu-states-off-track-for-hitting-climate-and-clean-energy-goals?embedded-checkout=true>

³⁶ Eurostat – Statistics Explained - Greenhouse gas emission statistics - emission inventories [Access date: 2024.03.03.] Available at: https://ec.europa.eu/eurostat/statisticsexplained/index.php?title=Greenhouse_gas_emission_statistics_-_emission_inventories#Trends_in_greenhouse_gas_emissions

climate neutrality by 2050.³⁷ It will be the next Commission who will propose the legislation, which must be approved by the European Parliament and Member States in order to comply with the EU Climate Law. This objective would be required to maintain EU alignment with the 2015 Paris Agreement, which committed countries to limiting global warming to well below 2°C and, ideally, below 1.5°C, a target which seems to be slipping away from reach every year. The suggestion would also be compliant with the guidance provided by the European Scientific Advisory Board on Climate Change.³⁸ The 90% target is accompanied by faster investments for deployment of novel low carbon technologies between 2031 and 2040, such as industrial carbon removals, carbon capture and use, and hydrogen production by electrolysis. Furthermore, with this proposal, 90% of the EU's power output would have to come from nuclear and renewable sources, almost completely decarbonizing the production of electricity. However, the cost of implementing these technologies would be high; in the 2031–2050-decade, energy investments of close to €660 billion annually - this being 3.2% of the EU's GDP - will be required. Nevertheless, inaction will also be expensive; the Commission estimates that the economic harm caused by climate change in Europe over the past five years has been €170 billion.³⁹

All things considered, looking at this specific target included in the first pillar, nations are heading in the right path. Since 1990, EU emissions have decreased, however, it is not occurring quickly enough to satisfy Europe's climate goals, hence the reason why the new 2040 goal is needed.

5.2 Supplying clean, affordable and secure energy

Over 75 percent of the greenhouse gas emissions in the EU are generated by the energy sector. Thus, boosting the proportion of renewable energy in all economic sectors is essential to achieving the targets of cutting net greenhouse gas emissions by at least 55% by 2030 and turning the continent into a climate-neutral region by 2050. The Renewable Energy Directive 2018/2001/EU set a binding renewable energy objective for the EU for 2030 of at least 32%, with a mechanism enabling a possible upward modification by 2023. This target builds on the

³⁷ EuroNews - Brussels recommends new EU climate target: a 90% cut of all greenhouse gas emissions by 2040 [Access date: 2024.03.03.] Available at: <https://www.euronews.com/my-europe/2024/02/06/brussels-recommends-new-eu-climate-target-a-90-cut-of-all-greenhouse-gas-emissions-by-2040>

³⁸ Foresight - Twice the work in half the time: EU calls for 90% cut of GHG emissions by 2040 [Access date: 2024.03.04.] Available at: <https://www.climateforesight.eu/articles/eu-commission-recommendation-90-reduction-emissions-2040/>

³⁹ Euractiv - EU kicks off debate on 2040 climate goal on way to net-zero emissions [Access date: 2024.03.03.] Available at: <https://www.euractiv.com/section/climate-environment/news/eu-kicks-off-debate-on-2040-climate-goal-on-way-to-net-zero-emissions/>

20% target for 2020. The EU's binding 2030 renewable mandate has been raised from 32% to a minimum of 42.5% by the amended Renewable Energy Directive EU/2023/2413.⁴⁰ It entails nearly double the EU's current renewable energy quota. On November 20, 2023, the directive became binding throughout all EU member states.⁴¹ With a 22% share of gross final energy consumption from renewable sources in 2020, the EU exceeded its aim, according to Eurostat's renewable energy figures from January 2022. According to the final figures released by the EU member states in April 2022 under the Regulation of the Governance of the Energy Union, the EU attained a share of 22.1% of renewable energy in gross final energy consumption in 2020, surpassing the 20% target set by the 2009 Renewable Energy Directive.⁴² Among EU members in 2020, Sweden (60%) had by far the greatest share with over half of total final energy consumption coming from renewable sources, ahead of Finland (44%) and Latvia (42%). Hungary comes below EU average, with the 4th worst percentage (13.9%).⁴³

The Figure below demonstrates percentage of renewable energy within gross final energy consumption, between the years of 2010 and 2022 in the EU. It can be seen that in 2022, 23% of gross total energy consumption was from renewable energy sources. The likelihood of the EU meeting its aim by 2030 is quite low according to the pace of recent years, however not impossible. In order to meet the aim, the average growth rate of the percentage of renewable energy sources must more than double from the previous ten years' pace in the years leading up to 2030. Yet, modeling from the IEA (International Energy Agency)⁴⁴ and Ember⁴⁵ suggests that if prompt action is done to boost renewables and reduce energy use, attaining the revised 42.5% target may be possible. There is also some optimism due to the unexpectedly quick adoption of technologies like heat pumps and solar photovoltaics.

⁴⁰ EUR-LEX - Directive (EU) 2023/2413 [Access date: 2024.03.15.] Available at: <https://eur-lex.europa.eu/eli/dir/2023/2413/oj>

⁴¹ European Commission – Renewable energy targets [Access date: 2024.03.15.] Available at: https://energy.ec.europa.eu/topics/renewable-energy/renewable-energy-directive-targets-and-rules/renewable-energy-targets_en

⁴² Eurostat - EU overachieves 2020 renewable energy target [Access date: 2024.03.15.] Available at: <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20220119-1>

⁴³ CA-RES - EU exceeds 2020 renewable energy target [Access date: 2024.03.15.] Available at: https://www.ca-res.eu/news/details?tx_news_pi1%5Baction%5D=detail&tx_news_pi1%5Bcontroller%5D=News&tx_news_pi1%5Bnews%5D=67&cHash=ef54a5f6febbda6bf10b665c1c5e1034

⁴⁴ IEA - Is the European Union on track to meet its REPowerEU goals? [Access date: 2024.03.15.] Available at: <https://www.iea.org/reports/is-the-european-union-on-track-to-meet-its-repowereu-goals>

⁴⁵ EMBER - Fit for the future, not Fit-for-55 [Access date: 2024.03.15.] Available at: <https://ember-climate.org/insights/research/fit-for-the-future-not-fit-for-55/>

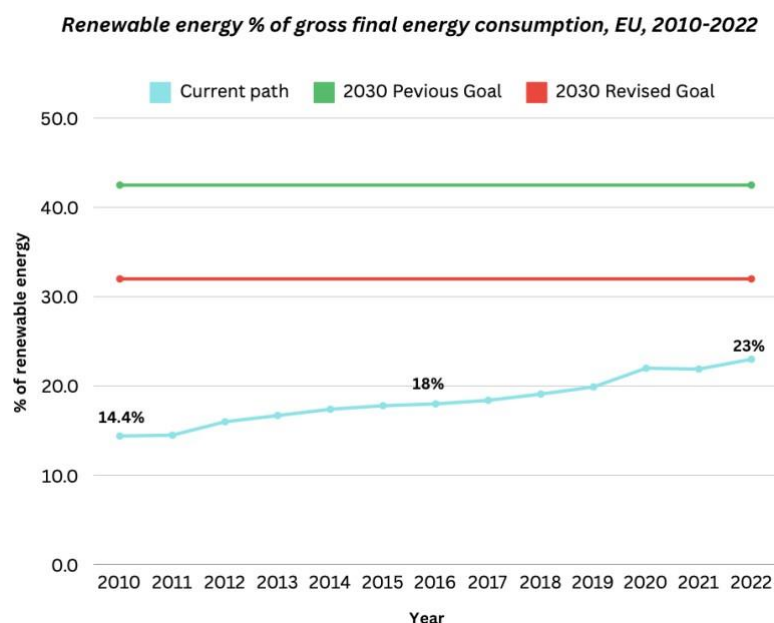


Figure 3: Renewable energy % of gross final energy consumption, EU, 2010- 2022, self-edited, source: Eurostat⁴⁶

As also stated in the second pillar, one of the other main objectives of this pillar of the Green Deal is being able to offer affordable energy. However, over 41 million people in Europe couldn't keep their homes warm enough in 2022⁴⁷ due to a multifaceted condition, energy poverty, brought on by a combination of high energy costs, low income, and inefficient buildings. Additionally, about 7% of EU citizens owed money for unpaid utility bills.⁴⁸ Therefore, can the European Green Deal be concluded successful with regards to this pillar?

As can be seen from the Figure below, the European Union had a very high rate of energy poverty in 2014, with over 10 percent of the EU's population not being able to keep their home adequately warm. This rate dropped significantly by 2019, with a smaller rise in 2020. However, in 2022, a large jump can be seen. That year, the rate was above 9 again, which was a significant increase from 6.9% in 2021. This is mainly due to the fact that an unprecedented convergence has emerged between the demands of accelerating the energy transition, ensuring supply security, and maintaining EU competitiveness and social cohesion, as a result of the several crises that have struck the EU in recent years, including pandemics, wars, and supply chain tensions. The ongoing economic battle between Russia and Europe is leading to rising energy

⁴⁶ Eurostat - Renewable energy by sector [Access date: 2024.03.15.] Available at: <https://ec.europa.eu/eurostat/cache/egd-statistics/>

⁴⁷ Bioenergy International - Energy poverty – 42 million people in the EU cannot afford to heat their homes adequately [Access date: 2024.03.02.] Available at: <https://bioenergyinternational.com/energy-poverty-42-million-people-in-the-eu-cannot-afford-to-heat-their-homes-adequately/>

⁴⁸ Eurostat - Arrears on utility bills - EU-SILC survey [Access date: 2023.03.04.] Available at: [https://ec.europa.eu/eurostat/databrowser/view/ILC_MDES07\\$DEFAULTVIEW/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/ILC_MDES07$DEFAULTVIEW/default/table?lang=en)

prices, which is causing severe issues for EU member states. Member States are trying to prevent the price boom from being passed on to household tariffs through different public policy instruments, but their effectiveness varies considerably.

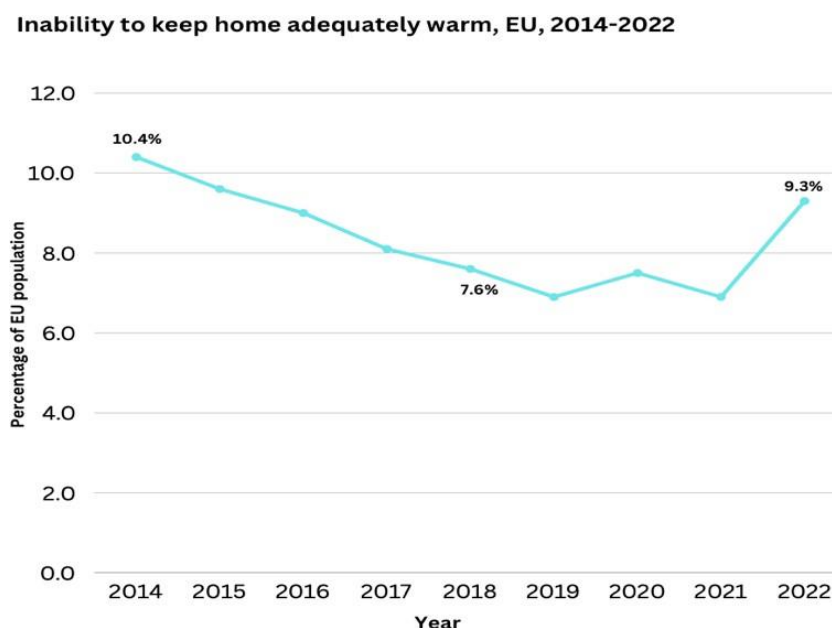


Figure 4: Inability to keep home adequately warm, EU, 2014- 2022, self-edited, source: Eurostat⁴⁹

Overall, the European Union faces a formidable task: although it must accomplish the energy transition and become carbon neutral by 2050, it also must safeguard the most vulnerable households and make sure that no one is left behind. To put it briefly, the EU must carry out a just and socially equitable energy transition, and one of the most important conflicts of this century will be the fight for the right to cheap energy.

Looking at the specific goal of affordable energy included in the second pillar, the European Union is not heading in the right path, with affordable energy being very far from reached, and the rate of energy-poverty rising in recent years. Regarding renewable energy, this being the “clean” aspect of the second pillar, in comparison to the previous ten years, the average yearly growth rate from now until 2030 must be more than doubled to meet the 2030 target. However, certain renewable energy technologies have recently been introduced quickly, giving rise to some optimism regarding achieving the 2030 objective.

⁴⁹ Eurostat - Inability to keep home adequately warm - EU-SILC survey [Access date: 2024.03.04.] Available at: https://ec.europa.eu/eurostat/databrowser/view/ILC_MDSE01/default/table?lang=en

5. 3 Creating a clean and circular economy

Every year, the EU produces more than 2.5 billion tons of waste.⁵⁰ 32.7 million tonnes of EU waste were exported to non-EU nations in 2020, accounting for around 16% of the world's waste trade. Furthermore, every year, about 67 million tonnes of trash are transported between EU nations.⁵¹ The bulk of that waste that is sent is made up of glass, paper, plastic, cloth, and ferrous and nonferrous metal scrap. It is primarily sent to Turkey, India, and Egypt. As stated in the third pillar, the EU intends to move toward a circular economy in order to increase Europe's competitiveness and cleanliness. To keep resource use within planetary bounds, the EU must abandon the linear "take-make-use-dispose" strategy and adopt a regenerative growth model instead. Waste production is reduced in a circular economy, which preserves the value of goods, materials, and resources in the economy for as long as feasible. The percentage of material recovered and reintroduced into the economy is measured by the circular material usage rate, or CMUR. Raising the CMUR would lessen the quantity of primary material removed for manufacturing and the ensuing detrimental effects on the environment and climate, whether through increasing the amount of recycled trash or lowering the amount of primary material used.⁵² Additionally, by lowering reliance on fundamental resources, particularly imported minerals, it would increase the EU's strategic autonomy. For these reasons, the revised Circular Economy Action Plan (CEAP 2) was established by the European Commission in 2020, in accordance with the Communication on the European Green Deal.⁵³ With regards to this Plan, the EU's target is doubling the CMUR by 2030, meaning an increase from 11.7% to 23.4%.⁵⁴ Looking at the figure below, achieving this objective seems improbable given the CMUR's extremely little increase in the preceding ten years, a complete lack of increase between 2020 and 2021, and OECD estimates indicating a rise in material demand in the EU by 2030.

⁵⁰ URBACT - Cities paving the way for a circular transition [Access date: 2024.03.15.] Available at: <https://urbact.eu/cities-paving-way-circular-transition>

⁵¹ European Parliament - How the EU wants to achieve a circular economy by 2050 [Access date: 2024.03.15.] Available at: <https://www.europarl.europa.eu/topics/en/article/20210128STO96607/how-the-eu-wants-to-achieve-a-circular-economy-by-2050>

⁵² EA Report XX/2023 - Monitoring report on progress towards the 8th EAP objectives 2023 edition [Access date: 2024.03.15.] Available at: <https://www.eea.europa.eu/en/topics/at-a-glance/state-of-europes-environment/environment-action-programme/8th-eap-indicator-based-progress-2023>

⁵³ OECD – Global Material Resources Outlook to 2060 [Access date: 2024.03.15.] Available at: <https://www.oecd.org/environment/waste/highlights-global-material-resources-outlook-to-2060.pdf>

⁵⁴ EEA - Circular material use rate in Europe [Access date: 2024.03.15.] Available at: <https://www.eea.europa.eu/en/analysis/indicators/circular-material-use-rate-in-europe>

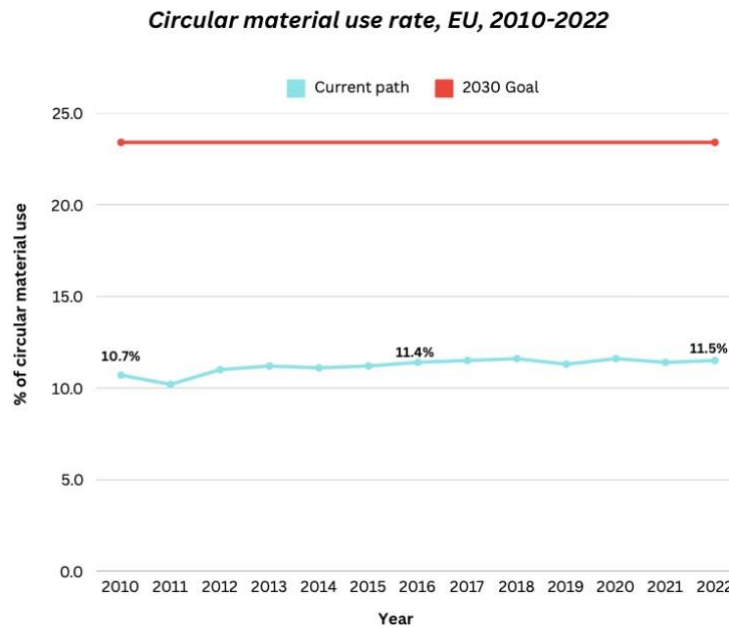


Figure 5: Circular material use rate, EU, 2010- 2022, self-edited, source: Eurostat⁵⁵

However, as a chance for optimism, in February of 2024, new EU regulations and waste transport control measures were passed by the Parliament. MEPs approved the agreement reached with the Council, which aims to better protect human health and the environment while supporting the EU's zero pollution and circular economy goals, with 587 votes in favor, 8 votes against, and 33 abstentions. Due to this new regulation, there will be tighter regulations governing the export of garbage from the EU to non-EU nations. Within 2.5 years of the regulation's implementation, exports of plastic trash to non-OECD nations will be forbidden, while exports to OECD nations will be subject to more stringent requirements.⁵⁶

From the available data, it can be seen that the EU is not on track to meet the targets concerning the creation of a clean and circular economy, however, the achievements of 2024 give a possibility for optimism concerning this specific pillar.

5. 4 Efficient building and renovating

As the title also suggests, the fourth pillar covers another important policy area: energy and resource-efficient building and renovation. The building sector accounts for forty percent of the

⁵⁵ Eurostat – Circular material use rate [Access date: 2024.03.15] Available at: <https://ec.europa.eu/eurostat/cache/egd-statistics/>

⁵⁶ European Parliament - Waste shipments: MEPs adopt tougher EU rules [Access date: 2024.03.15.] Available at: <https://www.europarl.europa.eu/news/en/press-room/20240223IPR18069/waste-shipments-meps-adopt-tougher-eu-rules>

EU's energy demand and produces about thirteen percent of its emissions⁵⁷, primarily from lighting and heating. The EU needs to accelerate and deepen its renovation if it hopes to meet its 2030 climate target and become climate-neutral by 2050. As a result, the buildings sector's greenhouse gas (GHG) emissions should drop by 60% by 2030, according to BPIE estimations⁵⁸, and the yearly deep energy renovation rate needs to reach 3% as soon as feasible and no later than 2030. These targets have sparked controversy in a number of EU nations; many of Europe's older buildings don't satisfy current standards, and there are worries that amid a crisis in the cost of living, people would be compelled to pay for pricey restorations.⁵⁹ Italy is among the most adamant opponents of the proposed rule; the far-right administration of Prime Minister Giorgia Meloni has claimed that it would compel homeowners to renovate about 60% of the nation's stock of buildings. The co-ruling Forza Italia party's former leader, Silvio Berlusconi, has called the file "a disaster."⁶⁰ However, it must be noted that the decarbonization of the building sector is one of the most important part of the Deal, as there will be a 10–14 percentage point gap in GHG reduction if the building sector does not meet its part of the required reduction in GHG emissions. Even if other sectors were to fully decarbonize, this gap would remain.⁶¹

There is very limited information concerning this specific sector, however, looking at the last available data, and the 3% reduction target, this number contrasts sharply with the current state of affairs, in which the EU's average yearly deep energy renovation rate is 0.2%⁶². Even across Member States, there is not much difference.⁶³ This demonstrates unequivocally that, in reality, these "one-off" deep makeovers happen extremely infrequently across all rehabilitation undertakings. Apart from this, it must be stated that enhancing the depth and quality of energy renovation is equally vital as increasing the rate of restoration, yet renovation policies frequently overlook this. Considering their lifespan, energy rehabilitation investments in building envelopes will probably only be made once between now and 2050; after that, there

⁵⁷ EEA - EEA greenhouse gases — data viewer [Access date: 2024.03.13.] Available at: <https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer>

⁵⁸ Buildings Performance Institute Europe - Deep Renovation: Shifting from Exception to Standard Practice In Eu Policy [Access date: 2024.03.17.] Available at: https://www.bpie.eu/wp-content/uploads/2021/11/BPIE_Deep-Renovation-Briefing_Final.pdf

⁵⁹ POLITICO - EU's green renovation wave faces backlash. [Access date: 2024.03.13.] Available at: <https://www.politico.eu/article/eus-green-renovation-wave-faces-backlash/>

⁶⁰ Ibidem

⁶¹ Eurima (2018) - The key role of energy renovation in the net-zero GHG emission challenge [Access date: 2024.03.17.] Available at: https://www.eurima.org/uploads/files/modules/articles/1584371842_C&E%20climact_role-of-energy-renovation-in-net-zero-ghg-emission_2050-final.pdf

⁶² European Commission - Comprehensive study of building energy renovation activities and the uptake of nearly-zero buildings in the EU [Access date: 2024.03.17.] Available at: <https://op.europa.eu/en/publication-detail/-/publication/97d6a4ca-5847-11ea-8b81-01aa75ed71a1/language-en/format-PDF/source-119528141>

⁶³ Ibidem

won't be any further renovations. In this "one shot" reality, policymakers have to focus on achieving the right energy efficiency levels on a sufficient number of existing buildings in the shortest amount of time possible to take advantage of building potential for both energy efficiency and GHG reduction while staying within the bounds of our carbon budget. As far as the programs are concerned, the national long-term building renovation strategy, additional provisions of the Directive on Energy Performance of Buildings, and building-related elements of the national energy and climate plans of each EU member state are all built upon by the Renovation Wave program. The plan has three main areas of emphasis: addressing the worst-performing buildings and energy poverty, public building renovation and decarbonization of air conditioning and heating. Renovations will aid in combating energy poverty, as an estimated 40 million Europeans may not be able to afford to heat their houses adequately in 2022, an aspect that was elaborated in Chapter 5.2. Skilled experts are essential to decarbonize our structures. The EU construction industry needs additional and better-skilled individuals, especially in the areas of building renovation and decarbonization of heating expertise. The well-known BUILD UP Skills program⁶⁴ and the 2023 European Year of Skills, in addition to the Renovation Wave strategy, seek to address these and other skills shortfalls in the dual challenge of green and digital transition.⁶⁵ These initiatives give hope for improvement concerning this sector in the future.

However, overall, concerning this fourth pillar of efficient building and renovating, pointing out that there is limited data available, the EU is currently not on track to meet its 3% reduction target.

5. 5 Accelerating the shift to sustainable and smart mobility

25% of the greenhouse gas emissions in the EU come from transportation, and this percentage is still rising to this day. Transportation by air, sea, rail, and road will all need to contribute to the reduction.⁶⁶ A goal of the European Green Deal is to cut greenhouse gas emissions associated with transportation by 90% by the year 2050. In this regard, cutting greenhouse gas emissions from transportation—and road transportation in particular—will be greatly aided by the deployment of electric vehicles (EV) and the electrification of transportation infrastructure. In October of 2022, the European Commission applauded the agreement agreed by the

⁶⁴ European Commission – Build Up Skills [Access date: 2024.03.17.] Available at: <https://build-up.ec.europa.eu/en/bup-skills>

⁶⁵ European Commission – Renovation Wave [Access date: 2024.03.17.] Available at: https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/renovation-wave_en

⁶⁶ EUR Lex - The European Green Deal [Access date: 2024.03.13.] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2019%3A640%3AFIN>

European Parliament and Council, which mandated that by 2035, all newly registered cars and vans in Europe would have zero emissions.⁶⁷ Frans Timmermans, Executive Vice-President for the European Green Deal, stated: “The agreement sends a strong signal to industry and consumers: Europe is embracing the shift to zero-emission mobility. European carmakers are already proving they are ready to step up to the plate, with increasing and increasingly affordable electric cars coming to the market. The speed at which this change has happened over the past few years is remarkable. It is no wonder that this file is the first one in the entire ‘Fit for 55’ package where Member States and the European Parliament have come to a final deal.”⁶⁸ A clear path and a definitive goal for the transition to sustainable transportation have been established by the agreement to pursue zero emissions for new cars and vans in Europe by 2035. This goal is supported by stringent requirements for public charging infrastructure, the growth of rail transportation, and the sustainable batteries regulation. The Green Deal in this aspect has the potential to drastically lessen Europe's reliance on fossil fuels through its green tech objectives and faster electrification of all modes. The significance of maintaining resource independence and energy security has been highlighted by recent geopolitical developments. It can be seen from the Figure below, that the EU is definitely heading on the right path, and this is the most successful pillar of the deal, as of now. With 21.6% of new automobile registrations in the EU being electric in 2022, significant progress has been made in the adoption of electric cars and vans, registering about two million electric vehicles in a single year, an increase from 1,74 million in 2021.⁶⁹ It is also a great achievement that several initiatives have been put in place around the Union to encourage electric mobility. These include providing financial support to the electric vehicle industry, purchasing electric vehicles on behalf of the public (e.g., for municipal vehicle fleets), investing in public infrastructure for charging or providing subsidies for home chargers, and providing indirect consumer incentives like free parking, bus lane access, free charging at public stations, and exemptions from road tolls.⁷⁰

⁶⁷ European Commission - Zero emission vehicles: first ‘Fit for 55’ deal will end the sale of new CO2 emitting cars in Europe by 2035 [Access date: 2024.03.13.] Available at: https://ec.europa.eu/commission/presscorner/detail/en/ip_22_6462

⁶⁸ Monaco Life - Tesla Suv Becomes Eu Car Of Choice As The Bloc Aims For Zero Emissions By 2035 – [Access date: 2024.03.13.] Available at: <https://monacolife.net/tesla-suv-becomes-eu-car-of-choice-as-the-bloc-aims-for-zero-emissions-by-2035/>

⁶⁹ EEA - New registrations of electric vehicles in Europe [Access date: 2024.03.13.] Available at: <https://www.eea.europa.eu/en/analysis/indicators/new-registrations-of-electric-vehicles>

⁷⁰ IEA - Policies to promote electric vehicle deployment [Access date: 2023.03.14.] Available at: <https://www.iea.org/reports/global-ev-outlook-2021/policies-to-promote-electric-vehicle-deployment>

% of zero-emission vehicles out of total new registered vehicles, EU, 2013-2022

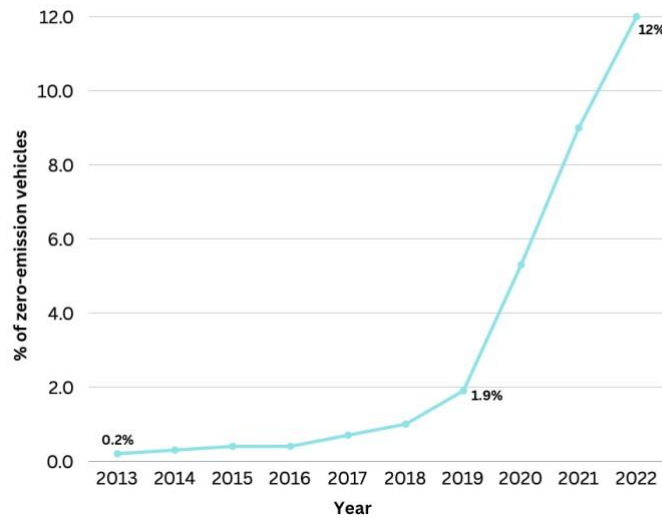


Figure 6: % of zero-emission vehicles out of total new registered vehicles, EU, 2013-2022 self-edited, source: Eurostat⁷¹

However, one thing must be pointed out in this regard, it can be stated that there is no shortage of electric vehicles. Their issue is one of affordability. According to surveys, a large number of people are considering switching to electric vehicles and are even rather excited about it.⁷² However, excitement can only go so far when a new only 17% of electric cars sold in Europe are compact vehicles in the cheaper B segment.⁷³ Transport and Environment (T&E), the organization that carried out the research, claims that automakers are delaying the adoption of EVs by giving priority to the sale of larger, more costly electric vehicles. While the average cost of a battery electric car has decreased by 53% in China since 2015, it has grown by 39% (+€18,000) in Europe.⁷⁴ This is because European automakers place a disproportionate amount of emphasis on expensive big cars and SUVs. T&E's manager of vehicle emissions, Anna Krajinska, stated: "European carmakers are holding back the mass market adoption of EVs by not bringing affordable models to consumers faster and at volume. The disproportionate focus of manufacturers on large SUVs and premium models means we have too few mass-market

⁷¹ Eurostat - Zero-emission vehicles [Access date: 2024.03.13.] Available at: <https://ec.europa.eu/eurostat/cache/egd-statistics/>

⁷² Business Insider - Electric cars don't have a demand problem. They have an affordability problem [Access date: 2024.03.15.] Available at: <https://www.businessinsider.com/electric-vehicle-demand-problem-affordability-expense-price-cost-2023-10>

⁷³ Transport and Environment - Carmakers are failing to deliver affordable electric cars, holding back EV adoption – analysis [Access date: 2024.03.15.] Available at: <https://www.transportenvironment.org/discover/carmakers-are-failing-to-deliver-affordable-electric-cars-holding-back-ev-adoption-analysis/>

⁷⁴ Jato Dynamics (2023) - EV Price Gap: A divide in the global automotive industry [Access date: 2024.03.15.] Available at: <https://www.transportenvironment.org/discover/carmakers-are-failing-to-deliver-affordable-electric-cars-holding-back-ev-adoption-analysis/>

cars and too high prices.”⁷⁵ This is where the problem arises. Carmakers prioritizing large electric models, hindering the adoption of electric vehicles is the issue.

Furthermore, the goal of promoting sustainable and more efficient transport modes must be mentioned. Reducing greenhouse gas emissions and other environmental pressures like air pollution and noise is achieved by promoting more environmentally friendly and efficient forms of transportation like collective passenger transport. A great achievement here is that Europe is now closer connected thanks to a provisional agreement from 2023, on a more robust and sustainable trans-European transportation network (TEN-T).⁷⁶ When completed, TEN-T, the European cross-border network connecting 424 major cities, will cut down on the amount of time it takes to travel by any kind of transportation.⁷⁷ The co-legislators of the agreement - this being the Parliament and the Council - decided to intensify their efforts to create a robust and sustainable TEN-T to a great extent. Strong incentives are included in this to promote multimodality—the practice of combining multiple modes of transportation for a single journey—and to enhance the usage of more environmentally friendly modes of transportation within the European transportation system. The agreement includes mandatory targets such as large airports that handle over 12 million passengers a year having to be connected by long-distance rail. This will improve passenger connection and accessibility and make rail more competitive when compared to domestic flights.⁷⁸ Furthermore, to encourage zero and low emission travel, all 424 large cities connected by the TEN-T network will need to create Sustainable Urban travel Plans.⁷⁹

However, even with this robust initiative concerning the railway, it must be stated that over the years, there hasn't been any significant advancement, and at the moment, there isn't a comprehensive policy framework, which would uplift an adaption from passenger transportation to public transport.⁸⁰ It can be seen from the Figure below, that the percentage of

⁷⁵ Ibex Publishing - Carmakers Prioritizing Large Electric Models Hindering EV Adoption, Analysis Shows [Access date: 2024.03.15.] Available at: <https://ibexpub.media/carmakers-prioritising-large-electric-models-hindering-ev-adoption-analysis-shows/>

⁷⁶ European Commission - Provisional agreement on more sustainable and resilient trans-European transport network brings Europe closer together [Access date: 2024.03.16.] Available at: https://transport.ec.europa.eu/news-events/news/provisional-agreement-more-sustainable-and-resilient-trans-european-transport-network-brings-europe-2023-12-19_en

⁷⁷ EUNEWS - Europe travels toward a more comprehensive and modern cross-border transport network as early as 2030 [Access date: 2024.03.16.] Available at: <https://www.eunews.it/en/2023/12/19/europe-travels-toward-a-more-comprehensive-and-modern-cross-border-transport-network-as-early-as-2030/>

⁷⁸ Ibidem

⁷⁹ Ibidem

⁸⁰ EA Report XX/2023 - Monitoring report on progress towards the 8th EAP objectives 2023 edition [Access date: 2024.03.15.] Available at: <https://www.eea.europa.eu/en/topics/at-a-glance/state-of-europes-environment/environment-action-programme/8th-eap-indicator-based-progress-2023>

communal transportation in all inland passenger transport stayed stable at 17.6% between 2005 and 2019, but it declined in 2019 and 2021 mostly as a result of travel limitations and altered mobility patterns brought on by the COVID-19 epidemic and its aftermath.

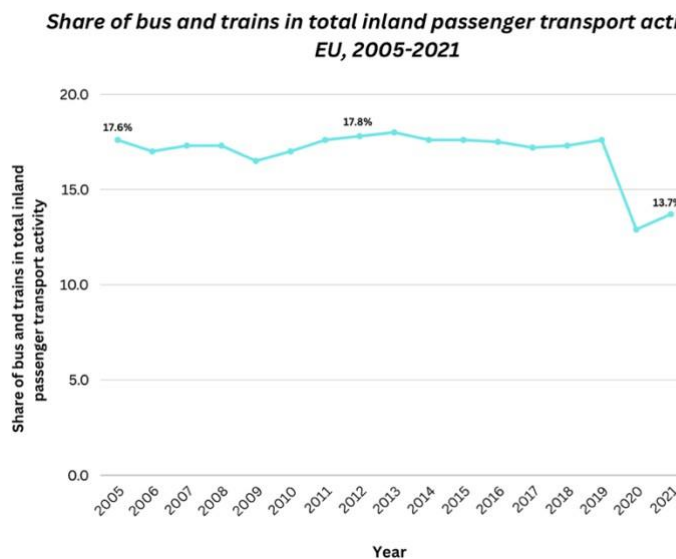


Figure 7: Share of bus and trains in total inland passenger transport, EU, 2005-2020, self-edited, source: EEA⁸¹

Overall, considering the target of all newly registered cars and vans in Europe having zero emissions, the European Union is on the right path. However, ultimately, in the end, affordability is crucial, therefore the Green Deal should be backed by both established and novel ways to lower the cost of electric mobility. Looking at the aspect of collective transport, the likelihood of a shift in mode towards increased use of public transportation in the upcoming years is quite low, as the previous years have shown a consistent lack of growth.

5.6 Farm to Fork

One of the main components of the European Green Deal was the Farm to Fork plan, which included a number of recommendations aimed at improving the laws pertaining to pesticides, nutrition labeling, and animal welfare. However, the start of the COVID-19 pandemic and the ongoing situation in Ukraine have caused governments, businesses, and consumers to reevaluate their priorities. Is the pesticide target still a feasible goal for the strategy?

Despite intense discussion about the sustainability of agriculture and the introduction of low-dosage pesticides to the market, the average amount of pesticides used in Europe has not decreased recently, with pesticide sales remaining relatively steady between 2011 and 2020,

⁸¹ EEA - Share of buses and trains in inland passenger transport [Access date: 2024.03.16.] Available at: <https://www.eea.europa.eu/en/analysis/indicators/share-of-buses-and-trains>

averaging 350,000 tons annually.⁸² As can be seen in the Figure below, the overall volume of pesticide active chemicals sold fell by 4.9% between 2011 and 2021 in the 16 EU countries that provided comprehensive data for both years. However, it is significant to remember that many of the more dangerous compounds have had their market authorization revoked and removed after being evaluated in accordance with Regulation (EC) No 1107/2009 on the sale of plant protection goods, this being the main reason for this decrease. The country with the largest decline was Czechia, with -36%, followed by Denmark, Portugal, Italy, Romania, Slovenia, Ireland, the Netherlands, Sweden, Cyprus, and Lithuania. Belgium also had a significant drop (-22%) between 2011 and 2020. However, of 16 the countries who submitted data for the period between 2011 and 2021, Spain, Germany, France, Austria and Latvia showed an increase compared to 2011 levels, with Latvia's figures showing a significant rise.⁸³

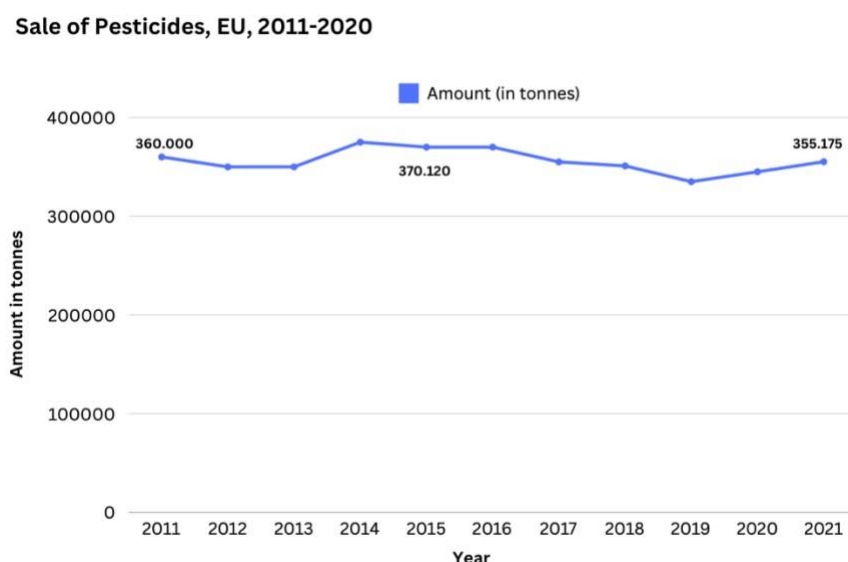


Figure 8: Sale of pesticides in the EU, 2011- 2020, self-edited, source: Eurostat⁸⁴

The Commission released an updated report on July 5, 2023⁸⁵, outlining their progress on the 2011–2021 Farm to Fork pesticide reduction targets. This report states that there has been a 6% decline in the use and risk of chemical pesticides since 2020. These numbers, however, conflict

⁸² Eurostat - Agri-environmental indicator - consumption of pesticides [Access date: 2024.03.01.] Available: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Agri-environmental_indicator_-_consumption_of_pesticides#Analysis_at_EU_and_country_level

⁸³ Eurostat - Agri-environmental indicator - consumption of pesticides [Access date: 2024.03.01.] Available: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Agri-environmental_indicator_-_consumption_of_pesticides#Analysis_at_EU_and_country_level

⁸⁴ Eurostat – Pesticide sales [Access date: 2024.03.02.] Available at: https://ec.europa.eu/eurostat/databrowser/view/aei_fm_salpest09/default/table?lang=en

⁸⁵ European Commission - Trends in Harmonised Risk Indicators for the European Union [Access date: 2024.03.01.] Available at: https://food.ec.europa.eu/plants/pesticides/sustainable-use-pesticides/harmonised-risk-indicators/trends-eu_en

with the most recent statistics on pesticide sales from Eurostat, which shows a 2.7% rise in 2021 over 2020.⁸⁶ PAN Europe, an agency working to eliminate the dependency on synthetic pesticides, has also noticed this clash of figures, and criticizes the deceptive messaging used by DG Sante and reiterates its demand for an update to its pesticide indicators.⁸⁷ „The Commission tries to shine a positive light on these alarming figures but a 6% decrease in overall pesticide use and risk indicator means that EU citizens' exposure to toxic pesticides is actually not improving. Indeed, this Harmonized Risk Indicator 1 designed by the Commission and Member States 10 years ago is flawed and needs urgent reform. This 6% indicator decrease actually comes from bans on a few highly toxic pesticides such as reprotoxic Mancozeb, a commonly used fungicide, banned in 2021. In practice, as confirmed by Eurostat, farmers keep using toxic chemicals instead of moving to non-chemical agroecological practices” – stated Martin Dermine, executive director at PAN Europe.⁸⁸

Overall, the window of opportunity to translate these encouraging strategies into meaningful legislative change is closing as the Commission's mandate draws to a close. This can also be seen from the fact that President Ursula von der Leyen declared on Tuesday, February 6 in 2024, that she will withdraw the Sustainable Use Regulation (SUR), which aimed to reduce the use of pesticides by half by 2030. During a speech in the European Parliament Plenary in Strasbourg, von der Leyen stated: “The SUR proposal has become a symbol of polarization. It has been rejected by the European Parliament. There is no progress anymore in the Council either. So, we have to do something.”⁸⁹

From the available data, it is clear that the EU is not on track to meet the targets concerning pesticides.

5.7 Ecosystem and biodiversity preservation and restoration

The area of Europe's waters is greater than that of the continent. They generate the oxygen in the air we breathe, power our weather systems, give us food and energy, and support some of the planet's most diversified ecosystems. However, conditions in Europe's oceans are changing

⁸⁶ Eurostat – Pesticide sales [Access date: 2024.03.02.] Available at:

https://ec.europa.eu/eurostat/databrowser/view/aei_fm_salpest09/default/table?lang=en

⁸⁷ PAN Europe - EU citizens more at risk from pesticides show new EU statistics EU indicator on pesticides needs urgent reform [Access date: 2024.03.01.] Available at: <https://www.pan-europe.info/press-releases/2023/08/eu-citizens-more-risk-pesticides-show-new-eu-statistics-eu-indicator>

⁸⁸ Ibidem

⁸⁹ EURACTIV - EU Commission chief to withdraw the contested pesticide regulation [Access date: 2024.03.01.] Available at: <https://www.euractiv.com/section/agriculture-food/news/von-der-leyen-to-withdraw-the-contested-pesticide-regulation/>

more quickly than ever before for living things. This puts at risk the services that marine ecosystems offer to our society and has an effect on marine ecosystems' biodiversity. These alterations are brought on by pollution from related activities, growing resource consumption (such as for food, energy, and mineral extraction), and human-caused climate change. Maintaining biodiversity and making sure that ecosystems and the services they provide are functioning properly, depend on the preservation of coastal and marine areas. In addition to offering substantial social and economic advantages and sustaining local livelihoods, marine protected areas (MPAs) are essential to the preservation of coastal and marine ecosystems. A key component of the European Green Deal is the strengthening of the Natura 2000 network, with the goal of protecting 30% of the EU's sea waters by 2030.⁹⁰

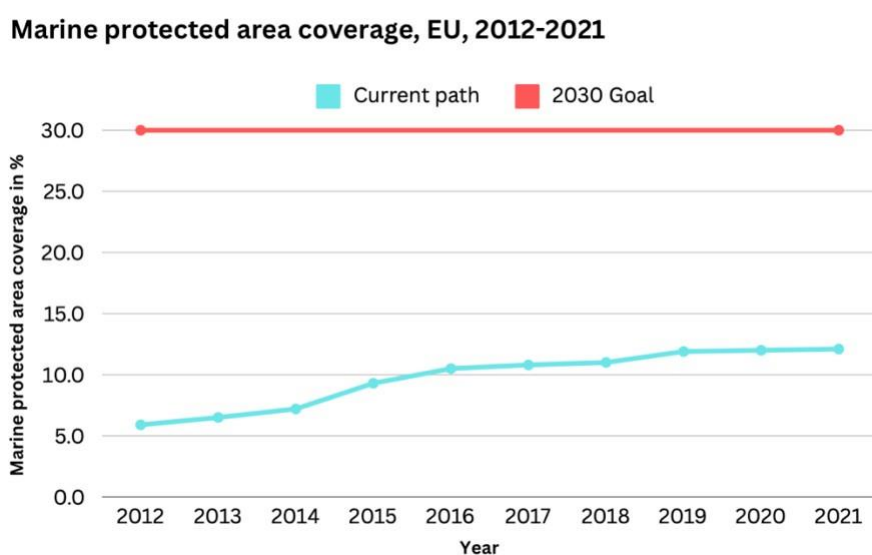


Figure 9: Marine protected area coverage, EU, 2012-2021, self-edited, source: EEA⁹¹

It can be seen from the figure above, that the EU's MPA coverage has grown significantly over the past ten years, rising from 5.9% in 2012 to 12.1% in 2021.⁹² The growth of the Natura 2000 network, a network of protected areas established by the EU's birds and habitats directives, is mostly to “blame” for this increase, though complementing national designations have also played a role. While this is encouraging, if the EU is to fulfill the 30% biodiversity strategy target by 2030, protected area expansion must occur at a far faster rate than it has in the past

⁹⁰ Sébastien Metz Joachim Claudet (2023) – Challenges and opportunities for EU fisheries and aquaculture: Part II: Marine biodiversity aspects [Access date: 2024.03.11.] Available at:

<https://research4committees.blog/2023/10/20/publication-workshop-on-the-european-green-deal-%E2%88%92-challenges-and-opportunities-for-eu-fisheries-and-aquaculture-part-ii-marine-biodiversity-aspects/>

⁹¹ European Environmental Agency - Marine protected areas in Europe's seas [Access date: 2024.03.11.] Available at: <https://www.eea.europa.eu/en/analysis/indicators/marine-protected-areas-in-europes-seas>

⁹² Ibidem

ten years. To reach the aim, the yearly rate of gain will need to rise by over 30% above the level seen over the previous nine years due to the low starting point.

One of the reasons behind this is the fact that a significant deficiency in regional collaboration regarding maritime matters exists, as no nation takes into account the ways in which its national plan influences and is connected to other countries, both inside and outside of the European Union. It is quite clear that a successful approach to sea basin planning that takes into account the cumulative effects of human pressures on transboundary marine mammal corridors and the movement of commercially significant fish species requires cross-border cooperation. Ultimately, stakeholders must be involved in the whole process, including setting national plans constantly adapting to the new available data and the changing situation. The HELCOM Regional Sea Convention needs to keep bringing state-level approaches to maritime planning in the Baltic together in a transparent and publicly available manner. Under the auspices of the Regional Sea Convention OSPAR, which encompasses non-EU governments like the UK and Norway, transboundary cooperation and collaboration to planning can be created in the North Sea and North-East Atlantic. WWF is pushing for the creation of a specific regional working group in the Mediterranean region to concentrate on the incorporation and use of an ecosystem-based approach to MSP. These strategies would support the alignment of neighboring EU and non-EU nations in their obligations to tackle the climate and biodiversity crises and protect marine livelihoods for future generations.⁹³

Another very important part of the seventh pillar is protecting terrestrial areas. The idea behind Europe's protected area vision is that, in order to meet targets for regional biodiversity, protected areas must be at the center of all efforts to conserve nature. Development planning must be based on this understanding. The amount of money we put into Europe's protected areas now will ultimately decide how well our sustainable development route performs. The protected areas of the EU are very varied in terms of their size, purpose, and administration style. Although there are many of them—more than 130,000 sites altogether⁹⁴—they are primarily quite small in size. This reflects the intense rivalry for land for the production of biofuels and renewable energy sources, as well as the tremendous pressure on land use resulting from transportation, urbanization, and agriculture.⁹⁵ It is visible from the Figure below, that by the

⁹³ WWF - The EU is not on track for a sustainable blue future [Access date: 2024.03.10.] Available at: <https://www.wwf.eu/?7932966/The-EU-is-not-on-track-for-a-sustainable-blue-future>

⁹⁴ Biodiversity Information System for Europe [Access date: 2024.03.15.] Available at: <https://biodiversity.europa.eu/europes-biodiversity/protected-areas/size>

⁹⁵ Verde - Nationally designated terrestrial protected areas in Europe [Access date: 2024.03.15.] Available at: <https://verde.ie/blog-post/nationally-designated-terrestrial-protected-areas-in-europe/>

end of 2021, 26 percent of EU territory was covered by protected areas, of which 18.6% were Natura 2000 sites and 7.4% were additional national designations.⁹⁶ The goal of the EU's 2030 biodiversity policy is to safeguard at least 30% of EU territory while also making sure that all protected areas are properly regulated. It can also be seen from the Figure that the goal won't be reached if the pace of protected area designations keeps up with the last ten years (a rise of only 1.7 percentage since 2011).

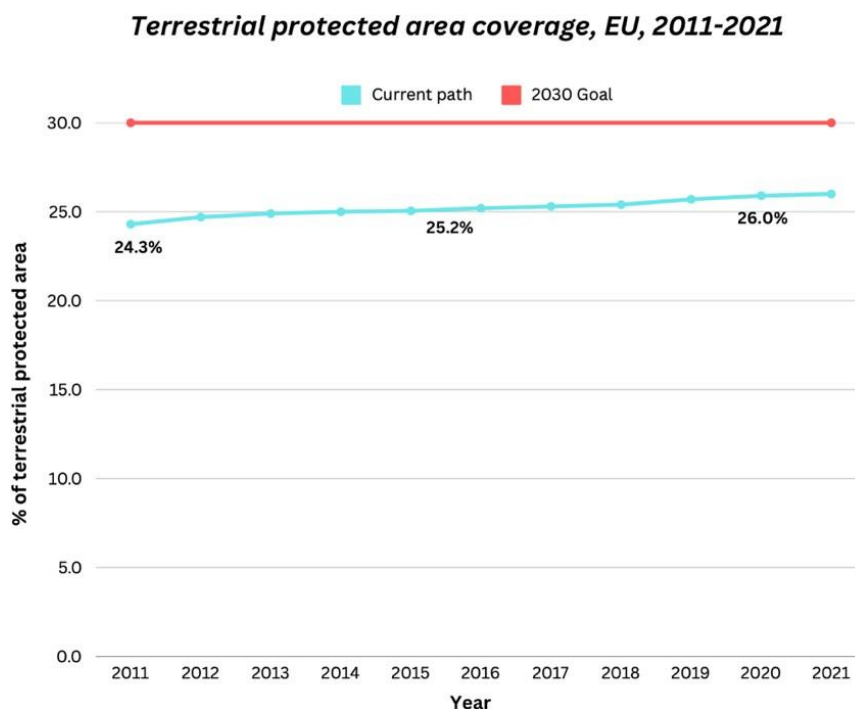


Figure 10: Terrestrial protected area coverage, EU, 2011-2021, self-edited, source: EEA⁹⁷

Overall, from the available numbers, as of now, it is quite visible that reaching the 2030 targets regarding the preservation of biodiversity is highly uncertain.

5.8 A zero pollution ambition for a toxic-free environment

Pollution poses a threat to both the environment and human health; therefore, toxic-free environments are the aim of the 8th EAP, aiming to achieve zero pollution by 2030. The implementation of the 8th EAP is supported by the European Commission's zero pollution

⁹⁶ EEA - Terrestrial protected areas in Europe [Access date: 2024.03.15.] Available at: <https://www.eea.europa.eu/en/analysis/indicators/terrestrial-protected-areas-in-europe>

⁹⁷ EEA - Terrestrial protected areas in Europe [Access date: 2024.03.15.] Available at: <https://www.eea.europa.eu/en/analysis/indicators/terrestrial-protected-areas-in-europe>

action plan⁹⁸, a major deliverable of the European Green Deal. The European Commission has previously announced steps to minimize pollution under a number of Green Deal projects, including the Farm to Fork Strategy, the Biodiversity Strategy, and the Circular Economy Action Plan, as part of the larger goal of zero pollution.

One in eight deaths in the European Union (EU) are related to environmental pollution.⁹⁹ One of the top five factors causing biodiversity loss is pollution, which has a substantial financial cost to society. Therefore, this pillar includes two specific targets, these being the following: enhancing air quality in order to reduce the amount of air pollution-related premature deaths by 55%; cutting groundwater nitrates by at least 50% by 2030. One of the most significant environmental health risks in Europe is air pollution¹⁰⁰, which also happens to be a major source of disease and death. Fine particulate matter (PM_{2.5}) is considered the air pollutant that has the greatest detrimental effects on human health.¹⁰¹ By 2030, the goal is that at least 55% fewer premature deaths linked to PM_{2.5} will have occurred as a result of air pollution, according to the zero-pollution action plan. It is visible from the figure below, that the EU is definitely on track to meet this goal, as the number of premature deaths in the EU linked to PM_{2.5} exposure decreased by 41% between 2005 and 2021. There is still a high number of deaths related to this matter, this being above 250 000, however, improvement is seen. From the available data, the 2030 55% zero pollution action plan reduction objective is very likely to be achieved, and what is more, if the previous ten years' trend holds true till 2030, the aim will be surpassed.

⁹⁸ Communication from the Commission to the European Parliament, The Council, The European Economic and Social Committee and the Committee of the Regions Pathway to a Healthy Planet for All EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil' [Access date: 2024.03.16.] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021DC0400>

⁹⁹ Think Thank . European Parliament - The EU's zero pollution ambition: Moving towards a non-toxic environment [Access date: 2024.03.18.] Available at: [https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI\(2022\)729404](https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2022)729404)

¹⁰⁰ WHO- Air pollution: The invisible health threat' [Access date: 2024.03.15.] Available at: <https://www.who.int/news-room/feature-stories/detail/air-pollution--the-invisible-health-threat>

¹⁰¹ EEA - Air quality in Europe 2022 [Access date: 2024.03.16.] Available at: <https://www.eea.europa.eu/publications/air-quality-in-europe-2022>

Number of premature deaths due to exposure to fine particulate matter, EU, 2005-2021

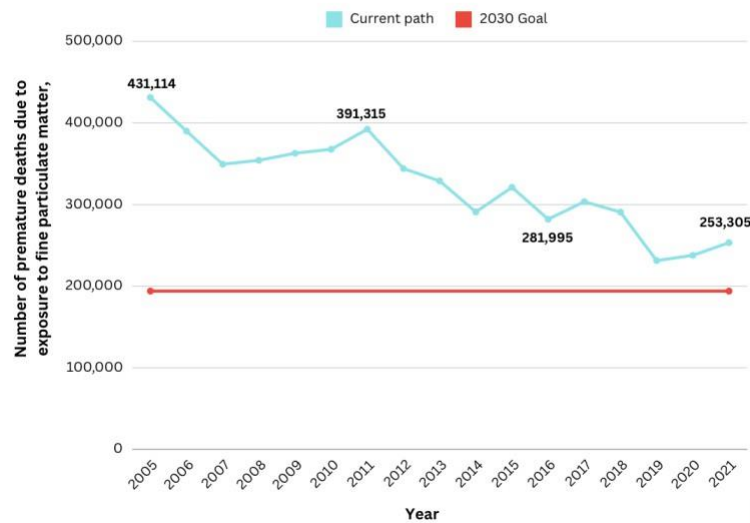


Figure 11: Number of premature deaths, EU, 2005-2021, self-edited, source: Eurostat¹⁰²

Further, the other target suggests cutting groundwater nitrates by at least 50% by 2030. When nutrients, like nitrogen, are present in excess, they become pollutants because they are not absorbed by plants. High nitrate (NO_3) concentrations in groundwater are one example of this, and they are harmful to both the environment and human health. EU policy has aimed to lower excessive nitrate levels in groundwater ever since the Nitrates Directive ¹⁰³ was passed. Regarding this goal, the question is the following: Will there be a minimum 50% reduction in nutrient losses into safe groundwater supplies by 2030? A report¹⁰⁴ on the implementation of the Nitrates Directive by the European Commission cautioned that nitrates continue to pollute water in the EU in a hazardous way. It states that in the EU, nitrate concentrations in surface and groundwater have decreased as compared to the circumstances before the Nitrates Directive was passed in 1991, however, not much has changed in the past ten years and many Member States continue to have grave concerns about nutrient contamination from agriculture. This is further demonstrated in the Figure below, which clearly shows that despite legislation being in

¹⁰² Eurostat - Premature deaths due to exposure to fine particulate matter ($\text{PM}_{2.5}$) [Access date: 2024.03.16.] Available at: <https://ec.europa.eu/eurostat/cache/egd-statistics/>

¹⁰³ EUR-Lex - Council Directive of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (91/676/EEC) [Access date: 2024.03.16.] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1561542776070&uri=CELEX:01991L0676-20081211>

¹⁰⁴ EUR-Lex - Report from the Commission to the Council and the European Parliament on the implementation of Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources based on Member State reports for the period 2016–2019 [Access date: 2024.03.17.] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2021%3A1000%3AFIN&qid=1633953687154>

place, the average nitrate concentrations in groundwater have not changed significantly thus far. The European Green Deal, with its Farm to Fork and Biodiversity strategies, zero pollution ambition, and European Climate Law¹⁰⁵ in addition to the new common agricultural policy (CAP, 2022–2027)¹⁰⁶ should, nevertheless, result in improvements given the severity of the issue.

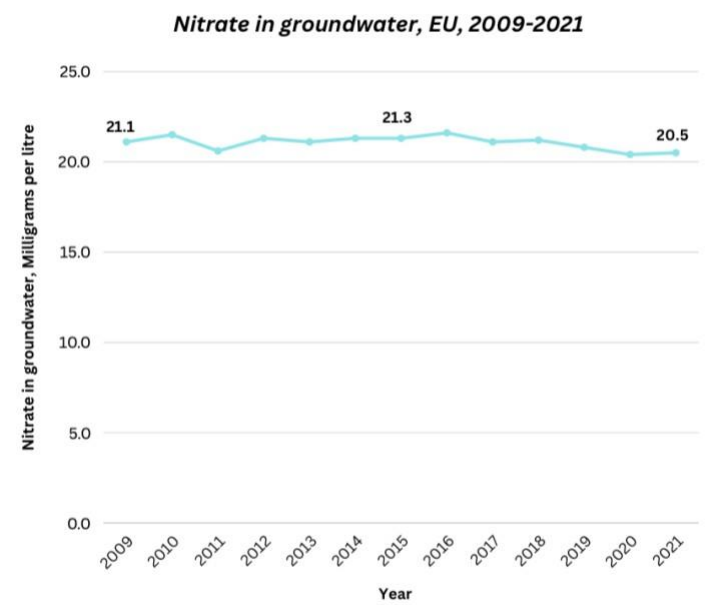


Figure 12: Nitrate in groundwater, EU, 2009-2021, self-edited, source: Eurostat¹⁰⁷

Overall, analyzing the first target, considering that the number of premature deaths linked to PM_{2.5} exposure decreased by 41% between 2005 and 2021, the 2030 55% zero pollution action plan reduction objective is very likely to be achieved. As for the second target, the EU is not on track to meet its goal, as even with nutrient pollution regulations in place, the average concentration of NO₃ in EU groundwater remained relatively constant between 2000 and 2021, at about 21 mg NO₃/l.

¹⁰⁵ EUR-Lex - Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law') [Access date: 2024.03.17.] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R1119>

¹⁰⁶ European Commission - The common agricultural policy: 2023-27 [Access date: 2024.03.17.] Available at: https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-2023-27_en

¹⁰⁷ Eurostat – Nitrate in groundwater [Access date: 2024.03.17.] Available at: <https://ec.europa.eu/eurostat/cache/egd-statistics/>

6. Possible reasoning

The COVID-19 pandemic left the EU and the rest of the globe reeling, meanwhile, the situation in Ukraine is creating new economic shockwaves and unfavorable knock-on effects. These series of unfortunate events have also had a negative impact on efforts to achieve the goal set forth in the European Green Deal.

6.1 War in Ukraine

Over two years have passed since Russia invaded Ukraine, upending the geopolitical order, upending the global economy, and reintroducing trench warfare to Europe. Nevertheless, one of the war's most significant effects has been on the world's energy markets, and consequently, on the global effort to combat climate change, in addition to the immense misery and devastating destruction wreaked upon Ukraine, its people, and its cities. The war in Ukraine highlighted and altered the perspective of European decision-makers regarding the green transition at a time when the debates about the implementation of the European Green Deal were just getting underway and more voices from the scientific communities of central and southeast Member States were just publishing their first studies. The invasion of Ukraine by Russia altered regional and global development trends, with a particular international and European policies being more profoundly affected than others: energy policy. The Household Energy Price Index, which monitors energy costs, shows that in the first half of the war, gas bills nearly doubled, and electricity costs increased by about 70% throughout Europe.¹⁰⁸ Costs increased due to a variety of factors. Europe started weaning itself off of Russian fossil resources in an attempt to harm Vladimir V. Putin's economy. As a result, Russia drastically decreased its oil exports to European nations and stopped exporting natural gas to the continent.¹⁰⁹ Reassessing energy security in Europe was one of the main effects of the conflict in Ukraine. The EU gets most of its energy from imports, most of which are sourced from Russia. Concerns regarding an excessive reliance on Russian energy supplies were raised by the invasion, which highlighted how vulnerable Europe's energy supply systems were. Policymakers in Europe felt compelled once more to diversify their energy sources and lessen their reliance on imports from politically problematic areas. The development and execution of

¹⁰⁸ EuroNews - Gas and electricity bills 'nearly double in all EU capitals', new data reveals [Access date: 2024.03.10.] Available at: <https://www.euronews.com/my-europe/2022/11/07/gas-and-electricity-bills-nearly-double-in-all-eu-capitals-new-data-reveals>

¹⁰⁹ The New York Times - The War in Ukraine Upended Energy Markets. What Does That Mean for the Climate? [Access date: 2024.03.10.] Available at: <https://www.nytimes.com/2023/01/14/business/energy-environment/davos-energy-climate-ukraine.html>

renewable energy projects were also hampered by the conflict in Ukraine. The EU had been moving toward renewable energy sources, but the crisis took resources and focus away from these initiatives. The conflict has resulted in geopolitical instability and economic uncertainty, making it difficult for corporations and governments to prioritize investments in renewable energy infrastructure.¹¹⁰

In conclusion, Europe's and other regions' energy policies have been greatly impacted by Russia's invasion of Ukraine. It emphasized the necessity of increased energy security, energy source diversification, and resistance to geopolitical unrest. Although the battle took focus away from the green transition for a while, it also sparked new attempts to minimize reliance on fossil fuels and expedite the shift to renewable energy.

6.2 COVID-19

The early 2020 COVID-19 epidemic also had a major influence on the goals of the European Green Deal in terms of implementation and success. The very "rescue" and "recovery" measures put in place by nations to deal with the COVID-19 outbreak had raised concerns months before Russia launched its onslaught because of their overall lack of consistency with climate action. The worry that the attempt to decarbonize energy systems had been abandoned was very visible during the pandemic.

The pandemic's most immediate effects included a shift in focus and funding from environmental projects to the public health emergency and its associated economic consequences. In order to address the pandemic's extraordinary challenges, governments throughout Europe were forced to give priority to emergency measures like social assistance programs, economic stimulus packages, and infrastructure for healthcare.¹¹¹ Additionally, companies found it difficult to survive, especially those in severely affected industries like manufacturing, tourism, and hospitality. This resulted in a decrease in the amount of resources available for sustainability and green innovation projects. Consequently, there were delays or setbacks in the advancement of several parts of the European Green Deal, such as the creation of policies, the passage of legislation, and the investment in green technologies. Legislative progress on the European Green Deal was also slowed down by the travel and large-scale

¹¹⁰ Social Europe - Ukraine: renewable energy, war and reconstruction [Access date: 2024.03.10.] Available at: <https://www.socialeurope.eu/ukraine-renewable-energy-war-and-reconstruction>

¹¹¹ *Ricardo García-Mira*, *Petra Schweizer-Ries*, *Cristina García-Fontán* (2023)– Sustainability and ecological transition in the post-covid era [Access date: 2024.03.11.] Available at: <https://www.researchgate.net/publication/374750950> *The COVID-19 Pandemic's Impact on Environmental Attitudes*

gathering bans, as EU institutions had to rearrange their schedules, agendas, and priorities. Important meetings and conferences were either canceled or postponed, having an impact on decision-making processes related to the United Nations Framework Convention on Climate Change, the International Civil Aviation Organization, or the International Maritime Organization.¹¹² Furthermore, the crisis changed the views of people about citizens' perspective on the most crucial issues of the world. The main challenge, according to nearly half of Europeans in 2019 was climate change. However, just 33% of respondents list climate change as one of the top three challenges in 2020, after the pandemic had broken out.¹¹³ This was also the case in the UK (77%), where health-related issues were already the most popular challenge in the previous year, and the United States (73%). The one exception is China, where 61% of respondents still ranked climate change as the top challenge, marginally higher than the epidemic (59%).¹¹⁴

Nevertheless, the pandemic had one positive side to it, since reduced usage of fossil fuels, such as petroleum, had resulted in a decrease in greenhouse gas emissions. This is the reasoning behind that fact that the levels indicated in Chapter 5.1 were so low in the year of 2019, compared to other years. An additional effect of coronavirus disease was a modest slowdown in global warming. In comparison to the annual median daily emissions in 2019, the global CO₂ emissions from surface transportation, power, and industry decreased by 36%, 7.4%, and 19% in the first quarter of 2020.¹¹⁵

All things considered, even though the COVID-19 epidemic rendered the European Green Deal less effective, it also made it clear how important it is to address environmental issues and might have accelerated some parts of the continent's green transformation.

¹¹² European Parliament Briefing – Impact of the coronavirus crisis on climate action and the European Green Deal [Access date: 2024.03.11] Available at:

[https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/649370/EPRS_BRI\(2020\)649370_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/649370/EPRS_BRI(2020)649370_EN.pdf)

¹¹³ European Investment Bank - Majority of Europeans say that COVID-19 economic recovery measures must help tackle climate crisis [Access date: 2024.03.11.] Available at: <https://www.eib.org/en/press/all/2020-344-majority-of-europeans-say-that-covid-19-economic-recovery-measures-must-help-tackle-climate-crisis>

¹¹⁴ European Investment Bank - Post-COVID-19: Europeans want a green recovery [Access date: 2024.03.11.] Available at: <https://www.eib.org/en/surveys/climate-survey/3rd-climate-survey/climate-change-and-covid-recovery.htm>

¹¹⁵ Rad, Zarei, Pourghasemi, Tiefenbacher (2022) - The COVID-19 crisis and its consequences for global warming and climate change [Access date: 2024.03.11.] Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9281557/>

7. Future path?

In mid-2024, elections will take place throughout the EU. These polls, which usually concentrate on domestic issues, will also serve as a kind of litmus test for Brussels' policies by producing a political result that will ascertain whether even more ambitious regulations can be implemented in the upcoming parliamentary cycle, which will run from 2024 to 2029. How to bridge the gap between the 2030 targets and the 2050 net zero benchmark will be up to policymakers to determine. In the upcoming months and years, one of the major stories will be how the late 20s and early 30s are managed. The manner in which Europe's regions adopt a green economy will also be critical, given the persistence of large differences. Cohesion funds and other well-established financial aid programs, such as the Just Transition Fund, will try to fill the shortfall, however, the way that regions use those funds will be more, than important. Additionally put to the test will be Europe's role in the global energy transition. With declared goals to be a global actor and rule maker in crucial sectors such as green technology, climate standards, and investment requirements, the EU will find it difficult to compete with the likes of China and the US. It will be interesting to see if Brussels can use its regulatory influence to counter the financial might of its adversaries. Furthermore, the European Council on Foreign Relations (ECFR) stated in an analysis published in late January 2024¹¹⁶ that current polls indicate a significant shift to the right in many countries for the June vote, with populist radical right parties gaining votes and seats throughout the EU and center-left and green parties losing them. In many EU capitals, far-right parties are gaining ground in national contexts. The far right had a significant influence on European politics in 2023, whether it was through election outcomes, like the victory of Geert Wilders' Freedom Party (PVV) in the November general election¹¹⁷, or through their ability to set the opposition's agenda, like the National Rally's support for France's regressive immigration bill in December.¹¹⁸ This tendency is expected to continue in 2024, both in national politics and in Europe, where early polls indicate that the June 2024 European Parliament elections will result in a more right-leaning European Parliament. According to ECFR, a populist right coalition may win a majority in the European Parliament for the first time, and this "sharp right turn" is anticipated to have a big impact on

¹¹⁶ ECFR - A sharp right turn: A forecast for the 2024 European Parliament elections [Access date: 2024.03.10.] Available at: <https://ecfr.eu/publication/a-sharp-right-turn-a-forecast-for-the-2024-european-parliament-elections/>

¹¹⁷ BBC - Dutch election: Anti-Islam populist Geert Wilders wins dramatic victory [Access date: 2024.03.09.] Available at: <https://www.bbc.com/news/world-europe-67504272>

¹¹⁸ Human Rights Watch - French Lawmakers Adopt Regressive Immigration Bill [Access date: 2024.03.09.] Available at: <https://www.hrw.org/news/2023/12/20/french-lawmakers-adopt-regressive-immigration-bill>

European policies, especially when it comes to the environment, where the new majority is probably going to be more against bold EU action to combat climate change.

Furthermore, it is very important to point out that there are four other significant elections in 2024, as this year, a number of the largest carbon polluters on the planet - the United States, India, Indonesia, Russia - will cast ballots; the outcome of which may decide whether or not mankind can reverse the trend of disastrous global warming. These states comprise one-third of the global population and almost the same amount of carbon emissions caused by human activity.¹¹⁹ One of them, the United States is responsible for producing nearly 14% of global emissions, while India, having four times the population, emits about half as much, around 7.5% of global emissions. This is very close to the emitted amount of the EU, this being 7.4%, however, it is important to point out that the population of the EU is nearly 450 million¹²⁰, while India has 1.4 billion¹²¹ people living there. Moving on to Russia, Vladimir Putin will take office in March and serve a fifth term as president after an election whose outcome seems certain.¹²² Putin's campaign to raise anti-Western sentiment and claim acceptance of Russia's invasion of Ukraine does not include any mention of climate change.¹²³ The prolonged conflict and economic sanctions, which the United States, the United Kingdom, and the European Union have imposed,¹²⁴ are likely to stall future climate action in the fourth-largest greenhouse gas emitter in the world.

8. Conclusion

In conclusion, even with the ambitious goals of the European Green Deal, it is clear that Europe has not yet reached its full potential, which begs the question of whether this can really be Europe's "Man on the Moon" moment. This thorough analysis focused on the many flaws and difficulties encountered in putting the Green Deal into practice, from failing to meet carbon reduction goals to not making enough progress in switching to renewable energy sources. It is

¹¹⁹ Nature - How five crucial elections in 2024 could shape climate action for decades [Access date: 2024.03.10.] Available at: <https://www.nature.com/articles/d41586-024-00642-3>

¹²⁰ Official website of the European Union - Facts and figures on life in the European Union [Access date: 2024.03.09.] Available at: https://european-union.europa.eu/principles-countries-history/key-facts-and-figures/life-eu_en

¹²¹ Worldometer – India population [Access date: 2024.03.09.] Available at: <https://www.worldometers.info/world-population/india-population/>

¹²² Aljazeera - Russia's presidential election: Putin, power, the possibility of protests [Access date: 2024.03.09.] Available at: <https://www.aljazeera.com/news/2024/3/7/russias-presidential-election-putin-power-the-possibility-of-protests>

¹²³ Nature - How five crucial elections in 2024 could shape climate action for decades [Access date: 2024.03.10.] Available at: <https://www.nature.com/articles/d41586-024-00642-3>

¹²⁴ Fieldfisher - UK, EU and US sanctions on Russia [Access date: 2024.03.09.] Available at: <https://www.fieldfisher.com/en/services/international-trade/trade-sanctions-blog/uk-eu-and-us-sanctions-on-russia>

visible from Chapter 5.1 that although nations are moving in the correct direction when viewed through the lens of the particular goal mentioned in the first pillar – this being reducing greenhouse emissions by 55% compared to 1990 levels - EU emissions have indeed declined since 1990, however, not quickly enough to meet Europe's climate ambitions. As can be seen in Chapter 5.2, in light of the particular aim of supplying clean, affordable, and secure energy, which is part of the second pillar, the European Union is not moving in the correct direction; with the rate of energy poverty rising recently, and access to affordable energy still being far from achieved. As demonstrated in Chapter 5.3, although the EU is not on schedule to realize its goals for the development of a clean and circular economy, the accomplishments of 2024 offer hope for this particular pillar. As illustrated in Chapter 5.4, noting out that there is limited data available, the EU is currently not on track to meet its 3% reduction target. Stated in Chapter 5.5, it is also clear that the EU is on the right track concerning the target of zero-emission cars, however, the question of affordability will be crucial regarding this issue. Further, regarding group transportation, there is little chance that the mode will change at a fast rate to include more public transit use in the near years given the history of stagnant growth. As mentioned in Chapter 5.6, it's evident that the amount of pesticides used on average in Europe has not decreased recently, despite heated debate about the sustainability of agriculture and the introduction of low-dosage pesticides to the market. Between 2011 and 2020, pesticide sales remained relatively stable, averaging 350,000 tons annually. In Chapter 5.7, it is made clear that while the progress is encouraging, for the EU is to fulfill the 30% biodiversity strategy target by 2030, the yearly rate of gain will need to rise by over 30%, a rate which is highly unexpected. Lastly, as explained in Chapter 5.8, overall, it is highly likely that the 2030 55% zero pollution action plan reduction aim will be accomplished, given that the number of premature deaths associated with PM_{2.5} exposure dropped by 41% between 2005 and 2021, however, with regard to the second objective, the EU is not on course to achieve its objective, since - despite the implementation of nutrient pollution restrictions - the average concentration of NO₃ in EU groundwater was largely stable between 2000 and 2021, at roughly 21 mg NO₃/l.

Although the Green Deal is an enormous leap toward combating climate change and advancing sustainability, a number of issues, such as technological, political, and economic limitations, have made it less successful. To make sure the Green Deal accomplishes its intended goals, European authorities must critically assess and reevaluate their strategy going ahead. Increased investment in green technologies and infrastructure, as well as improved international cooperation and political will, will be necessary to achieve this. Europe can only fully realize the revolutionary potential of the Green Deal and pave the road for a more resilient and

sustainable future by combining forces and bold actions. It is also important to point out that this shift can only be successful if it garners sufficient support, which calls for equity concerns to be prioritized above all other issues on the policy agenda. It should not be necessary for any household to make an investment that they cannot afford.

To summarize, it is unlikely that the EU will achieve its goals for 2030, and climate neutrality by 2050, respectively, because the EGD depends too heavily on Member States for implementation and there appears to be growing political resistance to accelerating mitigation measures. Political environments are shifting, social and economic costs are becoming more obvious, and there is a noticeable decline in the broad support that formerly surrounded Europe's goal of decarbonization. In other words, the green transition is becoming more and more contentious, and member state governments are increasingly tempted to hold Brussels accountable for its negative effects.¹²⁵ One thing is for sure, the EU is set against a tight deadline. The year 2024 marks a crucial point in the climate catastrophe. Humanity runs a serious risk of surpassing irreversible tipping points in the Earth's climate system if we do not take swift action this year.

The amount of work is enormous, but doable, however, urgent. As stated by The Conversation, it's not game over – it's game on.¹²⁶

¹²⁵ Politico - Europe's green deal will need broad support to succeed [Access date: 2024.03.18.] Available at: <https://www.politico.eu/article/europe-green-deal-broad-support-succeed/>

¹²⁶ The Conversation - 'It's not game over – it's game on': why 2024 is an inflection point for the climate crisis [Access date: 2024.03.11.] Available at: <https://theconversation.com/its-not-game-over-its-game-on-why-2024-is-an-inflection-point-for-the-climate-crisis-221497>

LIST OF FIGURES

Figure 1: <i>The Eight EAP-s</i>	Page 5
Figure 2: <i>Net greenhouse gas emissions, EU, 1990- 2022</i>	Page 13
Figure 3: <i>Renewable energy % of gross final energy consumption, EU, 2010- 2022</i>	Page 16
Figure 4: <i>Inability to keep home adequately warm, EU, 2014- 2022</i>	Page 17
Figure 5: <i>Circular material use rate, EU, 2010- 2022</i>	Page 19
Figure 6: <i>% of zero-emission vehicles out of total new registered vehicles, EU, 2013-2022...</i>	Page 23
Figure 7: <i>Share of bus and trains in total inland passenger transport, EU, 2005-2020</i>	Page 25
Figure 8: <i>Sale of pesticides in the EU, 2011- 2020</i>	Page 26
Figure 9: <i>Marine protected area coverage, EU, 2012-2021</i>	Page 28
Figure 10: <i>Terrestrial protected area coverage, EU, 2011-2021</i>	Page 30
Figure 11: <i>Number of premature deaths, EU, 2005-2021</i>	Page 32
Figure 12: <i>Nitrate in groundwater, EU, 2009-2021</i>	Page 33

BIBLIOGRAPHY

LEGISLATION, COMMUNICATIONS

EUR-Lex - Communication from the Commission to the European Parliament, The Council, The European Economic and Social Committee and the Committee of the Regions Pathway to a Healthy Planet for All EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil'

EUR-Lex - The European Green Deal

EUR-Lex - Council Directive of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (91/676/EEC)

EUR-Lex - Directive (EU) 2023/2413

EUR-Lex - Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law')

EUR-Lex - Report from the Commission to the Council and the European Parliament on the implementation of Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources based on Member State reports for the period 2016–2019

LITERATURE

Dr. Christian Hey (2007) - EU Environmental Policies: A short history of the policy strategies, EU Environmental Policy Handbook, URI:<http://aei.pitt.edu/id/eprint/98675>

Elisabeta-Emilia Halmaghi (2016) - Environmental Action Programmes of the European Union – Programmes Supporting the Sustainable Development Strategy of the European Union, Scientific Bulletin 21(2), DOI:[10.1515/bsaft-2016-0040](https://doi.org/10.1515/bsaft-2016-0040)

Jossen, Martin, Meessen, Pestiaux, Taylor, Vermeulen (2018) - The key role of energy renovation in the net-zero GHG emission challenge, Climact, https://www.eurima.org/uploads/files/modules/articles/1584371842_C&E%20climact_role-of-energy-renovation-in-net-zero-ghg-emission_2050-final.pdf

Katharina Knoop, Stefan Lechtenböhmer (2016)- The Potential for Energy Efficiency in the EU Member States – A Comparison of Studies, Renewable and Sustainable Energy Reviews, 68 (2017), 1097-1105, DOI: [10.1016/j.rser.2016.05.090](https://doi.org/10.1016/j.rser.2016.05.090)

Manfred Hafner, Pier Paolo Raimondi (2020) - Priorities and challenges of the EU energy transition: From the European Green Package to the new Green Deal, Russian Journal of Economics 6(4): 374-389. DOI: [10.32609/j.ruje.6.55375](https://doi.org/10.32609/j.ruje.6.55375)

Pavese, Carolina B., Torney, Diarmuid (2012) - The contribution of the European Union to global climate change governance: explaining the conditions for EU actorness, Revista Brasileira de Política Internacional 55(SPE):125-143, DOI: [10.1590/S0034-73292012000300008](https://doi.org/10.1590/S0034-73292012000300008)

Rad, Zarei, Pourghasemi, Tiefenbacher (2022) - The COVID-19 crisis and its consequences for global warming and climate change, Computers in Earth and Environmental Sciences. 2022 : 377–385. DOI: [10.1016/B978-0-323-89861-4.00006-3](https://doi.org/10.1016/B978-0-323-89861-4.00006-3)

Ricardo García- MiraPetra Schweizer - RiesCristina García-Fontán (2023) – Challenges and Opportunities in the Face of Climate Change and Energy Transition, Sustainability and ecological transition in the post-covid era, https://www.researchgate.net/publication/372789001_Natural_Economy_in_SUSTAINABILITY_AND_ECOLOGICAL_TRANSITION_IN_THE_POST-COVID_ERA_Challenges_and_Opportunities_in_the_Face_of_Climate_Change_and_Energy_Transition

Sébastien Metz Joachim Claudet (2023) – Challenges and opportunities for EU fisheries and aquaculture: Part II: Marine biodiversity aspect, <https://research4committees.blog/2023/10/20/publication-workshop-on-the-european-green-deal-%E2%88%92challenges-and-opportunities-for-eu-fisheries-and-aquaculture-part-ii-marine-biodiversity-aspects/>

EUROSTAT DATABASE

Eurostat - Agri-environmental indicator - consumption of pesticides https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Agri-environmental_indicator_-_consumption_of_pesticides#Analysis_at_EU_and_country_level

Eurostat - Arrears on utility bills - EU-SILC [https://ec.europa.eu/eurostat/databrowser/view/ILC_MDES07\\$DEFAULTVIEW/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/ILC_MDES07$DEFAULTVIEW/default/table?lang=en)

Eurostat - EU overachieves 2020 renewable energy target <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20220119-1>

Eurostat - Inability to keep home adequately warm - EU-SILC survey
https://ec.europa.eu/eurostat/databrowser/view/ILC_MDES01/default/table?lang=en

Eurostat - Premature deaths due to exposure to fine particulate matter (PM_{2.5})
<https://ec.europa.eu/eurostat/cache/egd-statistics/>

Eurostat - Renewable energy by sector <https://ec.europa.eu/eurostat/cache/egd-statistics/>

Eurostat - Zero-emission vehicles <https://ec.europa.eu/eurostat/cache/egd-statistics/>

Eurostat – Circular material use rate <https://ec.europa.eu/eurostat/cache/egd-statistics/>

Eurostat – Nitrate in groundwater <https://ec.europa.eu/eurostat/cache/egd-statistics/>

Eurostat – Pesticide sales
https://ec.europa.eu/eurostat/databrowser/view/aei_fm_salpest09/default/table?lang=en

Eurostat – Statistics Explained - Greenhouse gas emission statistics - emission inventories
https://ec.europa.eu/eurostat/statisticsexplained/index.php?title=Greenhouse_gas_emission_statistics_-_emission_inventories#Trends_in_greenhouse_gas_emissions

NEWS PORTALS, ONLINE REPORTS

Aljazeera - Russia's presidential election: Putin, power, the possibility of protests
<https://www.aljazeera.com/news/2024/3/7/russias-presidential-election-putin-power-the-possibility-of-protests>

BBC - Dutch election: Anti-Islam populist Geert Wilders wins dramatic victory
<https://www.bbc.com/news/world-europe-67504272>

Biodiversity Information System for Europe <https://biodiversity.europa.eu/europes-biodiversity/protected-areas/size>

Bioenergy International - Energy poverty – 42 million people in the EU cannot afford to heat their homes adequately: <https://bioenergyinternational.com/energy-poverty-42-million-people-in-the-eu-cannot-afford-to-heat-their-homes-adequately/>

Bloomberg - EU States Off Track for Hitting Climate and Clean Energy Goals
<https://www.bloomberg.com/news/articles/2023-12-18/eu-states-off-track-for-hitting-climate-and-clean-energy-goals?embedded-checkout=true>

Buildings Performance Institute Europe - Deep Renovation: Shifting from Exception to Standard Practice In Eu Policy https://www.bpie.eu/wp-content/uploads/2021/11/BPIE_Deep-Renovation-Briefing_Final.pdf

Business Insider - Electric cars don't have a demand problem. They have an affordability problem
<https://www.businessinsider.com/electric-vehicle-demand-problem-affordability-expense-price-cost-2023-10>

CA-RES - EU exceeds 2020 renewable energy target https://www.ca-res.eu/news/details?tx_news_pi1%5Baction%5D=detail&tx_news_pi1%5Bcontroller%5D=News&tx_news_pi1%5Bnews%5D=67&cHash=ef54a5f6febbda6bf10b665c1c5e1034

Climate Policy Info Hub - European Climate Policy - History and State of Play
<https://climatepolicyinfohub.eu/european-climate-policy-history-and-state-play.html>

Council of the European Union - European Green Deal
<https://www.consilium.europa.eu/en/policies/green-deal/>

EA Report XX/2023 - Monitoring report on progress towards the 8th EAP objectives

ECFR - A sharp right turn: A forecast for the 2024 European Parliament elections
<https://ecfr.eu/publication/a-sharp-right-turn-a-forecast-for-the-2024-european-parliament-elections/>

EEA - Air quality in Europe 2022 <https://www.eea.europa.eu/publications/air-quality-in-europe-2022>

EEA - Circular material use rate in Europe <https://www.eea.europa.eu/en/analysis/indicators/circular-material-use-rate-in-europe>

EEA - EEA greenhouse gases — data <https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer>

EEA - New registrations of electric vehicles in Europe
<https://www.eea.europa.eu/en/analysis/indicators/new-registrations-of-electric-vehicles>

EEA - Share of buses and trains in inland passenger transport
<https://www.eea.europa.eu/en/analysis/indicators/share-of-buses-and-trains>

EEA - Terrestrial protected areas in Europe
<https://www.eea.europa.eu/en/analysis/indicators/terrestrial-protected-areas-in-europe>

EMBER - Fit for the future, not Fit-for-55 <https://ember-climate.org/insights/research/fit-for-the-future-not-fit-for-55/>

ENEL - The European Green Deal: How the 27 EU countries are preparing for 2050
<https://www.enel.com/company/stories/articles/2023/04/european-green-deal>

Enhesa - European Green Deal: 8 key policy areas
<https://www.enhesa.com/resources/article/european-green-deal-key-policies/>

ESDN Report – The European Green Deal
https://www.esdn.eu/fileadmin/ESDN_Reports/ESDN_Report_2_2020.pdf

EUNews - Europe travels toward a more comprehensive and modern cross-border transport network as early as 2030 <https://www.eunews.it/en/2023/12/19/europe-travels-toward-a-more-comprehensive-and-modern-cross-border-transport-network-as-early-as-2030/>

EURACTIV - EU Commission chief to withdraw the contested pesticide regulation
<https://www.euractiv.com/section/agriculture-food/news/von-der-leyen-to-withdraw-the-contested-pesticide-regulation/>

EURACTIV - EU kicks off debate on 2040 climate goal on way to net-zero emissions
<https://www.euractiv.com/section/climate-environment/news/eu-kicks-off-debate-on-2040-climate-goal-on-way-to-net-zero-emissions/>

EURACTIV - EU significantly off-track from 2030 climate goal, Commission warns
<https://www.euractiv.com/section/energy-environment/news/eu-significantly-off-track-from-2030-climate-goal-commission-warns/>

EURONEWS - Brussels recommends new EU climate target: a 90% cut of all greenhouse gas emissions by 2040

<https://www.euronews.com/my-europe/2024/02/06/brussels-recommends-new-eu-climate-target-a-90-cut-of-all-greenhouse-gas-emissions-by-2040>

EURONEWS - Gas and electricity bills 'nearly double in all EU capitals', new data reveals
<https://www.euronews.com/my-europe/2022/11/07/gas-and-electricity-bills-nearly-double-in-all-eu-capitals-new-data-reveals>

EUROPARC Federation – EU Farm to Fork <https://www.europarc.org/european-policy/farm-to-fork-protectes-areas/>

European Commission - Comprehensive study of building energy renovation activities and the uptake of nearly-zero buildings in the EU <https://op.europa.eu/en/publication-detail/-/publication/97d6a4ca-5847-11ea-8b81-01aa75ed71a1/language-en/format-PDF/source-119528141>

European Commission - Provisional agreement on more sustainable and resilient trans-European transport network brings Europe closer together https://transport.ec.europa.eu/news-events/news/provisional-agreement-more-sustainable-and-resilient-trans-european-transport-network-brings-europe-2023-12-19_en

European Commission - Sustainable and Smart Mobility Strategy https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12438-Sustainable-and-Smart-Mobility-Strategy_en

European Commission - The common agricultural policy: 2023-27
https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-2023-27_en

European Commission - Trends in Harmonised Risk Indicators for the European Union
https://food.ec.europa.eu/plants/pesticides/sustainable-use-pesticides/harmonised-risk-indicators/trends-eu_en

European Commission – 2050 long-term strategy https://climate.ec.europa.eu/eu-action/climate-strategies-targets/2050-long-term-strategy_en

European Commission – A Union that strives for more
https://commission.europa.eu/system/files/2020-04/political-guidelines-next-commission_en_0.pdf

European Commission – Build Up Skills <https://build-up.ec.europa.eu/en/bup-skills>

European Commission – Renewable energy targets https://energy.ec.europa.eu/topics/renewable-energy/renewable-energy-directive-targets-and-rules/renewable-energy-targets_en

European Commission – Renovation Wave
https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/renovation-wave_en

European Commission – The European Green Deal: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en

European Commission - Zero emission vehicles: first 'Fit for 55' deal will end the sale of new CO2 emitting cars in Europe by 2035 https://ec.europa.eu/commission/presscorner/detail/en/ip_22_6462

European Economic and Social Committee – Communication 2020/381 - A From Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system <https://effat.org/wp-content/uploads/2021/02/PS-A-From-Farm-to-Fork-Strategy-for-a-fair-healthy-and-environmentally-friendly-food-system.pdf>

European Environment Agency - 7th Environment Action Programme
<https://www.eea.europa.eu/policy-documents/7th-environmental-action-programme>

European Environmental Agency - Marine protected areas in Europe's seas
<https://www.eea.europa.eu/en/analysis/indicators/marine-protected-areas-in-europes-seas>

European Environmental Bureau - Towards a toxic-free environment <https://eeb.org/library/towards-a-toxic-free-environment/>

European Investment Bank - Majority of Europeans say that COVID-19 economic recovery measures must help tackle climate crisis <https://www.eib.org/en/press/all/2020-344-majority-of-europeans-say-that-covid-19-economic-recovery-measures-must-help-tackle-climate-crisis>

European Investment Bank - Post-COVID-19: Europeans want a green recovery
<https://www.eib.org/en/surveys/climate-survey/3rd-climate-survey/climate-change-and-covid-recovery.htm>

European Parliament - How the EU wants to achieve a circular economy by 2050
<https://www.europarl.europa.eu/topics/en/article/20210128STO96607/how-the-eu-wants-to-achieve-a-circular-economy-by-2050>

European Parliament - Waste shipments: MEPs adopt tougher EU rules
<https://www.europarl.europa.eu/news/en/press-room/20240223IPR18069/waste-shipments-meps-adopt-tougher-eu-rules>

European Parliament Briefing – Impact of the coronavirus crisis on climate action and the European Green Deal
[https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/649370/EPRS_BRI\(2020\)649370_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/649370/EPRS_BRI(2020)649370_EN.pdf)

Fieldfisher - UK, EU and US sanctions on Russia
<https://www.fieldfisher.com/en/services/international-trade/trade-sanctions-blog/uk-eu-and-us-sanctions-on-russia>

Foresight - Twice the work in half the time: EU calls for 90% cut of GHG emissions by 2040
<https://www.climateforesight.eu/articles/eu-commission-recommendation-90-reduction-emissions-2040/>

Global Resources Outlook 2019: Natural Resources for the Future We Want: The International Resource Panel.
<https://hiz.hr/icttrain/en/trainings/01/01.html>

Human Rights Watch - French Lawmakers Adopt Regressive Immigration Bill
<https://www.hrw.org/news/2023/12/20/french-lawmakers-adopt-regressive-immigration-bill>

Ibex Publishing - Carmakers Prioritising Large Electric Models Hindering EV Adoption, Analysis Shows <https://ibexpub.media/carmakers-prioritising-large-electric-models-hindering-ev-adoption-analysis-shows/>

ICT Train - History of the Environmental EU Legislation
https://www.researchgate.net/publication/313589077_Environmental_Action_Programmes_of_the_European_Union_-_

[Programmes Supporting the Sustainable Development Strategy of the European Union](#)
IEA - Is the European Union on track to meet its REPowerEU goals? <https://www.iea.org/reports/is-the-european-union-on-track-to-meet-its-repowereu-goals>

IEA - Policies to promote electric vehicle deployment <https://www.iea.org/reports/global-ev-outlook-2021/policies-to-promote-electric-vehicle-deployment>

Jato Dynamics (2023) - EV Price Gap: A divide in the global automotive industry
<https://www.transportenvironment.org/discover/carmakers-are-failing-to-deliver-affordable-electric-cars-holding-back-ev-adoption-analysis/>

Monaco Life - Tesla Suv Becomes Eu Car Of Choice As The Bloc Aims For Zero Emissions By 2035
<https://monacolife.net/tesla-suv-becomes-eu-car-of-choice-as-the-bloc-aims-for-zero-emissions-by-2035/>

Nature - How five crucial elections in 2024 could shape climate action for decades
<https://www.nature.com/articles/d41586-024-00642-3>

OECD – Global Material Resources Outlook to 2060
<https://www.oecd.org/environment/waste/highlights-global-material-resources-outlook-to-2060.pdf>

Official website of the European Union - Facts and figures on life in the European Union
https://european-union.europa.eu/principles-countries-history/key-facts-and-figures/life-eu_en

PAN Europe - EU citizens more at risk from pesticides show new EU statistics EU indicator on pesticides needs urgent reform <https://www.pan-europe.info/press-releases/2023/08/eu-citizens-more-risk-pesticides-show-new-eu-statistics-eu-indicator>

POLITICO - EU's green renovation wave faces backlash. <https://www.politico.eu/article/eus-green-renovation-wave-faces-backlash/>

POLITICO - Europe's green deal will need broad support to succeed
<https://www.politico.eu/article/europe-green-deal-broad-support-succeed/>

Shared Green Deal – Preserving biodiversity <https://sharedgreendeal.eu/preserving-biodiversity>

Social Europe - Ukraine: renewable energy, war and reconstruction
<https://www.socialeurope.eu/ukraine-renewable-energy-war-and-reconstruction>

The Conversation - 'It's not game over – it's game on': why 2024 is an inflection point for the climate crisis <https://theconversation.com/its-not-game-over-its-game-on-why-2024-is-an-inflection-point-for-the-climate-crisis-221497>

The New York Times - The War in Ukraine Upended Energy Markets. What Does That Mean for the Climate? <https://www.nytimes.com/2023/01/14/business/energy-environment/davos-energy-climate-ukraine.html>

The Parliament - New Environment Action Programme: The direction of travel
<https://www.theparliamentmagazine.eu/news/article/the-direction-of-travel>

The World Bank - China's Transition to a Low-Carbon Economy and Climate Resilience Needs Shifts in Resources and Technologies <https://www.worldbank.org/en/news/press-release/2022/10/12/china-s-transition-to-a-low-carbon-economy-and-climate-resilience-needs-shifts-in-resources-and-technologies>

Think Thank - European Parliament - The EU's zero pollution ambition: Moving towards a non-toxic environment [https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI\(2022\)729404](https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2022)729404)

Transport and Environment - Carmakers are failing to deliver affordable electric cars, holding back EV adoption – analysis <https://www.transportenvironment.org/discover/carmakers-are-failing-to-deliver-affordable-electric-cars-holding-back-ev-adoption-analysis/>

URBACT - Cities paving the way for a circular transition <https://urbact.eu/cities-paving-way-circular-transition>

Verde - Nationally designated terrestrial protected areas in Europe <https://verde.ie/blog-post/nationally-designated-terrestrial-protected-areas-in-europe/>

WHO- Air pollution: The invisible health threat <https://www.who.int/news-room/feature-stories/detail/air-pollution--the-invisible-health-threat>

World Economic Forum - The European Union has cut greenhouse gas emissions in every sector - except this one <https://www.weforum.org/agenda/2022/09/eu-greenhouse-gas-emissions-transport/>

Worldometer – India population <https://www.worldometers.info/world-population/india-population/>

WWF - The EU is not on track for a sustainable blue future <https://www.wwf.eu/?7932966/The-EU-is-not-on-track-for-a-sustainable-blue-future>