NDC ASPECTS

Country Report

Transition pathways for the EU27

August / 2024

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NDC ASPECTS has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No 101003866

Key messages

- EU countries have agreed to set the **EU27** on course to becoming the **first climate-neutral economy by 2050** while they have set the EU's NDC target to reduce its Greenhouse Gas emissions by at least 55% in 2030 below 1990 levels.
- To reach the 2030 NDC climate target – reducing the net GHG emissions by 55% from 1990 levels – the pace of emission reductions will need to pick up and almost triple the average annual reduction achieved over the last decade.
- In contrast to the mitigation efforts until today that largely focused on energy supply, the most significant cuts in emissions in this decade are needed in buildings and transport.
- To achieve climate neutrality by 2050 the EU27 needs to aim for the following:
  - First and foremost, **electrification of demand sectors** to the extent possible is of high priority combined with renewable-based electricity.
  - **Greening the remaining fuel mix** to decarbonise hard-to-electrify sectors & uses.
  - **Abate remaining emissions** (via Carbon Capture and Storage and negative emission technologies).

Introduction and Overview

This report contains information on ambitious decarbonization options and pathways for the EU27 in line with its Nationally Determined Contribution (NDC)[1] and long-term climate strategy of the EU27. In this document, we provide a general overview of EU27 current energy and emissions status, and explore climate change mitigation scenarios for the future. The scale of changes in the climate system is already extraordinary and with every additional increase in warming, the risks to the global and European society and nature will become uncontrollable. The last eight years have been the warmest recorded at global level and 2023 was the warmest year [1,2]. Based on current NDCs and pledged policies, the world is not on track to meet the Paris Agreement objectives – i.e. limiting the temperature increase to well below 2°C above pre-industrial levels while pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

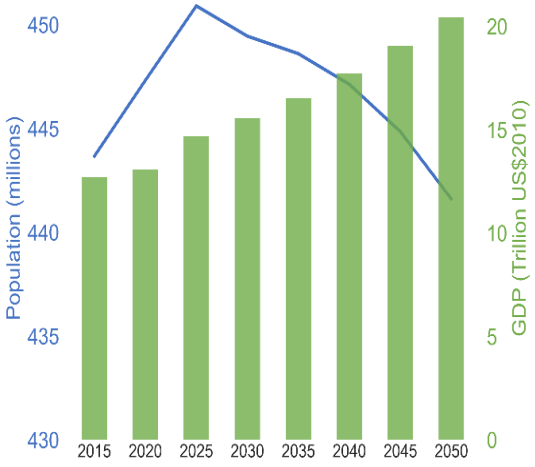

Figure 1: EU27 expected population and GDP development (please note the different axes numbering)

[1] NDCs are an integral part of the Paris Agreement, Article 4(9) of which requires all parties to communicate their post-2020 climate actions, starting in 2020 and every five years thereafter. On this basis, the EU and its member states submitted an updated and enhanced NDC on 17 December 2020, replacing the first NDC submitted in 2015.

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Key socio-economic figures and outlook

Today the EU27 is the largest single market in the world. It has a population of approximately 450 million people, and a GDP of 16 trillion euros. In Figure 1, we observe that while the EU27 GDP is set to grow continuously until 2050, the opposite is happening to its population with a projected peak in 2025 and then a steady decrease as we approach 2050.

At the same time, net greenhouse gas (GHG) emissions (including international aviation)[2] in the EU27 have decreased by 30% between 1990 and 2021 [3]. Despite the energy crisis of 2021 and 2022 caused by the Russian invasion on Ukraine and its impact on natural gas and other resources, preliminary estimates for 2022 indicate a further year-on-year reduction of EU27 emissions of 1.9%. The EU Member States' current projections and National Energy and Climate Plans (NECPs) are expected to lead to a 48% reduction in net emissions by 2030 compared to 1990 levels.

Current emission situation

Overall, the EU's domestic net GHG emissions are on a clear downward path, falling steadily over the last years. The main driver leading to the decarbonization of the EU economy in the last decades is the transformation of the energy sector. This transformation has materialised by improving the energy intensity of economic activity and decarbonising the energy mix by shifting away from fossil fuels and investing in renewables. Still, having in mind reaching the 2030 NDC climate target – reducing the net GHG emissions by 55% from 1990 levels – the pace of emission reductions will need to pick up and almost triple the average annual reduction achieved over the last decade [3]. In contrast to the mitigation efforts until today that largely focused on energy supply, the most significant cuts in emissions in this decade are needed in buildings and transport. In these two demand sectors the pace of decarbonisation has remained stagnant or even moving in the opposite direction in some cases. At the same time, action in the LULUCF sector is essential to enhance carbon removals [3]. When looking at the evolution of emissions from the agriculture sector over the past three decades, reaching the emissions cuts required seems attainable by including AFOLU/LULUCF as a sink in the net-zero balance. However, the lack of substantial progress in recent years remains a concern, calling for coordinated efforts and uptake of necessary measures and regulation at the EU and Member-State level [4].

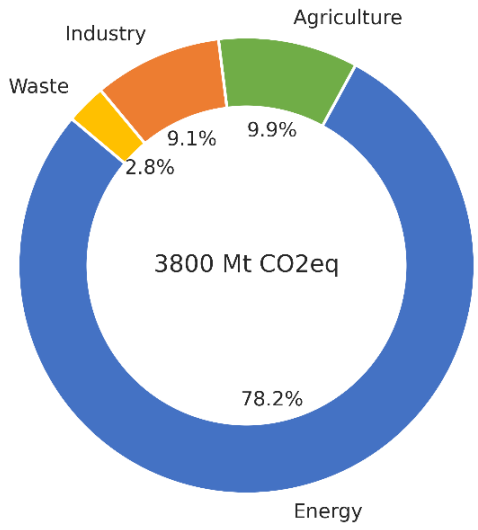

Figure 2: EU27 CO_2eq emissions by sector in 2015

[2] The net EU Greenhouse Gas (GHG) emissions mentioned here include emissions from Land Use, Land Use Change, and Forestry (LULUCF) activities, as well as emissions from international aviation, in line with the EU Nationally Determined Contribution as submitted in 2020 [3].

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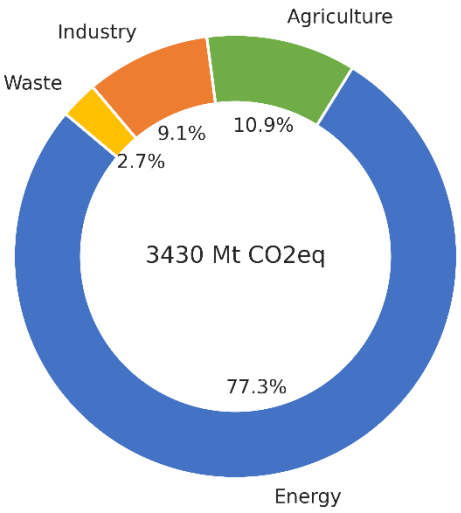

Figure 3: EU27 CO_2eq emissions by sector in 2022.

The latest energy crisis from 2022 revealed how dependence on imported fossil fuels, to cover its energy needs, makes the EU27 vulnerable to geopolitical threats. The EU responded collectively to secure energy supplies and a steady social welfare environment. A series of emergency legislative measures were proposed and adopted so that the EU could avoid major energy supply disruptions. However, deeper changes in the structure of the energy system are needed to mitigate the EU27's vulnerability to geopolitical risks. The EU27 must accelerate the energy transition to ensure affordable and reliable energy access to households and industries. The "Fit for 55" package, the cornerstone of decarbonization efforts, sets the EU27 on a path to reach its climate targets. Most of the key proposals in the package have been adopted by co-legislators and EU policies are aligned with the updated 2030 target set in the European Climate Law. Implementing the new legislation under the Fit for 55 package is said to enable the EU27 and its Member States to reduce net GHG emissions by at least 55% compared to 1990 levels by 2030. Still, if we look at Member States' projections as submitted in March 2023, the policies and measures they currently have in place combined would achieve a reduction of 43% in net emission levels by 2030 compared to 1990 [3]. If planned additional measures are considered, the projected reduction would reach 48% leaving a 7% gap to the envisaged 55% reduction in net GHG emissions, as included in the EU NDC for 2030 [3].

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Nationally Determined Contributions of EU27

The European Climate Law[3] expresses the EU27's commitment to become climate neutral by 2050, providing a clear direction to the energy transition and decarbonisation of the energy system. It communicates the EU27's commitment to reduce net GHG emissions by at least 55% in 2030 relative to 1990, as the EU27's contribution to achieving the Paris Agreement goals. In Table 1 we show the main targets of the EU27 resubmitted NDC in 2023 – including the newly proposed intermediate 2040 climate target of a -90% reduction.

The Climate Law aims to ensure that all EU policies, economic sectors, and actors contribute to the climate neutrality goal. Several policies and measures have been proposed including the EU Green Deal and the "Fit for 55" legislation package. "Fit for 55" operationalizes the ambition to reach Climate Law targets of a 55% GHG emission reduction in 2030 and climate-neutrality goals in 2050. The Just Transition Mechanism provides €55 billion in financing between 2021 and 2027 to alleviate the socio-economic impacts of the transition to net-zero and protect vulnerable individuals, companies, and member states from unintended negative consequences of climate change policies. However, the EU is currently not on track to meet its net-zero target, and nationally determined contributions of European countries would fail to deliver the Paris Agreement [5,6].

Description	Target for 2030	Proposed Target for 2040	Target for 2050
GHG with regard to 1990	-55% reduction	-90% reduction	-100% reduction, i.e. net-zero
Absolute Emissions (excl. LULUCF & excl. int. aviation)	2320 MtCO2e	777 MtCO2e	233–367 MtCO2e

Table 1: Basic information about NDC and long-term term climate target of the EU27

The Fit-for-55 package includes the following adopted or agreed proposals: reform of the EU Emissions Trading System (ETS) and the Market Stability Reserve (MSR); a new, self-standing ETS for buildings, road transport and fuels for additional sectors (ETS2); revised Effort Sharing Regulation (ESR); the Carbon Border Adjustment Mechanism (CBAM); the Social Climate Fund (SCF); a revised Land Use, Land-Use Change and Forestry (LULUCF) Regulation; updated CO_2 emission standards for cars and vans; the Alternative Fuel Infrastructure Regulation (AFIR); FuelEU Maritime; ReFuelEU Aviation; the Energy Efficiency Directive (EED); the Energy Performance of Buildings Directive (EPBD); Renewable Energy Directive (RED); the Regulation on methane emissions reduction in the energy sector; and the associated revision of the Regulation on Fluorinated Greenhouse Gases. Table 2 further indicates and describes the key elements of the European Climate Law, the EU Green Deal, the "Fit for 55" policy package, the RePowerEU Plan and the 2040 Climate Target Plan.

[3] https://eur-lex.europa.eu/EN/legal-content/summary/european-climate-law.html

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Policy	Description
European Climate Law (adopted 2021)	Legal objective of achieving climate neutrality (net-zero) by 2050. Covers all GHG emissions and all economic sectors. Balance between emissions and removals to be achieved domestically within EU borders. • 2030 target of at least 55% reduction of net GHG emissions compared to 1990 (this goal is part of the official EU NDC) • Recognition of need to enhance EU's carbon sink through Land Use, Land Use Change, and Forestry (LULUCF) regulation • Commitment to net-zero GHG emissions by 2050 and negative emissions after 2050
European Green Deal (proposed 2019)	Policy initiatives to set EU on path to climate neutrality by 2050. • EU strategy on adaptation to climate change • EU biodiversity strategy for 2030 • Farm to fork strategy • European industrial strategy • Circular economy action plan • Batteries and waste batteries • Just Transition Mechanism • Clean, affordable and secure energy • EU chemicals strategy for sustainability • Forest strategy and deforestation
Fit for 55 (proposed 2021, adopted 2023)	Set of legislative proposals and amendments to existing legislation to cut EU´s net GHG emissions by at least 55% in 2030 aiming to reach climate neutrality by 2050. • EU Emissions Trading System, EU ETS and extension to buildings and road transport fuels • Social Climate Fund • Effort sharing regulation on Member States' emissions targets • Emissions and removals from LULUCF • Alternative fuels infrastructure • Carbon Border Adjustment Mechanism, CBAM • Reducing methane emissions in energy sector (provisional agreement in 2023) • CO2 emission standards for cars and vans

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	• Amendment of Renewable Energy Directive > 40% renewable energy by 2030, including sectoral targets
	• Reduce final energy consumption at EU level by 11.7% in 2030
	• Energy performance of buildings (provisional agreement December 2023)
	  ○ all new buildings should be zero-emission by 2030
	  ○ existing buildings should be transformed to zero-emission by 2050
	  ○ ReFuelEU Aviation and FuelEU Maritime, on decarbonising aviation and shipping, respectively
	• Updated EU rules to decarbonise gas markets and promote green hydrogen and clean gases

RePowerEU Plan (2022)	Response to energy market disruptions from Russian invasion of Ukraine. Aims to rapidly reduce dependence on Russian fossil fuels by 2027. • Increases renewable energy target of Fit for 55 package from 40% to 45% • Boosts industrial decarbonisation • Investments in energy infrastructure and interconnections • Regulatory measures to increase energy efficiency • Regulatory framework for hydrogen
Climate Target Plan 2040 (2024)	Communication to start process to establish 2040 climate target putting the EU firmly on a path towards climate neutrality by 2050. • Proposal for 90% net GHG emissions reduction compared to 1990

Table 2: Climate change mitigation policies of the EU27

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Key decarbonization pathways

In this section, we are presenting and exploring key decarbonization pathways of the EU27, based on the targets set in its NDC document, as well as expert analysis and modelling of a Reference and a Decarbonisation Scenario. This will enable the evaluation of the climate pledges of the EU27, with the purpose of assessing their alignment to the Paris Agreement goals. This analysis was based on the output of the PRIMES model [7], the energy system model that has been utilized in several important climate policy studies of the European Commission , focusing on the EU27 [7]. As seen in Table 1, the EU27 has set a long-term climate neutrality target for 2050, thus projections were based on this goal and the optimal way to get there, in terms of cost and investments, while also respecting the 2030 NDC target and considering the 2040 proposed climate target. The Reference Scenario includes all adopted Fit-For-55 proposals by Member States (present in their National Energy and Climate Plans) but does not take into account any future policies or the 2050 goal of carbon neutrality. The Decarbonisation Scenario includes adopted or agreed proposals of the Fit-For-55 package, setting targets for 2030 (and up to 2050 for some sectors). Examples of levers for the Decarbonisation Scenario are:

- Enhanced electrification of energy and mobility
- Zero-carbon power sector already by 2040
- Enhanced power system flexibility and storage
- Clean fuels, of biologic and non-biologic origin
- Deep energy renovation of buildings, towards zero-emission buildings
- Efficiency priority in industry, equipment and transport
- Enhanced CO_2 standards in heavy & light duty road transport modes
- Carbon Capture (CC)-Use and Storage in industrial processes
- CO_2 capture from air and CO_2 Removing Technologies
- Methane abatement policies and land-use potential
- EU Emissions Trading Scheme I and II

In Figure 4, one can observe the key differences between the Reference and Decarbonisation Scenarios regarding the consumption of primary energy. In both scenarios primary energy consumption in the EU27 is declining, however the pace is different driven by divergent policies already in 2030. This results from several factors including improved energy efficiency, as stated in the EU27 NDC document, as well as the uptake of more efficient technologies and renewable energy in power and heat generation. In the Reference scenario, the EU27 energy system remains reliant on fossil fuels up to 2050 due to the absence of ambitious climate policies, with natural gas and oil being the main energy sources, accounting for more than 50% of total primary energy consumption, while the uptake of renewable energy is projected to be limited, i.e. 24% including biomass consumption. The Decarbonisation scenario paints a different picture, with fossil fuels having a significantly smaller percentage in 2050, i.e. approximately 16% of the total amount as they are increasingly replaced by low and zero-carbon sources in the various sectors (e.g. biofuels, renewable electricity, green hydrogen, clean e-fuels). Furthermore, solar and wind energy are notably boosted to provide decarbonised electricity and hydrogen,

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amounting to approximately 56% of the total primary energy consumption while the share of biomass remains relatively similar to the Reference Scenario.

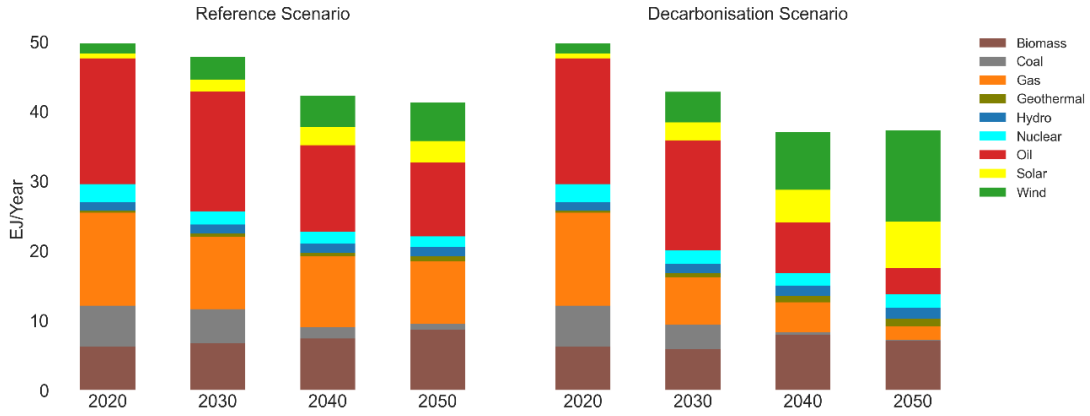

Figure 4: Primary energy consumption of EU27 in the Reference and Decarbonisation Scenarios. Source: PRIMES Model

The key differences between the Reference and Decarbonisation Scenarios are due to the driving forces, actions and policies represented in the Decarbonisation environment. First and foremost, electrification of demand sectors to the extent possible is of high priority in the Decarbonisation Scenario. The promotion of energy efficiency to reduce energy demand is vital for the decarbonisaton of the whole energy system. This is materializing when at the same time greening the electricity supply with a massive uptake of renewables (mostly solar and wind power) is happening.

Electrification offers a low-cost opportunity to reduce emissions from specific sectors like light-duty vehicles and heat pumps for buildings. At the same time greening the remaining fuel mix to decarbonise hard-to-electrify sectors and uses (e.g. industry sectors, freight transport, aviation, maritime) goes hand in hand to achieve the pledged climate goals of the EU27: This requires the accelerated deployment of biofuels and renewable fuels of non-biological origin (RFNBOs), both gaseous and liquid fuels, using the existing infrastructure to the extent possible.

To abate the remaining emissions the use of Carbon Capture and Storage (CCS) as well as negative CO_2 emissions via biogenic carbon removals and Direct Air Capture (DAC) is present in the modelling and needed, without it being one of the main abetement options.

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Sectoral system transformations

In this section, we examine the sectoral transformations induced in the Decarbonisation scenario (developed by the PRIMES energy system model) in industry, buildings, transport and the power & heat sectors. As seen in Figure 5, final energy consumption of all sectors is projected to be much lower in the Decarbonisation scenario compared to the Reference, a result driven by stronger efficiency improvements and the replacement of inefficient technologies and fuels with more advanced, and less carbon-intensive options.

Industry

In the Reference scenario, the EU27 industry sector remains heavily reliant on fossil fuels, but the share of electricity is constantly increasing and reaches 42% of the industrial fuel mix in 2050. On the other hand, electricity share is projected to reach 65% in the Decarbonisation scenario replacing the use of fossil fuels in all industrial subsectors, while sectoral energy consumption drops compared to the Reference due to various efficiency enhancements, including heat recovery and the application of Best Available Technologies in the sector. The main challenge for the Industry sector in the EU27, apart from electrifying the idustrial sectors where this is possible, is to replace fossil fuels with RFNBOs[4], heat recovery and other available technologies.

Buildings

The energy performance of buildings in the EU27 is so insufficient, based on current building codes requirements, that the levels of energy consumption place the sector among the most significant CO2 sources. e. One third (35%) of the EU building stock is over 50 years old, more than 40% of the building stock was built before 1960 and 90% before 1990[5]. The buildings sector is still dependent on fossil fuels (especially gas and oil), but electricity's share is projected to increase over time and accounts for 45% of buildings' energy consumption in the Reference scenario. The Decarbonisation scenario accelerates the electrification trend based on the massive uptake of heat pumps with electricity rising to almost 65% of the total consumption in the sector driven by the increasing electrification of space and water heating end-uses as well as cooking. Furthermore, sectoral consumption is projected to drop by 25% compared to the Reference scenario in 2050, highlighting the improved energy efficiency, in particular through deep renovations and increased thermal insulation of residential and services buildings. The main challenge when it comes to increasing both the depth and rate of renovations is the high upfront costs required and their technical implementation (especially for vulnerable citizens).

Transport

The transport sector relies by 75% on fossil liquids in the Reference scenario, indicating the continued dominance of internal combustion engines (ICE) fired with petroleum products. In the Refence scenario, the amount of energy consumption is projected to decline but not significantly driven by two contradictory trends; increasing economic activity and trade, counterbalanced by the uptake of more efficient fuels and technologies (most importantly electric vehicles). In contrast, the Decarbonisation scenario projects a significant increase of electricity in the transport fuel mix, amounting to 51% of total consumption in 2050, through the massive adoption of electric

[4] RFNOBOs are defined as renewable liquid and gaseous fuels of non-biological origin

[5] : Filippidou, F. and Jimenez Navarro, J.P., Achieving the cost-effective energy transformation of Europe's buildings, EUR 29906 EN, Publications Office of the European Union, Luxembourg, 2019, ISBN 978-92-76-12394-1, doi:10.2760/278207, JRC117739.

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vehicles (EV), both in passenger and freight transport, while hydrogen, advanced biofuels and e-liquids are also deployed to reduce the amount of fossil liquids. Given the much higher efficiency of EVs compared to conventional ICE vehicles, transport-related energy consumption is projected to decline by 39% compared to the Reference scenario in 2050.

Electricity and Heat Production

As seen in Figure 6, total electricity production is remarkably higher in the Decarbonisation scenario, being 97% higher than the Reference in the year 2050. There are many factors contributing to this, such as the projected adoption of electric vehicles in the transport sector and heat pumps in residential and commercial buildings. Additionally, the industry and building sectors also go through electrification in the Decarbonisation scenario, therefore increasing demand for electricity. Another important factor that increases the electricity supply in the Decarbonisation scenario is the uptake of green hydrogen and e-fuels in the hardest to abate sectors and processes that require the use of very large amounts of electricity. The utilization of renewable energy sources is limited in the Reference scenario, amounting to 66% of the power supply mix in 2050. In contrast, the Decarbonisation scenario projects a significantly higher uptake of renewable energy sources, with their share increasing to 88% of the power generation mix in 2050. Power sector renewables and power storage technologies significantly reduce emissions and make electricity almost zero-carbon while accommodating system reliability in the Decarbonisation scenario. The highest shares of renewable electricity production are based on wind and solar energy where the potential is large in EU27 Member States. At the same time, a conservative share of electricity is produced by nuclear. At the moment, nuclear power generated just over a fifth (21.8%) of the EU's electricity in 2022, with 12 EU countries currently including it in their energy mix. The EU remains technologically neutral when it comes to energy sources, as stated by the EC[6], – meaning the decision of where to supply energy from is for each EU country to take.

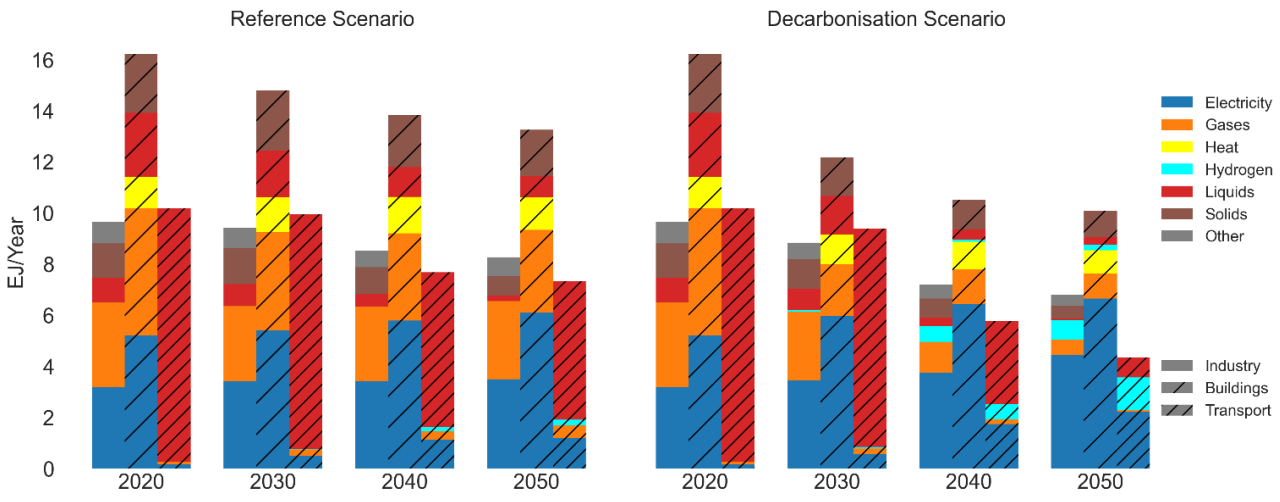

Figure 5: Final energy consumption of EU27 by main sector and fuel in the Reference and Decarbonisation Scenarios, Source: PRIMES Model

[6] https://energy.ec.europa.eu/news/focus-eu-nuclear-energy-policy-why-it-matters-us-all-2024-03-13_en

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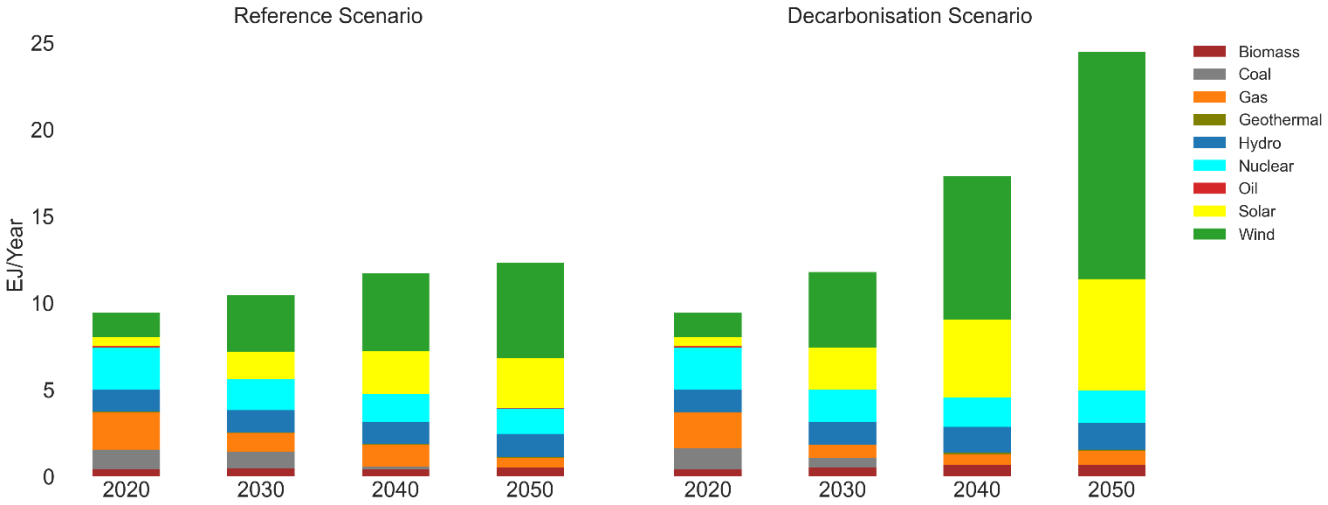

Figure 6: Electricity production of EU27 by fuel in the in the Reference and Decarbonisation Scenarios, Source: PRIMES Model

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Greenhouse Gas Emissions

In this section, we focus on the CO_2 emission trajectories of the Reference and Decarbonisation scenarios. As seen in Figure 7, annual CO_2 emissions are projected to decline in the period after 2025 driven by the implementation of already legislated climate policies at the EU and national level; ultimately EU27 CO_2 emissions are projected to reach 1514 MtCO2 in 2050 in the Reference scenario. In contrast, the Decarbonisation scenario projects accelerated emission reduction efforts by 2030 where CO_2 emissions stand at a level of around 2000 MtCO2 (i.e. 21% lower than in Reference Scenario); the emissions reductions is accelerated even further after 2030 with the EU achieving net-zero CO_2 emissions by 2050. In the Reference scenario, the demand sectors (i.e. industry, buildings, and transport) are projected to emit approximately 1140 $MtCO_2$/year in 2050, whereas the supply sector will account for 182 $MtCO_2$/year. In contrast, the Decarbonisation scenario projects CO_2 emissions of 101 MtCO2/year for the demand sectors, while energy supply emissions turn net-negative in the long term (-72 MtCO2/year in 2050) driven by the uptake of Negative Emission Technologies and in particular Biomass with Carbon Capture and Storage (BECCS). Still, at present, a clear separation of the contributions from emissions reductions versus carbon removals is missing in EU policies, although this is an element that is required of the forthcoming 2040 climate target. There is room for improvement in the target's scope, as the Climate Law currently does not clearly state that international aviation and maritime transport emissions are included, and an explanation of why net zero by 2050 constitutes a fair contribution of the EU to the Paris Agreement climate goals is lacking [4,5].

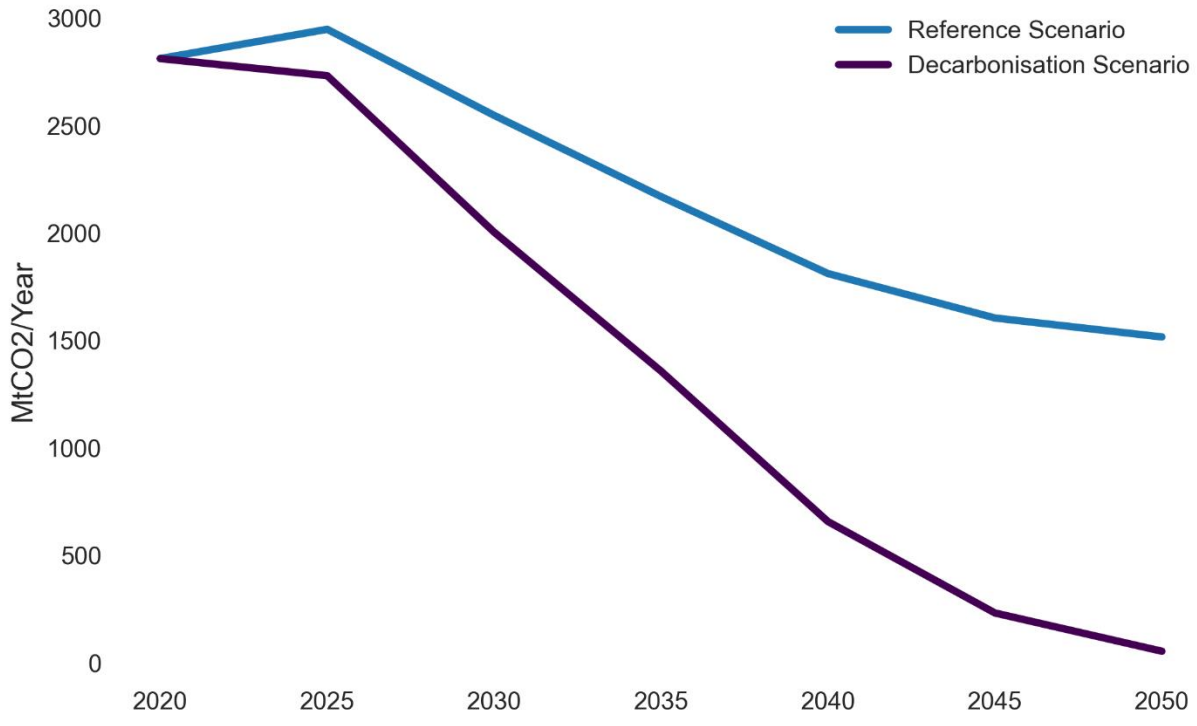

Figure 7: Annual CO2 Emissions of the EU37 energy sector Reference and Decarbonisation Scenarios

Source: PRIMES Model

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Key messages for next NDCs

Despite the energy crisis of 2021 and 2022 caused by the Russian invasion on Ukraine and its impact on natural gas and other resources, preliminary estimates for 2022 indicate a further year-on-year reduction of EU27 emissions of 1.9%. The EU Member States' current projections and National Energy and Climate Plans (NECPs) are expected to lead to a 48% reduction in net emissions by 2030 compared to 1990 levels.

In contrast to the mitigation efforts until today that largely focused on energy supply, the most significant cuts in emissions in this decade are needed in buildings and transport. In these two demand sectors the pace of decarbonisation has remained stagnant or even moving in the opposite direction in some cases.

The European Climate Law expresses the EU27's commitment to become climate neutral by 2050, providing a clear direction to the energy transition and decarbonisation of the energy system. Based on our modelling and analysis of resutls, the PRIMES-based Decarbonisation scenario shows that renewable energy sources and energy efficiency are the two pillars of the green transition and reaching of the 2050 climate neutrality goals.

Renewables offset the early decarbonization of electricity supply, already by 2040, with carbon-free electricity to be used to electrify demand sectors (transport, buildings, industry) and produce climate-neutral fuels (e.g. green hydrogen, clean e-fuels) that are needed to decarbonise sectors or processes within sectors that are difficult to be electrified.

Efficiency gains brought in by electrification (heat pumps, EVs, etc.), buildings' deep renovation, process improvement in industry, and end-use technical efficiency upgrades reduce operating costs and facilitate managing the limited potentials of renewables, while reducing EU's reliance on costly and currently immature carbon dioxide removal technologies.

Electricity will become the **dominant energy carrier** in the future energy system (mobility, heat pumps, production of e-fuels to replace fossil fuels) and has a **strategic priority** due to high energy efficiency and low costs. At the same time, **climate-neutral synthetic fuels** (including green hydrogen) and to a lesser extent biofuels and biomethane **complement electrification** where necessary (e.g. parts of heavy-duty transport, aviation, maritime, high-temperature industrial processes, specific uses of gas).

The power sector's decarbonisation has to be achieved rapidly so that electricity becomes a carbon-neutral carrier and supports the decarbonization of the demand sectors. **All sectors will undergo a profound transformation** based on increased investment as the new technologies are highly capital-intensive.

There is a profound need to **kick-start the process of achieving industrial maturity and production upscaling** for technologies that are essential for clean alternative fuels, energy storage technologies and still expensive renewable technologies (e.g., offshore wind and others), especially in case of more ambitious 2030, 2040 and 2050 targets.

Total consumer costs (referring to operating costs) are manageable and low in the green transition (due to falling renewable energy costs, potential maturity of new technologies, and the economic benefits of efficiency). However, **total investment requirements have to increase considerably**, rendering funding facilitation the key to achieving a green transition that is financially and socially acceptable.

The biggest challenge for the EU27 is to achieve the 2030 goals and then move rapidly with mobilising

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investments towards climate neutrality in 2050. Electrification has strategic priority due to high energy efficiency and cost competitiveness compared to other decarbonisation solutions. The reason for extensive electrification is the achievement of the highest possible energy efficiency of the whole system and especially the demand sectors, which is a feature of electrification technologies, as, in this manner, the overall requirements of renewables deployment remain feasible and manageable.

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COUNTRY REPORT

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NDC ASPECTS has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No 101003866