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Setting EU climate and energy targets that deliver

Policy recommendations for a net-zero package 2040

E-PAPER

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Abbreviations

BECCS – Bioenergy with carbon capture and storage
CDR – Carbon dioxide removals
CO_2-e – Carbon dioxide emissions equivalent
COP30 – 30th Conference of the Parties
CCS – Carbon capture and storage
DAC – Direct Air Capture
EED – Energy Efficiency Directive
ESABCC – European Scientific Advisory Board on Climate Change
ESD – Effort Sharing Decision
ESR – Effort Sharing Regulation
ETS – Emissions Trading System
ETS 1 – Emissions Trading System (covering power, industry and part of shipping and aviation)
ETS 2 – Emissions Trading System (covering fuels used in buildings and road transport)
EU – European Union
FF55 – Fit for 55 package
f-gases – Fluorinated gases
GDP – Gross domestic product
GHG – Greenhouse gases
GST – Global Stocktake
IEA – International Energy Agency
MSs – Member States (of the European Union)
LULUCF – Land use, land use change and forestry
Mt – Megatons (1 million tons)
Mtoe – Million tonnes of oil equivalent
NDC – Nationally Determined Contribution
NECP – National Energy and Climate Plan
RED – Renewable Energy Directive
UN – United Nations
UNFCCC – United Nations Framework Convention on Climate Change

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Introduction

The European Union (EU) wants to become the first climate-neutral continent, at the latest by the year 2050. It has underpinned its greenhouse gas emission reduction target of 55% by 2030 with a set of policies and sub-targets. At a moment where global multilateral climate policy is missing leadership, the EU, however, is late with communicating interim targets for 2035 and 2040, as required under the Paris Agreement and its own Climate Law.

Once these headline climate targets for 2035 and 2040 are set, further sub-targets, policies and measures will need to be developed to ensure these objectives will be reached. This publication answers 10 key questions that matter for the EU's current decision-making process on climate and energy targets and policies. And further, it develops five policy proposals that could underpin the 'net-zero package', a much-needed follow-up and improvement on the current 'Fit for 55 package'. This net-zero package provides the core elements for a consistent EU strategy that can achieve the required greenhouse gas emission reductions with a set of multiple, complementary targets, policies and measures.

1. What's in the new European Commission's 2040 climate target proposal?

On 2 July 2025, the European Commission presented its amendment to the European Climate Law,[1] proposing to add a greenhouse gas emission reduction target of 90% by 2040 (compared to 1990) to the Law, complementing the existing 2030 and 2050 targets. The amendment does not include specific proposals on the future climate and energy policy framework to achieve this target, though the Commission does indicate that as part of a review of the existing framework, the following elements should be looked at:

(a) The use of international carbon credits.
(b) The integration of permanent carbon removals in the EU ETS.
(c) Enhanced flexibility between economic sectors.

The European Commission is proposing the use of **international carbon credits** to fulfil part of the 2040 target but only envisages this to start in 2036. It is unclear whether the use of international credits would continue after 2040, but if they do, they would need to be phased out by 2049 given that the 2050 net-zero greenhouse gas emission reduction target is a domestic target. The Commission proposes to limit international credits to 3% of 1990 emissions (or 139 million tons of CO_2 equivalent greenhouse gases - $MtCO_2$-e) but it is unclear whether this amount refers to the total amount of credits that can be used in the period of 2036 to 2040 or whether it refers to the amount that can be used in the year 2040 alone. While in the first option, the use of international credits in the whole period 2036 to 2040 would thus be limited to 139 $MtCO_2$-e, in the second option, and based on a gradual built up of the use of credits, the total amount of credits that could be used in the period 2036 to 2040 could be as high as 430 $MtCO_2$-e.

The concept of **permanent carbon removals** refers specifically to two technologies that are still in their infancy: Direct Air Capture (DAC) and Bioenergy Carbon Capture and Storage (BECCS). Both technologies aim to take carbon out of the atmosphere and ensure permanent storage of this carbon. By integrating them into the EU Emissions Trading System (ETS), proponents hope to create financial incentives to invest in these technologies. There are, however, numerous concerns around this proposal.[2]

1 European Commission (2025): Proposal for amending Regulation (EU) 2021/1119). July 2025: https://climate.ec.europa.eu/document/download/e1b5a957-c6b9-4cb2-a247-bd28bf675db6_en

2 See: F. De Simone (2024): No place for carbon removals in emissions reduction policies. In: New Energy World. October 2024: https://knowledge.energyinst.org/new-energy-world/article?id=139089; and Concito/Clean Air Task Force (2024): The Balancing Act: Risks and Benefits of Integrating Permanent Carbon Removals into the EU ETS. December 2024: https://concito.dk/files/media/document/CONCITO%20%26%20CATF%202024_Emissions%20trading%20and%20permanent%20carbon%20removals.pdf

And finally, with increasing **flexibility across sectors**, the Commission hopes to enable countries to contribute in the best possible way to reduce emissions and increase removals. While flexibility currently already exists between the targets under the ETS, the Effort Sharing Regulation (ESR) and the Land Use Land Use Change and Forestry (LULUCF) Regulation, the objective of the Commission's proposal is to increase these flexibilities or potentially to get rid of these different targets.

2. What does this proposed target really mean?

This proposal has been long overdue as: (a) the Climate Law itself obliged the Commission to do this by June 2024;[3] and (b) the Commission already presented a communication suggesting this 90% target in February 2024.[4]

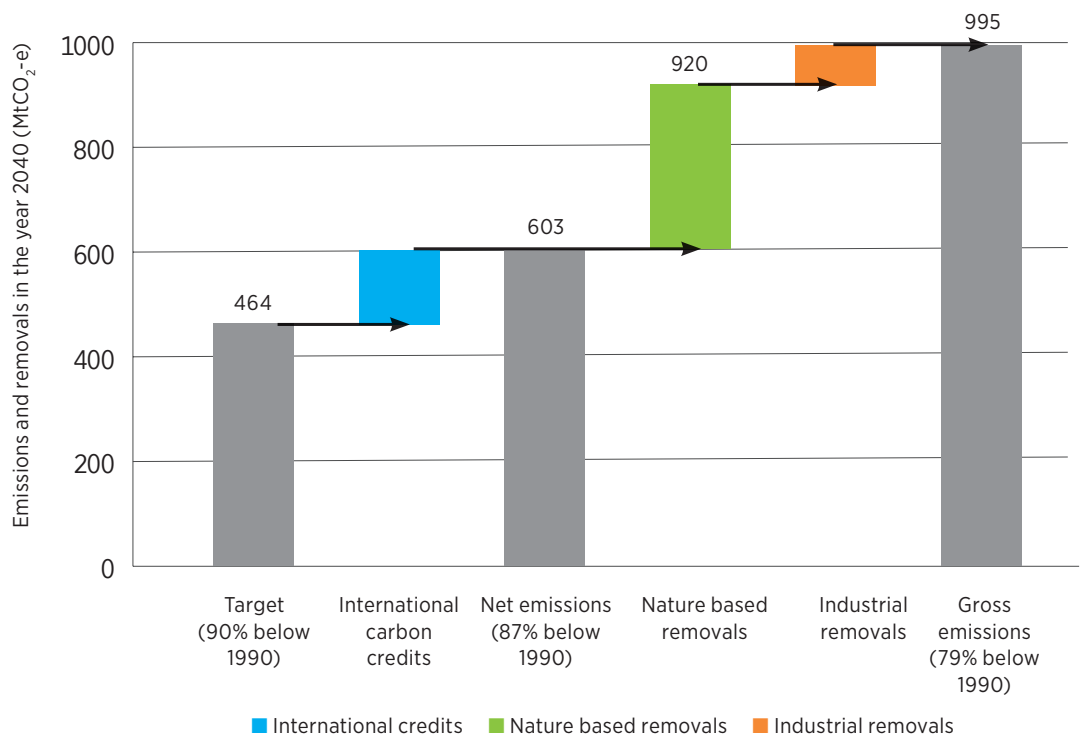
The Commission delayed filing a legal proposal to get more clarity on Member States' support for the 90% target. This delay also caused a delay to the EU's submission of a new 2035 climate target to the United Nations (UN) as the Commission wants to base the 2035 target on the 2040 target. Because of this delay, the EU missed the formal deadline of 10 February 2025 for the submission of the 2035 targets as stipulated in the Paris Agreement. As mentioned above, and in an effort to get more Member States' buy in, the Commission weakened its original proposal by including a number of loopholes, which will substantially reduce its impact (as shown in Graph 1 below) and could undermine Europe's climate and energy policies.

First, allowing international carbon credits (also called 'Article 6 credits', referring to the paragraph in the Paris Agreement dealing with international credits) to fulfil part of the reduction obligations could increase leftover net domestic emissions in 2040 by 30% (from 464 Mt to 603 $MtCO_2$-e, as can be seen on the left side of Graph 1). Furthermore, the Commission's own impact assessment envisages the use of removals of up to 7.5%, which means gross domestic emissions without accounting for carbon dioxide removals (CDR) might only be 79% below 1990 levels (see right side of Graph 1).

3 See Article 4.3 of the European Climate Law: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1119. The First Global Stocktake was finalised on 13 December 2023, meaning the deadline in this article was formally 12 June 2024.

4 European Commission (2024): Securing our future. Europe's 2040 climate target and path to climate neutrality by 2050 building a sustainable, just and prosperous society. February 2024: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52024DC0063

Graph 1: Actual emissions in 2040 under the Commission's proposed amendment to the Climate Law.



Note: Columns 1, 2 and 3 based on the Commission's proposed amendment to the Climate Law (July 2025); columns 4, 5 and 6 based on the 2040 Climate Target impact assessment (Feb. 2024)
Source: own calculation inspired by Öko-Institut, July 2025: https://www.oeko.de/fileadmin/oekodoc/PB-2040-climate-proposal.pdf

3. Is the proposed 2040 target aligned with the Paris Agreement? How does it support the international process?

The proposed 90% reduction represents the lower end of the target advised by the European Scientific Advisory Board on Climate Change (ESABCC), which proposed a reduction target of 90% to 95%.[5] The European Commission can therefore claim that the proposal is scientifically robust. However, it needs to be noted that the ESABCC's advice needed to respect the existing policy framework and thus the board proposed targets that fitted within the range of a 55% reduction by 2030 and 100% by 2050. Several members of the board would have liked to make more ambitious proposals, better reflecting the EU's fair share of achieving the goals of the Paris Agreement. As the board itself stated in a follow-up report:

5 ESABCC (2023): Scientific advice for the determination of an EU-wide 2040 climate target and a greenhouse gas budget for 2030-2050. June 2023: https://climate-advisory-board.europa.eu/reports-and-publications/scientific-advice-for-the-determination-of-an-eu-wide-2040

'*The 90–95% emission reduction target recommended by the Advisory Board is expressed in domestic terms, as it is intended to place the EU on a feasible, credible and cost-efficient trajectory towards achieving climate neutrality by 2050, and to increase the fairness of the EU's contribution to global mitigation. While not fully aligned with what would constitute a fair share of global mitigation efforts, this level of ambition helps to bridge the gap between the EU's feasible pathway and its broader responsibility under the Paris Agreement.*'[6] In fact, in order for the EU to make a fair contribution to global efforts to limit temperature rise to 1.5°C, the EU would need to reach net-zero greenhouse gas emissions by or around 2040 rather than 2050.[7]

The proposed 2040 target should inform the development of the EU's third Nationally Determined Contribution (NDC)[8] under the Paris Climate Agreement. The first two NDCs related to the 2030 climate targets of the EU, and the next NDC should identify the EU's greenhouse gas emission reduction target for 2035. Based on the Paris Agreement, all countries were requested to submit their 2035 target by 10 February 2025,[9] which many did[10] but most failed to do, including the European Union. The UN Climate Secretariat has now set a new deadline for NDC submissions for late September 2025, in order for these contributions to be integrated in a Synthesis Report[11] assessing the collective impact of all submitted 2035 pledges, to be published prior to the next climate summit (COP30) taking place in Belem, Brazil that starts on 10 November 2025.

The EU's NDC needs to be approved by all the environment ministers of the 27 EU Member States. If the EU's NDC is to be integrated in the UN Synthesis Report, a decision needs to be made at the Environment Council of 18 September 2025. While the Commission still

6 ESABCC (2025): Scientific advice for amending the European Climate Law. Setting climate goals to strengthen EU strategic priorities. May 2025: https://climate-advisory-board.europa.eu/news/staying-the-course-on-climate-action-essential-to-eu-security-and-competitiveness

7 See a.o.: Trio, W: Getting back on track with new EU climate and energy targets for 2035 and 2040. February 2024: https://eu.boell.org/sites/default/files/2024-02/factsheet-eu-climate-energy-targets_0.pdf; Grant, N et.al: 1.5°C Pathways for the EU27: accelerating climate action to deliver the Paris Agreement. September 2022: https://climateanalytics.org/publications/15c-pathways-for-the-eu27-accelerating-climate-action-to-deliver-the-paris-agreement; and UN Secretary-General Antonio Gutterez: 'Specifically, leaders of developed countries must commit to reaching net zero as close as possible to 2040, the limit they should all aim to respect.' In: Secretary-General's video message for press conference to launch the Synthesis Report of the Intergovernmental Panel on Climate Change. March 2023: https://www.un.org/sg/en/content/sg/statement/2023-03-20/secretary-generals-video-message-for-press-conference-launch-the-synthesis-report-of-the-intergovernmental-panel-climate-change

8 The First NDC, submitted in March 2015, committed the EU to reduce its greenhouse gas emissions by at least 40% by 2030. The Second NDC, submitted in December 2020, increased this commitment to 55% by 2030. An update, after the adoption of the 'Fit for 55' policy framework, was submitted in October 2023.

9 See: https://unfccc.int/news/paris-agreement-implementation-and-compliance-committee-gears-up-to-help-countries-meet-key

10 As of 1 July 2025, 25 countries have submitted a 2035 NDC, including all G7 members but the EU.

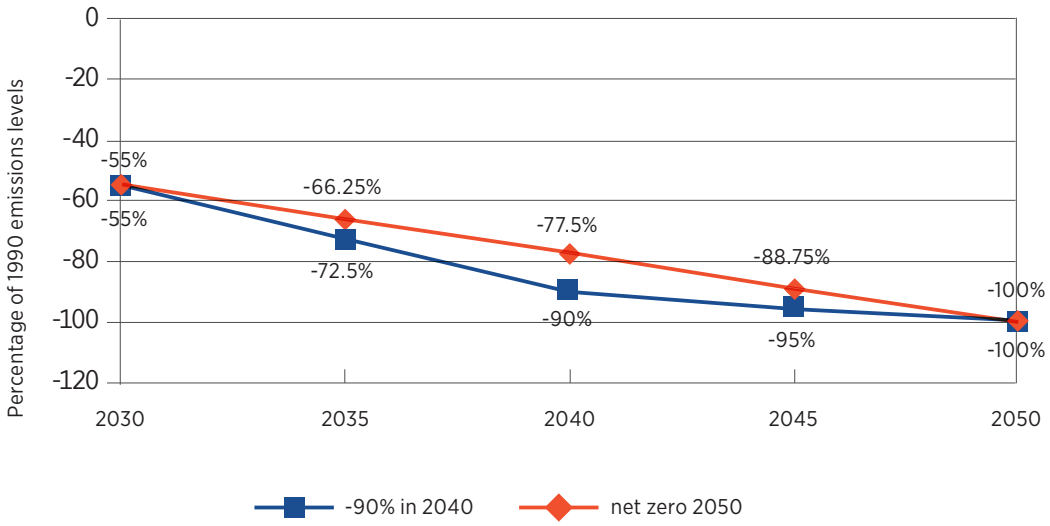
11 For an example of how this might look like, see the 2024 NDC Synthesis Report: https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs/2024-ndc-synthesis-report

advocates for a scenario where first agreement is found on the 2040 target (which needs to get majority support in both the European Parliament and the Council), it is challenging to get this all done by 18 September.

Two alternative options are to (a) postpone the decision on the 2035 target to a later date (but still before COP30; and (b) for ministers to agree on an alternative NDC, not based on the 2040 target but one based on the 2050 target.

While the Commission's proposal is to identify the 2035 NDC as the midpoint between the 2030 (55%) and 2040 (90%) reduction targets, which would result in a 72.5% target by 2035, the alternative option would be to identify the NDC on a linear trajectory between the 2030 (55%) and the 2050 (100%) target, which would result in a 66.25% target, as shown in Graph 2 below.

Graph 2: Linear trajectories of projected greenhouse gas emissions from 2030 to net-zero by 2050, with and without passing through -90% by 2040.



Source: own calculation

4. Why using international carbon credits is not a good idea?

The European Commission's proposed amendment to the Climate Law reintroduces the use of international carbon credits to fulfil the EU's emission reduction obligations. The proposal would allow countries to pay for emission reduction activities outside of the EU and then account for the achieved emission reductions to fulfil its commitments. The result of this would be that domestic emissions in the EU would be higher than in a scenario without using these credits. This represents a serious weakening of the original proposal from February 2024, which called for a reduction of net domestic greenhouse gas emissions by 90%. On top of the fact that the original 90% already did not align with the EU's fair share of domestic efforts to limit temperature rise to 1.5°C,[12] the proposal to use international credits is raising some basic concerns related to:

- **Negative experiences from the past:** The use of international credits in the EU ETS in the period up to 2020 affected the system in two main ways: first there were serious doubts about the environmental integrity of certain projects; and secondly, the large inflow of emission credits, up to 13.4% of all emissions allowances used in the period 2008–2012, had a negative impact on the price of emissions allowances, putting further downward pressure on already low price levels.[13]
- **The decarbonisation pathway of the EU is put at risk:** Using international carbon credits could undermine domestic value creation by diverting resources from the necessary transformation of the EU's economy, including investments in infrastructure, skills and innovation, and due to delayed action at home, governments would lose auctioning revenues urgently needed to fund investments within the EU.

Excluding international credits from the ETS is crucial to retain a functional and credible EU carbon market as international carbon offsetting mechanisms have too many inherent environmental, social and economic shortcomings.[14]

12 Trio W. (2023): EU climate targets aligned with the Paris agreement's 1.5°C objective. December 2023: https://www.airclim.org/publications/eu-climate-targets-aligned-paris-agreements-15degc-objective

13 Verde, S et.al. (2022): The International Dimension of the EU Emissions Trading System: Bringing the Pieces Together. In: Environmental and Resource Economics. July 2022: https://link.springer.com/article/10.1007/s10640-022-00705-x

14 Carbon market Watch (2025): Fit for 2040. Adding international carbon credits and carbon removals will undermine EU ETS contribution to climate target. June 2025: https://carbonmarketwatch.org/wp-content/uploads/2025/06/Fit-for-2040-Policy-Brief.pdf

The ESABCC[15] made it clear that their proposed 90%-95% emission reduction target is expressed in domestic terms, as it is intended to place the EU on a feasible, credible and cost-efficient trajectory towards achieving climate neutrality. Achieving this target through domestic action will reinforce the EU's long-term competitiveness by accelerating clean technology innovation, reducing fossil fuel dependency and driving investment in future-oriented sectors. International credits might appear cost-effective from a global perspective, but they entail significant risks to carbon markets and environmental integrity. These include concerns about whether the funding really brings additional emission reductions and whether these reductions would have happened anyway, even without international carbon credit funding. They also relate to concerns about emission leakage, referring to emissions being displaced to other regions, and to concerns about robust monitoring, reporting and verification.

5. What about the energy targets?

The amendment to the Climate Law does not clarify whether the Commission intends to propose renewable energy and energy savings targets for 2040. This might look surprising as there is not only a long history of moving forward with a triple target approach (including a climate target, a renewable energy target and an energy efficiency target), but also because of the proven added value of these energy targets on top of existing climate policy tools such as the ETS.

In March 2007, EU heads of state and government for the first time agreed on a set of three targets referred to as the **20-20-20 by 2020** package, including targets to reduce greenhouse gas emissions by 20%, to increase the share of renewable energy to 20% and to increase energy efficiency by 20%,[16] all by the year 2020. To implement these targets, the Commission in 2008 proposed a 'Climate and Energy Package' consisting of: the ETS Directive, the Effort-Sharing Decision (ESD, dealing with emissions from agriculture, buildings, transport and waste), the Renewable Energy Directive (RED), and, though at a later stage in 2012, the Energy Efficiency Directive (EED). The RED included binding national targets for the share of renewable energy in 2020, while the EED only contained indicative national targets for each EU Member State.

15 ESABCC (2025): Scientific advice for amending the European Climate Law - Setting climate goals to strengthen EU strategic priorities. June 2025: https://climate-advisory-board.europa.eu/reports-and-publications/scientific-advice-for-amending-the-european-climate-law-setting-climate-goals-to-strengthen-eu-strategic-priorities

16 This 20% target refers to projected emissions in 2020 based on projections made in 2007.

Both the Renewable Energy and the Energy Efficiency Directives were amended as part of the post-2020 climate and energy policy package (the **Fit for 55 package**), based on targets for 2030 first agreed in 2018 (32% renewable energy share and 9% energy savings)[17] and then amended in 2023 (42.5% renewables and 11.7% energy savings). After the Russian full-scale invasion of Ukraine and the subsequent development of the **REPowerEU package**, the Commission proposed to increase the targets to 45% renewables and 13% energy savings, but Member States only agreed to increase the renewables target to 45%. Furthermore, Member States successfully resisted the continuation of nationally binding renewable energy targets. Binding targets were replaced by indicative targets combined with a new bottom-up approach whereby countries need to develop National Energy and Climate Plans (NECPs) in which national governments indicate how they will contribute to achieving the EU-wide climate and energy targets. Combining all the 27 NECPs should then ensure the achievement of the EU renewable energy and energy efficiency targets. If this exercise would fail, the Commission could take additional measures.

It is unclear whether the energy targets will survive after 2030. While they formed the backbone of the **20-20-20 package** and are crucial elements in the **Fit for 55 package**, they are not (yet) mentioned in the current Commission proposals. To be fair, the Climate Law Amendment does not address the post-2030 climate and energy policy framework, but does clearly refer to a continuation of the ETS (which is set to continue beyond 2030) and of Member States' emissions targets.

17 Note that the 2020 energy efficiency target was formulated against a baseline of projected emissions in 2020 based on projections made in 2007. The 2030 targets are expressed against a baseline of 2030 projected emissions made in 2020. When comparing the targets against 2005 primary energy consumption levels, the target for 2020 would be -1.6% and for 2030 would be -33.7% (while the REPowerEU target would be -34.7%).

Table 1: 2020 and 2030 climate and energy policy framework.

Targets	2020		2030		2040
	EU level	**Member States**	**EU level**	**Member States**	
Climate target	-20%		-55%		-90% proposed
ETS1	binding target of -21% (vs 2005)	no target	binding target of -62% (vs 2005)	no target	continues (reaches zero emissions in 2039)
ETS2	n/a (to be introduced 2026)	n/a (to be introduced 2026)	binding target of -42% (vs 2005)	no target	continues (reaches -88% in 2040)
ESR	binding target of -10% (vs 2005)	binding targets (from +20% to -20%)	binding target of -40% (vs 2005)	binding targets (from -10% to -50%)	likely continues (as the emissions under ETS1 are supposed to be zero, emissions outside ETS1 are projected to reach 750 $MtCO_2$-e in 2040)
LULUCF	indicative target (no debit)	no target	binding target of 310 $MtCO_2$-e	binding targets	not clear (the impact assessment assumes LULUCF removals to be around 320 $MtCO_2$-e in 2040)
Renewable Energy	binding target (20% of final energy consumption)	binding targets	binding target (42.5% of final energy consumption, 45% indicative target)	indicative targets	no reference to renewables target (the impact assessment refers to 75% renewables share of gross final energy consumption in 2040)
Energy Efficiency	indicative target (-20% vs 2013 projections)	indicative targets	binding target (-11.7% vs 2020 projections)	indicative targets	no reference to an efficiency target (the impact assessment refers to a further reduction of final energy consumption of -21% compared to consumption in 2030)

6. Did the energy targets deliver?

The EU has seen a substantial increase of the share of renewable energy in gross final energy consumption since the establishment of the 20-20-20 package. In 2005, renewable energy accounted for approximately 8% of the EU's gross final energy consumption, while by 2023, this had tripled to 25%. Similarly, the share of renewables in electricity production in the EU rose from 16% in 2005 to 47% in 2024.[18]

In parallel, a decline in energy consumption has taken place, though this decline is less linear than the increase in renewables and has been strongly influenced by external events such as the economic crisis and the COVID-19 pandemic. EU final energy consumption fell from approximately 1,133 million tonnes of oil equivalent (Mtoe) in 2005 to 894 Mtoe in 2023, a reduction of about 21%. This decrease was influenced by energy efficiency measures and structural economic changes. While the COVID pandemic also influenced energy use, it is important to note that final energy consumption in 2023 was below consumption levels in 2020 (which were at 907 Mtoe).

According to various studies,[19] the energy supply sector needs to reduce emissions by between 81% and 100% by 2040 compared to 1990 to be in line with the trajectory leading to climate neutrality by 2050. While the power sector accounted for a quarter of EU27 greenhouse gas emissions in 2022, it is the sector that has made the largest contribution to reducing EU emissions. Emissions decreased by 8% between 1990 and 2005, and have been declining at a rapid pace since, with multiple annual reductions of more than 5% recorded over the last decade, and with a total reduction of 43% between 1990 and 2022.

The roll-out of renewable energy has been a primary driver of this reduction. The annual State of Renewable Energies in Europe report estimated that the use of renewable energy for electricity, heating and transport in 2023 avoided greenhouse gas emissions of 653 $MtCO_2$-e.[20] The most recent EU Climate Action Progress Report, published by the European Commission in October 2024, states that the strong emission reductions in the EU in 2023 were *'clearly linked to the acceleration of the energy transition, providing a solid basis for the future and increasing confidence that the EU can meet its climate targets […]. This drop was due to a substantial increase in renewable electricity production […], at the expense of both coal and gas.'* [21]

18 Eurostat (2025): Share of energy from renewable sources. Update 25 June 2025: https://ec.europa.eu/eurostat/databrowser/view/nrg_ind_ren/default/table?lang=en

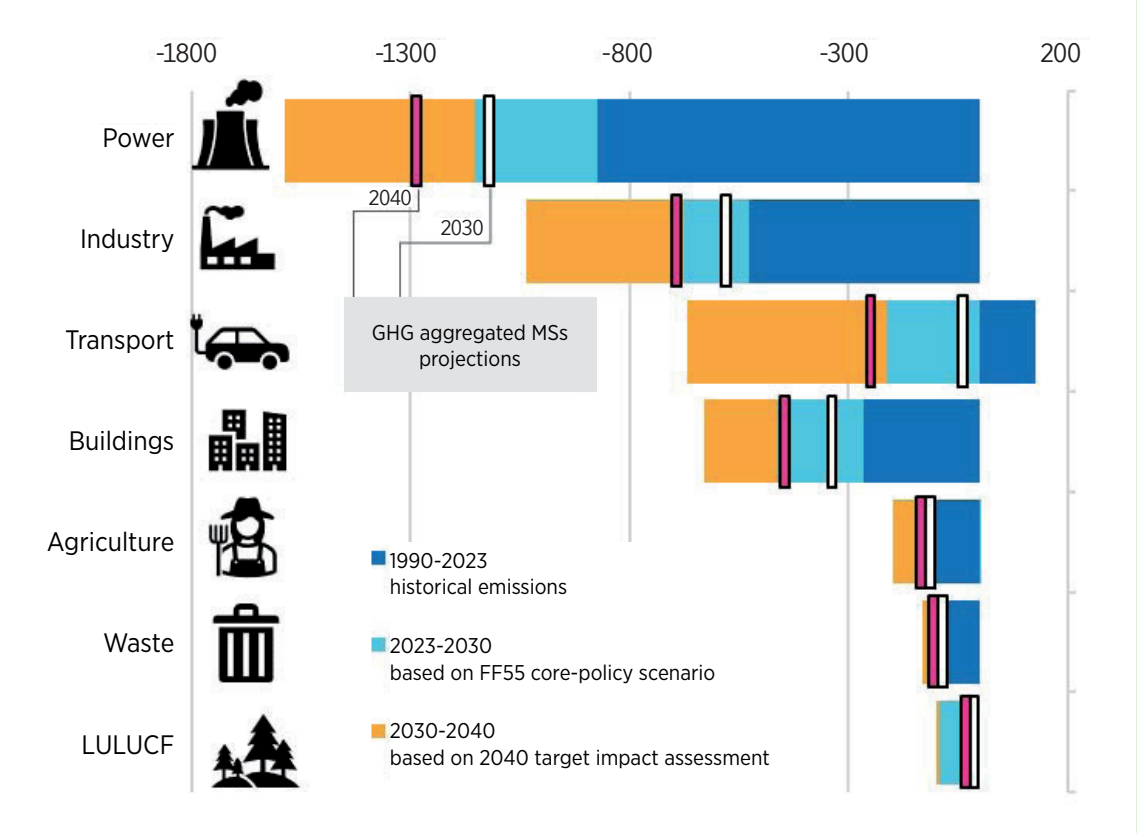
19 Mendelevitch, R et.al (2024): EU 2040 Climate Target: Contributions of the Energy Supply Sector (Part 7 of 7 studies on sectoral contributions to the 2040 target). November 2024: https://www.oeko.de/en/publications/eu-2040-climate-target-contributions-of-the-energy-supply-sector

20 Eurobserver (2025): The state of Renewable Energies in Europe 2024. April 2025: https://www.eurobserv-er.org/pdf/23rd-state-of-renewable-energies-in-europe/?tmstv=1740741792

21 European Commission (2024): EU Climate Action Progress Report 2024, SWD(2024) 249. October 2024: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52024DC0498

Energy savings, together with the switch from fossil to renewable energy sources in the power sector and in industry, are by far the most important historic contributions to EU emission reductions. According to the Member States' projections and European Commission's target impact assessment, they will also be the main contributors in view of achieving the 2030 and 2040 emission reduction targets.

Graph 3: EU greenhouse gas emissions, projections and targets. Past and expected emission reductions by sectors.



Source: European Commission: EU Climate Action Progress Report 2024, SWD(2024) 249, October 2024.

The German Öko-Institut noted in its assessment on the role of renewables in achieving EU climate targets: '*Without the deployment of renewable energy, cumulative greenhouse gas emissions in the 2005 to 2022 period in the energy sector would have been about 18% higher. For 2022, emissions in the energy supply sector would have been 52% higher than actual emissions.*' [22]

Overarching renewable and energy efficiency targets has proven to be a key element of the EU's climate policy framework. Additionally, having binding targets at the Member State level puts the EU on a safer track to achieve these targets and on track towards achieving its commitments under the Paris Agreement.

22 Calculation by Mendelevitch based on EEA data.

7. Do the NECPs deliver?

In May 2025, the European Commission published its latest assessment of EU Member States' final NECPs. In its conclusions, the Commission welcomed the fact that Member States' NECPs project for the EU to **likely reach its 2030 EU-wide greenhouse gas emission target**, as well as its **2030 renewable energy target**.[23]

The message on the **energy savings target** was less positive. Overall, the Commission noted that the analysis '*indicates that […] further efforts are needed to reduce energy consumption by 11.7%*'. The NECP assessment indicates that the deployment of renewables could reach 41% in gross final energy consumption by 2030, with a more optimistic assessment suggesting the EU could reach a figure of 42.6%, demonstrating the potential to go further. Despite progress towards more efficient energy use, a gap remains to reaching the EU's 2030 energy efficiency targets. The aggregated contributions result in a projected final energy consumption of 794 Mtoe by 2030, which is 31 Mtoe above the target of 763 Mtoe, and which translates to a reduction of 8.1%.

While the overarching message is positive, large differences remain between Member States, with some overachieving on their targets, enabling others to be off track. **Binding national targets** such as those under the successful 20-20-20 package could give the Commission another tool to help all countries to make their fair contribution, and thus would allow the EU to overachieve on its targets. An exercise focusing on the climate targets found out that if all Member States achieved their binding national targets, without using loopholes and accounting tricks, the EU could potentially reduce its domestic net greenhouse gas emissions by at least 60%, meaning Member States' projected overachievements would represent over 5% of 1990 emissions.[24]

23 European Commission (2025): EU-wide assessment of the final updated national energy and climate plans Delivering the Union's 2030 energy and climate objectives. May 2025: https://eur-lex.europa.eu/resource.html?uri=cellar:61de6ed0-3b8d-11f0-8a44-01aa75ed71a1.0001.02/DOC_1&format=PDF

24 Trio W. (2025): Several EU Member States projected to overachieve on their 2030 climate targets. If all others would at least achieve the targets they agreed to, EU greenhouse gas emissions could drop by up to 60% by 2030. June 2025: https://drive.google.com/file/d/1RDKD30r6ZRodWw2d1681f8NDBUbHcYBc/view?usp=sharing

8. Why does the EU need energy targets?

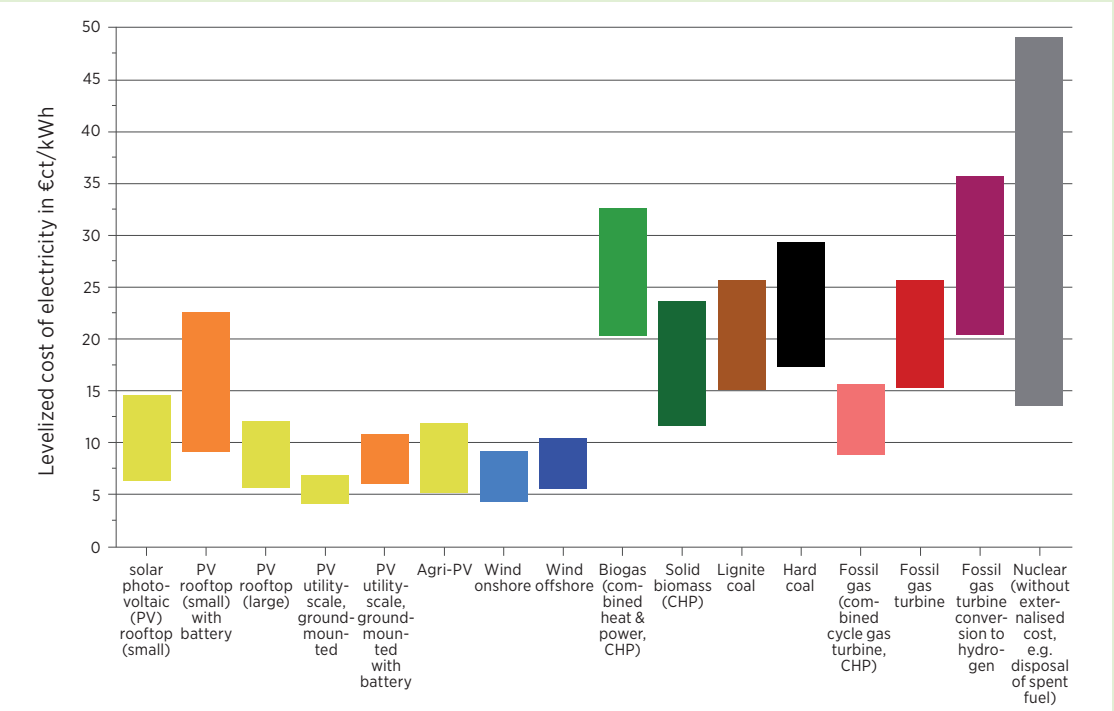
Next to contributing to limiting dangerous climate change, EU energy targets also contribute to:

- Increasing **energy independence** in a time of unstable geopolitics.
- Improving **security of energy supply** while pursuing stability and resilience.
- Creating jobs, **protecting purchase power** and strengthening Europe's **competitiveness**.

Europe's reliance on fossil fuel imports increases energy price volatility and raises supply costs, while making the EU more vulnerable to external pressure and market uncertainty. With 90% of its fossil gas demand covered by imports, the EU remains exposed to global fossil fuel price fluctuations. In 2022, the EU's fossil fuel energy import bill reached €604 billion. With a substantial share (28.9%) of the EU's average electricity generation mix still based on fossil fuels, and transport largely fuelled by oil products, fossil fuel import costs have a significant impact on consumers' energy bills.[25]

Solar and wind power are by far the cheapest sources of electricity in the EU. Their levelized cost of electricity generation has been massively reduced during the past decades, while electricity from fossil and nuclear power is only getting more expensive.

Graph 4: Levelized cost of electricity generation of renewable energy technologies and conventional power plants at locations in Germany in 2024.



Source: Fraunhofer ISE: Levelized cost of electricity – Renewable energy technologies, July 2024.

25 European Commission (2025): Action Plan for Affordable Energy, COM(2025) 79. February 2025: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52025DC0079

During the **energy price crisis**, the growth of renewable electricity buffered the massive wholesale price increases. The International Energy Agency (IEA) estimates that EU electricity consumers saved approximately €100 billion during 2021 and 2023 thanks to additional solar and wind capacity. Without them, the wholesale electricity price would have been 8% higher.[26] When looking beyond the savings from renewable electricity alone, the annual State of Renewable Energies in Europe report estimates the use of renewable energy sources for electricity, heating and transport substituted fossil fuels that would have had an annual cost of €165 billion in 2022 and €117 billion in 2023.[27]

As highlighted in the European Commission's **Clean Industrial Deal**, without targeted decarbonisation efforts of the energy sector, the cost of fossil fuels will place a high burden on the EU's economy and industrial capacity. Without the energy transition, the EU's fossil fuel import bill in 2025 would be €45 billion higher than in 2019, representing an estimated 0.25% of the EU's GDP.[28]

9. How will the Clean Industrial Deal support the EU's energy targets?

On 26 February 2025, the European Commission presented the **Clean Industrial Deal**, a new EU plan to support competitiveness, decarbonisation of EU industry and economic resilience. The Clean Industrial Deal starts from the concept that decarbonisation policies drive growth when they are well integrated with industrial, competition, economic and trade policies. The Commission's proposals in the Clean Industrial Deal focus mainly on energy-intensive industries and clean technologies. While the roll-out of batteries, renewable technologies and hydrogen in the EU is rising, the EU's global market share is falling and manufacturing is lagging behind. The Clean Industrial Deal aims to bring energy costs down, boost demand for clean products, reduce EU dependency on raw materials, improve circularity and restore domestic manufacturing. Planned initiatives in the energy field include a new electricity grids package, revisions of the energy security framework and Energy Union governance, as well as the Industrial Decarbonisation Accelerator Act. In the short term, the Clean Industrial Deal aims to mobilise over €100 billion through boosting EU-level funding, leveraging private investments and enhancing state aid.

26 IEA (2023): How much money are European consumers saving thanks to renewables? Renewable Energy Market Update. June 2023: https://www.iea.org/reports/renewable-energy-market-update-june-2023/how-much-money-are-european-consumers-saving-thanks-to-renewables

27 Eurobserver (2025): The state of Renewable Energies in Europe 2024. April 2025: https://www.eurobserv-er.org/pdf/23rd-state-of-renewable-energies-in-europe/?tmstv=1740741792

28 European Commission (2025): Action Plan for Affordable Energy, COM(2025) 79. February 2025: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52025DC0079

The Clean Industrial Deal does not suggest any brand-new initiatives or legislative proposals that aim explicitly at accelerating the growth of renewable energy installations in the EU. Furthermore, the references to demand-side action are rather limited, compared to the existing EU legislation and the European Green Deal. It basically ignores the **'energy efficiency first' principle**.

A core element of the efforts to reduce energy costs is the **Affordable Energy Action Plan**, which includes measures to lower energy bills for industries, businesses and households. While the Commission claims that the EU's renewable energy target is central to the implementation of the Affordable Energy Action Plan, under the umbrella of promoting 'clean energy', the plan also supports the further development of nuclear and carbon capture and storage (CCS) technologies, thereby diverting necessary resources from further expansion of renewable energy.

A further acceleration of renewables would shield consumers from volatile fossil fuel prices, reduce energy bills and strengthen energy sovereignty. Implementation of the plan should lead to a drop in the EU's fossil fuel import bill year after year towards €130 billion of savings per year by 2030, representing an estimated 0.65% of GDP by 2030.[29] While the plan is a significant step forward, it does little to address the substantial challenge to reduce lead times for new projects, which can be up to 7-10 years for wind projects, up to 8-10 years for distribution grid projects, and at times even up to 17 years for transmission grid projects.

10. What about international energy targets?

As part of the Paris Climate Agreement, countries agreed to regularly assess whether they are on track to achieve the collective targets agreed to, such as the long-term goal to limit temperature rise to 1.5°C. The format to do this is the Global Stocktake (GST), which happens every five years. The GST was concluded in December 2023[30] and contained some strong recommendations related to the energy sector. These include:

- **Tripling renewable energy capacity** by 2030.
- **Doubling the global average annual rate of energy efficiency improvements** by 2030.
- Accelerating efforts towards the **phasedown of unabated coal power**.
- **Transitioning away from fossil fuels** in energy systems.
- **Phasing out inefficient fossil fuel subsidies**.

The GST recommends for these commitments to be integrated into countries' NDCs. While unofficial drafts of the EU's upcoming NDC do address the GST recommendations, they do not contain specific commitments indicating how the EU aims to contribute to these global targets.

29 Ibid.

30 UNFCCC (2023): Decision 1/CMA.5. Outcome of the first global stocktake. December 2023: https://unfccc.int/sites/default/files/resource/1_CMA.5.pdf

Summary: proposals for the post-2030 climate and energy framework (net-zero package)

Instead of watering down its climate and energy targets, the EU needs to take a leadership role in the international climate policy process with an effective post-2030 framework. This new framework, the **'net-zero package'**, should built and expand upon the previous '20-20-20' and 'Fit for 55' packages.

The current climate and energy policy framework is built around three key pillars:

- The **EU Emissions Trading System**.
- **Binding targets for Member States** for reducing emissions in the transport, buildings, agriculture and waste sectors, and for increasing removals from LULUCF.
- **Flanking policies** to promote action on renewable energy, energy efficiency, CO_2 standards for road transport vehicles, methane, f-gases and others.[31]

There are a range of calls and proposals to substantially change the framework, such as:

- The proposed **inclusion of international** credits in the amendment to the Climate Law.
- The potential **integration of ETS 1 and 2**, and the potential further **expansion of the ETS** to include agriculture and land-based removals, as well as permanent industrial removals.
- The **phasing out of national climate and energy targets**.
- The **phasing out of (renewable) energy targets**.

In this debate, it is important to look at the effectiveness of climate policies. To this end, the Potsdam Institute for Climate Impact Research (PIK) assessed 1,500 climate policies and their impact on greenhouse gas emissions. In the study,[32] researchers came to two important conclusions that are very relevant for the EU climate policy debate:

(a) Most policies are only successful when they are part of a mix of approaches that may include measures related to taxation, regulation, subsidies and/or labelling.

(b) Most of these policy mix approaches are most successful when they include policies that put a price on pollution, such as through taxes and/or emissions trading.

31 These policies make up the core element of what is commonly called the European Green Deal; see: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/delivering-european-green-deal_en

32 Stechemesser et al. (2024): Climate policies that achieved major emission reductions: Global evidence from two decades. Science. August 2024: https://www.science.org/doi/10.1126/science.adl6547

The study highlights that the impact of most policies is substantially larger if a policy instrument is part of a mix rather than being implemented alone. Several popular instruments – such as bans, building codes, energy efficiency mandates and subsidies – were found to have a limited impact when they are implemented as a stand-alone policy. In developed economies such as the EU, regulation was found to be the most effective stand-alone policy (33%), but pricing is an equally important element of effective policy mixes because 50% out of all successful policy mixes include pricing. Further explanations for this complementarity point to the fact that policy mixes can address a multitude of market failures and may be more successful in increasing the overall policy stringency and maximising policy credibility, which shapes the expectations of consumers and investors.

We propose five key elements for the post-2030 framework:

1. A long-term vision with multiple climate and energy targets

As indicated above, the Commission's proposals would lead to a reduction of gross emissions of only 80% by 2040. This is not enough. Through the Paris Agreement, the EU committed to contribute to limit temperature rise to 1.5°C by the end of this century. As global emissions, and subsequently average temperatures, continue to increase, scenarios indicate that even while the world would achieve net-zero CO_2 emissions by 2050, additional efforts to achieve net negative emissions will be needed between 2050 and 2100. The EU thus needs to develop a **vision on how it will contribute to achieving net negative greenhouse gas emissions after 2050**. This is important to ensure carbon removal policies come on top of stringent emission reduction policies. Removals should not compensate for lacking action on emission reductions.

This vision then needs to be translated into **specific short- and long-term targets for emission reductions, land-based removals and permanent industrial removals**. For the success of the overarching emission reduction targets, it is crucial to **continue setting dedicated targets for renewable energy and energy savings**. The past decades have shown that renewable energy and energy savings targets are effective tools for incentivising and tracking emission reductions in the most emission-intensive sectors.

And finally, for reasons of consistency and reliability, Member States should adopt **economy-wide national targets for 2040 and 2050**.

2. A complementary policy mix

While carbon pricing should remain a key component of the policy framework, additional **sectoral policies should remain in place** to ensure sufficient action is taken in all sectors, including in the power sector, but even more importantly in the agriculture, transport, industry and buildings sectors. Further developments in the ETS should not be used to question the merits of regulatory measures.

3. Preparing the phaseout of the Emissions Trading System

Current linear reduction factors will lead to a full phaseout of all emissions covered by ETS 1 in 2039, and by ETS 2 in 2044. There are currently no scenarios that foresee a full phaseout of greenhouse gas emissions by those dates and thus thought needs to be given to alternatives to the ETS. Rather than tweaking the ETS to make it less impactful, **other carbon pricing mechanisms could be more suitable** to implement the long-term vision to achieve net negative emissions in the long run.

4. An energy policy framework that ensures the rapid phaseout of fossil fuels

The EU committed to phase out fossil fuels in the First Global Stocktake under the United Nations Framework Convention on Climate Change (UNFCCC) but until now has not set any specific phaseout dates, let alone phaseout trajectories for its use of fossil fuels. In order to guide the transition away from fossil fuels, **the EU needs to set phaseout dates**, with clear trajectories for the use of coal, gas and oil. These trajectories need to be coupled to clear targets for the promotion of renewable energy, the reduction of energy demand, the increase of electrification and further developments of grids and storage technologies. This will create the necessary clarity about what the EU means when it promotes gas as a bridging fuel.

5. International policies that support action at home and abroad

Rather than temporarily invest in carbon credits, the EU should develop an approach that funds and supports climate action in third countries, without this leading to reducing domestic efforts. In order to achieve its fair share of the global efforts to limit temperature rise to 1.5°C, the EU needs to reduce its domestic emissions in line with an approach whereby all countries limit their total emissions based on the size of their population, with **every citizen having an equal share** of the remaining greenhouse gas emissions. On top of this, emission reduction efforts, richer countries, which have been responsible for most of the greenhouse gas emissions of the past, such as the EU, should provide financial support to those countries that have least capacity to act and often suffer most from climate impacts.

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