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The EU's 2040 climate target

Assessment of the proposal by the EU Commission

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On 2 July 2025 the Commission published its proposal for the EU's climate target for 2040. This target and its implementation will determine the EU's climate ambition for the next decades. This policy brief assesses the proposal and compares it with the recommendations of both the previous Commission under President Von der Leyen and the European Scientific Advisory Board on Climate Change. This includes the provisions on international credits, natural and industrial carbon dioxide removals, flexibility between sectors and national targets.

Key findings

- The proposed target includes the usage of international carbon credits. These credits will increase net emissions in 2040 by 30%. Gross emissions, i.e. emissions without the accounting of removals, might only be 80% below 1990 levels.
- While the proposal includes important safeguards for using international carbon credits under Article 6 of the Paris Agreement, we recommend that international credits are only used to raise ambition beyond 90%, rather than deterring domestic climate action.
- Carbon Dioxide Removal might play a role in the ETS after 2035. Restricting CDRs in the ETS to permanent domestic removals as proposed by the Commission ensures that mitigation will remain the first priority for operators.
- Enhanced flexibility between sectors might reduce costs but could endanger the 2050 target. In addition, flexibility should only be allowed on a 'like-for-like' basis, i.e. not mix uncertain reductions or removals from land-use sectors with permanent CO_2 emissions.
- The proposal foresees national targets for Member States after 2030 based on solidarity and cost efficiency. This is a key building block for achieving the 2040 target.
- The overall ambition of the EU will strongly depend on the legislative proposals. Adopting the proposed 2040 target will only be the first step.

Main target

The European Climate Law sets greenhouse gas emission targets for 2050 in Article 2 and for 2030 in Article 4(1). Article 4(3) to 4(5) provides the EU Commission the mandate to propose a target for 2040. The Commission proposal replaces the latter three paragraphs with the 2040 target and considerations for the subsequent legislative package to implement the target.

What is the 2040 target and what are the EU's remaining emissions?

The Commission proposes *'a reduction of net greenhouse gas emissions (emissions after deduction of removals) by 90% compared to 1990 levels by 2040'*. The 2030 target and the 2050 target are not changed and remain as they are. The target scope, i.e. which emissions are covered, is in line with the other targets. That means that emissions from international aviation and shipping are included in the target to the extent that they are covered by the EU Emission Trading System (EU ETS). The key difference compared to the 2030 and 2050 targets is the absence of the word 'domestic' in the 2040 target. This opens the door for using international carbon credits to achieve the EU's target. Importantly, the target of achieving climate neutrality by 2050 at the latest specifically excludes international carbon credits, i.e. they can only be used for a limited time. The Commission proposes a usage of international carbon credits in 2040 that amounts to 3% of the net CO_2 emissions of 1990.

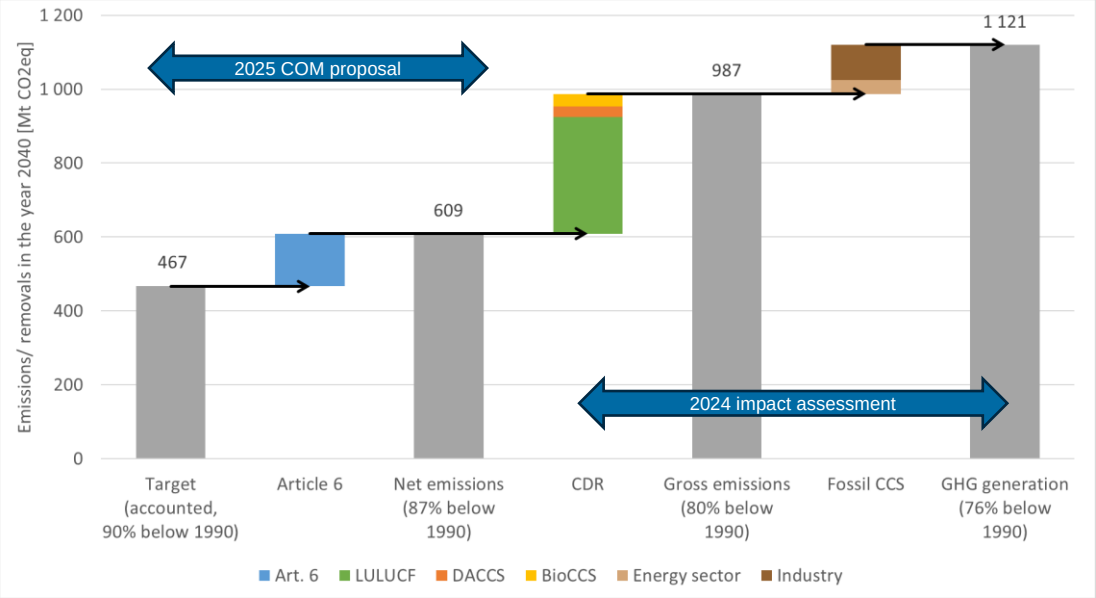
The target is formulated as a net emission target, i.e. the difference between gross emissions and removals. It does not include a sub-target either for gross emissions or a limit to the quantity of removals that can be used. The latter is part of the EU's 2030 climate target. In theory, gross emissions could be much higher if sufficient removals could be achieved. In Figure 1, we show the relationship between the 2040 target, including the usage of international carbon credits, and net emissions based on the Commission proposal. In addition, we show the potential magnitude of gross emissions based on the recommendation for the 2040 target by the outgoing first Commission under Ursula von der Leyen (EC 2024). The accompanying impact assessment provides detailed information on removals from natural (LULUCF) as well as industrial sources (BioCCS and DACCS). In addition, the graph also shows the greenhouse gas generation which includes the quantity of fossil CO_2 that is directly captured and stored geologically.[1]

Based on the target proposal, net emissions would be 609 Mt CO_2eq in 2040, which corresponds to a reduction of 87% below the 1990 levels. Due to the usage of international carbon credits, net emissions in 2040 are 30% higher than the target. Gross emissions, i.e. emissions without removals, would only be 80% below 1990 levels.

The European Scientific Advisory Body on Climate Change recommended a domestic net target without international carbon credits of 90% to 95%, i.e. net emissions in the range of 236-427 Mt CO_2eq (ESABCC 2025).

[1] Directly stored CO_2 is not counted as emissions; these molecules are never released into the atmosphere.

Figure 1: The 90% target and actual greenhouse gas emissions in 2040



Notes: The quantity of CDRs and fossil CCS is taken from the 2024 impact assessment. For an explanation of these values, see Oeko-Institut (2024).
Source: Oeko-Institut

What are the other provisions in the Commission proposal?

The Commission is tasked with reviewing all relevant legislation and with making legislative proposals that will ensure the 2040 and 2050 targets are achieved. Eighteen specific issues are listed which need to be reflected in the legislative proposals. Most of these issues were already included in the European Climate Law as part of the consideration for setting the 2040 target. The main new issues are:

- Usage of international carbon credits through Article 6;
- Usage of permanent carbon removals in the ETS;
- Enhanced flexibility across sectors; and
- Member States' targets post-2030.

In the following, we discuss these issues and the role of the land use sector in the 2040 target.

International carbon credits under Article 6 of the Paris Agreement

The proposal by the European Commission introduces the possibility for the EU to use international carbon credits under Article 6 of the Paris Agreement to achieve the 2040 target. The proposal sets several parameters for using such credits.

How many international carbon credits may be used?

The proposal refers to a '*possible limited contribution towards the 2040 target (…) of 3% of 1990 EU net emissions*'. It further specifies that use of international carbon credits may start from 2036. It is not explicitly stated whether and for how long carbon

credits may be used after 2040. However, as the target of achieving climate neutrality by 2050 is domestic, the use of international carbon credits would need to end in 2049 at the latest. For our analysis, we assume that the use of carbon credits increases linearly in the period 2036 to 2040, reaching 3% of 1990 emissions in 2040, and the then linearly declines in the period 2041 to 2050.

This would mean that 142 million carbon credits may be used in 2040 and, assuming linear trajectories between 2035 and 2050, 1,026 million carbon credits over the period 2036 to 2049. Based on currently available information, this could make the EU one of the largest buyers of international carbon credits. For comparison, the cumulative demand for carbon credits under the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) over the period 2021 to 2035 is estimated to be between 600 and 1,500 million credits. In the proposal, the Commission is opening the door for a change of the share of international credits through the review taking place every five years. This might lead to even higher domestic emissions.

How does the use of international carbon credits affect the EU's emissions?

The use of international carbon credits allows the EU to emit more greenhouse gases. With the proposed value of 3%, the EU's 2040 net emissions would be 30% higher than if the target were achieved domestically (609 Mt CO_2eq compared to 467 Mt CO_2eq). Over the period 2036 to 2049, in which carbon credits might be used, the increase in the EU's net emissions would be about 18%, assuming linear trajectories in emissions and the use of carbon credits. If the total period 2031 to 2050 is considered, the increase is about 8%. This figure is lower as no carbon credits would be used in the period 2031 to 2035.

How are integrity risks associated with carbon credits addressed?

Ensuring the quality of carbon credits has posed a major challenge under the Kyoto Protocol's Clean Development Mechanism (CDM) and Joint Implementation (JI) and in the voluntary carbon market. It is very likely that a large share of the carbon credits issued to date do not represent actual emission reductions or removals.[2] A recent meta study found that less than 16% of issued carbon credits represent real emission reductions.[3] Similar concerns also hold for units that will be generated under the EU's Carbon Removal Certification Framework (CRCF).[4]

The proposal by the Commission refers to the use of '*high-quality*' carbon credits. It is not further specified what this means but '*the origin, quality criteria and other conditions concerning the acquisition and use of any such credits shall be regulated in Union law*'. This provides a mandate to further define conditions to address integrity risks associated with carbon credits.

The proposal also refers to an important principle of Article 6 of the Paris Agreement, namely that the use of Article 6 should not only help the buyer country but also the seller country to enhance ambition. The proposal states that the use of international carbon credits should support '*the EU and third countries in achieving net greenhouse gas reduction trajectories compatible with the Paris Agreement objective*.'

2 See, for example, Oeko-Institut (2016) and SEI (2015).
3 Probst et al. (2024).
4 See Oeko-Institut's blog post Revised methodologies under the EU Carbon Certification Removal Framework continue to lack integrity.

Furthermore, the section on the context of the proposal explicitly states that '*in line with Article 6 of the Paris Agreement, the EU should agree with the concerned third countries on the sharing of the mitigation benefits*'. Another important element is that the section on the context of the proposal refers to '*linear trajectories*' as the basis for accounting. This provision aims to close a major loophole in the accounting rules of the Paris Agreement.[5]

In our recent Policy Brief Conditions for Using International Carbon Credits towards the EU's 2040 Climate Target, we make specific proposals for how these and other criteria and conditions for using international carbon credits could be further specified and implemented, including by:

- establishing strategic partnerships with partner countries to promote integrity and ambition, including with regard to the ambition of Nationally Determined Contributions (NDCs), Article 6 engagement strategies, sectors and types of mitigation activity, authorisation arrangements and reporting;
- implementing a fair sharing of emission reductions or removals between the partner country, the Adaptation Fund, global mitigation and the EU;
- generating carbon credits through the Paris Agreement Crediting Mechanism (PACM) or standards with at least equivalent integrity;
- implementing multi-year accounting approaches in the EU and in its partner countries;
- implementing a 'like-for-like' approach for carbon credits subject to reversal risks; and
- not counting payments for international carbon credits as climate finance.

Could the 90% target also be achieved domestically?

In a communication from February 2024, the European Commission also proposed the achievement of a target to reduce emissions by 90% by 2040, but without using international carbon credits (EC 2024). Earlier this year, the European Scientific Advisory Board on Climate Change reaffirmed that '*achieving a 2040 emission reduction of 90-95% domestically remains both feasible and would keep the EU on a credible path to climate neutrality by 2050*' (ESABCC 2025). We therefore recommend that, if international carbon credits were to be used towards the EU's 2040 climate target, they should only be used to go beyond domestic emission reductions of 90-95%. This would also be in line with the principles set out in the Paris Agreement, which require that NDCs should reflect the country's highest possible ambition and that Article 6 should only be used to enhance the ambition of NDCs. In other words: Article 6 should be used to close the 'ambition gap' (i.e. the difference between the ambition of NDCs and the ambition level needed to meet the temperature goal of the Paris Agreement), rather than the 'implementation gap' (i.e. the difference between the ambition of the NDCs and their actual implementation).

What are the implications of a higher emissions trajectory within the EU?

While the use of international carbon credits provides flexibility and might reduce the costs of achieving a given target, it also entails a higher emissions trajectory within

[5] Siemons Schneider (2022).

the EU. This could have several adverse impacts. It would divert resources away from decarbonising the EU, thereby slowing down clean investments and technological innovation within the EU and potentially undermining the EU's international competitiveness. The EU's competitiveness could also be undermined if international carbon credits are generated from sectors and countries that are exposed to risks of international carbon credits. Higher emissions within the EU would also increase the EU's dependency on fossil fuel imports, raising concerns about energy security. We recommend that these and other implications be further explored as part of the impact assessment before a final decision to use international carbon credits is made.

The proposal further states, in the section on the context, that "international credits should not play a role for compliance in the EU carbon market". This means that operators under the EU's emissions trading schemes (ETS 1 and ETS 2) would not be able to use carbon credits to comply their obligations. This provision draws on the lessons learned from the use of CDM and JI under the ETS where huge windfall profits by carbon project developers, price volatility and race to the bottom in terms of the price and quality of carbon credits were major concerns. We recommend exploring the purchase of carbon credits through a governmental facility through long-term contracts with partner countries.

Will Article 6 reduce the costs for achieving the 2040 target?

Costs for Article 6 credits are uncertain and depend on many factors; however, high-quality credits will be at the higher end of the price spectrum. In addition, under the rules of the Paris Agreement not all generated and financed emission reductions or removals will be available to the buyer:

- A share of the generated emission reductions or removals should be retained by the third country to support it in achieving its own climate targets. We recommend that this share makes up a significant portion (e.g. 30%).
- A share of the generated carbon credits should be transferred to the Adaptation Fund under the UNFCCC. We recommend this share to be about 10%.
- A share of the generated credits should not be used at all but accrue as a benefit to the atmosphere. In contrast to offsetting, where an emission reduction in one country is offset by an emission increase in another country, this principle ensures that the aggregated emissions of the seller and buyer countries are lowered due to the cooperation. We recommend this share to be about 10%.

The combination of the significant costs for high-quality credits, the shares going to other purposes, and the need to compensate for emissions through Article 6 in every year might even lead to higher costs than in the case of domestic action.

Carbon Dioxide Removals in the EU ETS

The proposal specifies that such CDRs need to be domestic and permanent, its purpose is to compensate for residual emissions from hard-to-abate sectors. The proposal by the European Commission introduces the possibility of using carbon dioxide removals (CDR) in the ETS. The proposal specifies that such CDR needs to domestic and permanent, its purpose is to compensate for residual emissions from hard to abate sectors. Currently, the ETS Directive requires steeper emission reductions post-2035 than what is needed to achieve climate neutrality by 2050. Ensuring some supply through CDR is one of the options to make the ETS fit for 2040 (Oeko-Institut 2025b).

Permanent CDR excludes the use of removals from the land use sector in the EU ETS. Only geological storage of CO_2 directly filtered out of the air (Direct Air Capture with Carbon Storage, DACCS) or from sustainable biomass (Biogenic emissions Capture with Carbon Storage, BioCCS) are able to reliably store CO_2 for centuries at least. This is a crucial restriction: As CO_2 emissions in the ETS will remain for millennia in the atmosphere, a compensation with short-term storage (e.g. from forestry) would not be equivalent.

The requirements on domestic CDRs exclude the usage of such projects in third countries for the ETS. The EU might still support such projects and claim resulting emission reductions through the usage of international credits, but only for compensating non-ETS emissions. This puts an implicit limit on the maximum quantity of CDRs which will enter the ETS due to the likely limited availability of such removals domestically. One reason for this provision might be industrial policy: it supports a new and developing industry at home to ensure technological leadership.

One main concern with the usage of CDRs is mitigation deterrence, i.e. buying removals instead of reducing emissions. This can have negative consequences for climate mitigation for several reasons: a) Removals need to be sourced for each year whereas a shift to non-emitting technologies is permanent; b) removals are needed for net-negative emissions, i.e. the period when countries will actively reduce the concentration of CO_2 in the atmosphere. If CDRs are used for the purpose of compensating emissions, there might not be enough left to achieve net-negative emissions; and c) the quality and permanence of removals are uncertain in many cases. Limiting the purpose to residual emissions from hard-to-abate sectors is an indication that mitigation remains the first priority. However, there is no common understanding of which emissions are hard to abate. Putting a limit on the maximum quantity of CDRs would provide a clear indication of the necessary level of emission reductions which need to be achieved. Ideally, such a limit will be part of the legislative proposal to implement the 2040 target.

Enhanced flexibility between sectors

The legislative proposals should enhance *'flexibility across sectors, to support the achievement of targets in a cost-effective way'*. While flexibilities across sectors might reduce costs, there are inherent dangers if carried out incorrectly:

- Flexibilities should remain within comparable sources ('like-for-like' basis). If uncertain and non-permanent removals from land use are allowed to compensate

for permanent emissions from other sources, it could increase overall GHG emissions.

- Flexibilities should not postpone sectoral transformations. Each sector needs to remain on a pathway that is compatible with climate neutrality by 2050. Flexibilities might lead to some sectors delaying action and not being able to transform quickly enough in later years.

The upcoming impact assessments need to address these issues to ensure that the enhanced flexibilities do not have unintended consequences.

National targets for Member States

Currently, greenhouse gas emissions are regulated under the ETS Directive, the LULUCF Regulation and the Effort Sharing Regulation (ESR). The ESR covers emissions from land transport, buildings, agriculture, waste and other sources outside of the ETS 1. The ESR currently ends in 2030 but the Commission is examining *'Member States post-2030 targets and efforts'* which *'should reflect cost-efficiency and solidarity, in light of national circumstances'*.

This is a crucial provision needed to ensure the achievement of the 2040 target and is in line with the subsidiarity principle of the EU. While EU legislation has been effective in reducing greenhouse gas emissions, efforts by national, regional and local governments are indispensable. The latter are most suitable for initiating many measures, for example when it comes to public transport, the transformation of heating systems and the support for renewable energies. Setting targets for Member States ensures that such measures are taken. The Effort Sharing Regulation has been a key motivation for national governments that face high costs if they do not achieve their targets (Oeko-Institut 2025a).

National targets post-2030 might take on a different form than the current ESR. Originally, the ESR addressed emissions outside of the ETS; with the introduction of the ETS 2 for small installations, buildings and road transport, this is no longer the case. Different options for national targets range between non-ETS emissions only all the way to economy-wide targets (Ecologic Institut; Oeko-Institut 2025). Importantly, these targets need to reflect solidarity between Member States. Current ESR targets depend on the gross domestic product (GDP) per capita in each Member State, ensuring that countries with a higher ability to pay need to achieve higher emission reductions. Solidarity between Member States has been a core principle in climate legislation such as the ETS Directive, the ESR and the distribution of the targets under the Kyoto Protocol. There is still a difference of a factor of 10 between the GDP/capita in Bulgaria and Luxembourg, which needs to be reflected in some way. At the same time, cost efficiency is mentioned alongside solidarity. This is also already established in the ESR whereby Member State targets are adjusted somewhat to reflect different abatement costs.

LULUCF

Regarding the sector Land Use, Land-Use Change and Forestry (LULUCF) the proposal by the European Commission calls for the '*the need to maintain, manage and enhance natural sinks in the long term and protect and restore biodiversity, as well as take into account uncertainties notably those linked to the impacts of climate change in the land use sector*'. This builds on considerations already included in the current European Climate Law that already referred to the '*long term*' perspective. Mitigation activities in the LULUCF sector need long lead times and their impacts last for decades if not centuries, e.g. in forests. Nevertheless, there are significant short-term mitigation opportunities, especially for bringing down emissions, e.g. from drained peatlands. It is unfortunate, that the proposal does not take the opportunity to increase the sense of urgency surrounding such measures.

Instead, the proposal includes a reference to the uncertainties in GHG mitigation in the land sector, notably climate change impacts. This reflects the observed decline of natural sinks in EU Member States over the last decade that is partly attributed to decreased growth and the increased mortality of trees. The current LULUCF Regulation includes a number of flexibilities for Member States which are not meeting their individual LULUCF targets can use to achieve compliance[6]. A requirement for the flexibilities is proof provided by the countries that climate change impacts caused non-compliance. The current flexibilities are complex, conditional and limited. It can be expected that future legislation by the Commission will allow for more options to account for impacts of climate change and natural disturbances on natural sinks included in mitigation targets.

The proposal leaves the question open as to whether there will be a separate target for removals after 2030. The European Scientific Advisory Body on Climate Change recommended maintaining separate targets for minimum removals and maximum contributions of removals towards net emissions' goals in order to prevent mitigation deterrence and reflect the high uncertainties of the LULUCF sector.

Outlook

The proposal will now be discussed in the Council and the European Parliament. Once adopted, the Commission will bring forward a series of legislative proposals (or an integrated package) for achieving the 2040 and 2050 targets. These proposals will be accompanied by a detailed impact assessment addressing the eighteen considerations discussed above. The level of ambition for the entire period 2030 to 2050 will strongly depend on the legislative proposals. For example, how the usage of Article 6 is phased in from 2036 and phased out after 2040 will have a significant impact on the EU's emission budget. Similarly, the legislative package might still introduce limits to the quantity of CDR which might be used.

Many changes to the current climate and energy legislation will only need to come into effect around 2035, which leaves ample room to thoroughly assess and discuss the needed revisions.

[6] For more details, see EEA (2024)

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