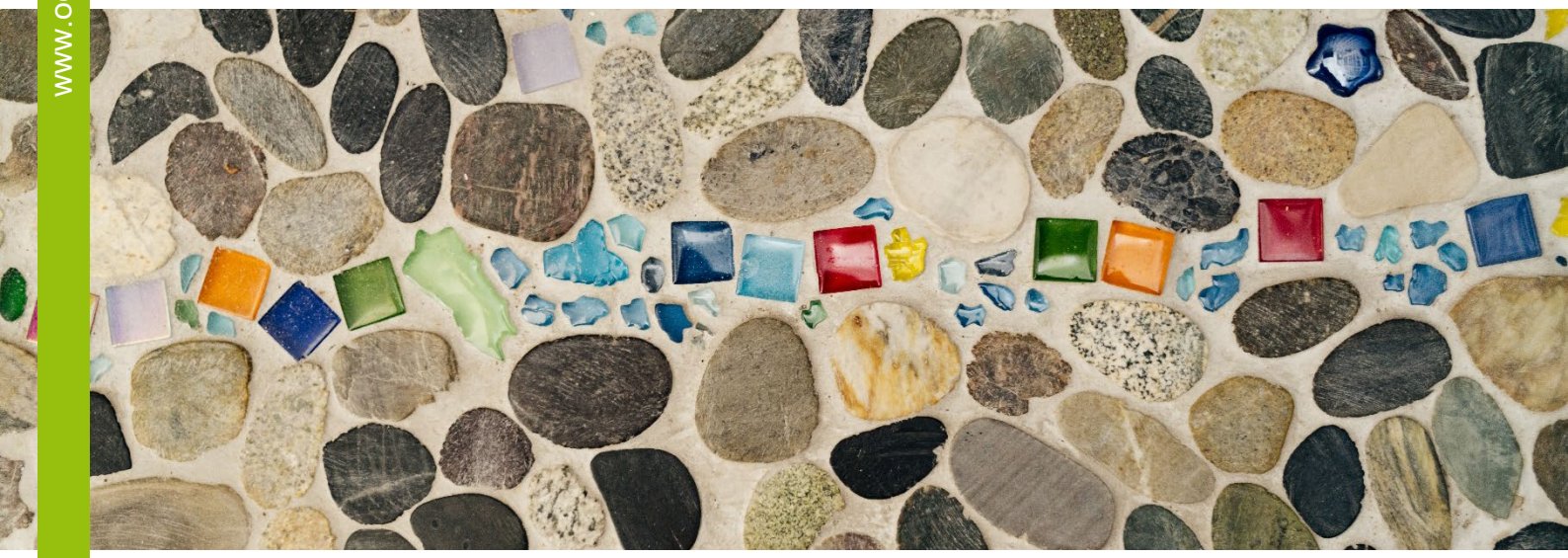
Policy Brief | 04.05.2026



Using International Carbon Credits towards the EU 2040 Climate Target

// Lambert Schneider, Jakob Graichen, Sabine Gores, Sophia Lauer

This policy brief explores key options for how the EU could use international carbon credits towards its 2040 climate target, drawing on the lessons learned from the previous use of credits under the Clean Development Mechanism (CDM) and Joint Implementation (JI) and the experience with the voluntary carbon market. It also explores the implications of the EU's approach for the voluntary carbon market. This policy brief is prepared under the EU Horizon ACHIEVE project and amends previous publications by Oeko-Institut on this matter.

Key recommendations

- Using a share of the international carbon credits as safety reserve, in particular due to the uncertainty of the contribution of the land-use sector.
- Purchasing carbon credits mainly through a central purchasing facility and not allowing ETS entities to directly purchase carbon credits.
- Clarifying the maximum amount of carbon credits which can be used, bearing in mind that high-quality carbon credits will not be available at low cost.
- Using the Paris Agreement Crediting Mechanism (PACM) as a minimum integrity benchmark, with additional criteria and safeguards (positive and negative lists).
- Ensuring that third-party auditors are not selected or paid by project developers.
- Engaging in strategic partnerships with third countries at an early stage.
- Establishing minimum thresholds for a fair sharing of emission reductions or removals between third countries, the Adaptation Fund, global mitigation and the EU.
- Addressing accounting gaps in the Paris Agreement, in particular using multi-year accounting approaches in the EU and in third countries.
- Implementing a 'like-for-like' approach for carbon credits subject to reversal risks.
- Not counting carbon credits used towards the EU NDC as climate finance.

For what purpose should international carbon credits be used?

International carbon credits under Article 6 of the Paris Agreement could be used in different ways to achieve the 2040 target, including

1. as a safety reserve in case the overall target is not achieved through domestic actions,
2. as a separate pillar within the EU's climate architecture,
3. for ensuring sufficient supply in the ETS, or
4. as a flexibility for Member States to achieve their national targets.

These four options are non-exclusive, i.e. a combination of two or even more options is possible. In the following, we discuss these four options together with some general considerations on the relationship between the 90 % target and the use of Article 6.

General considerations

The revised EU Climate Law (ECL) states that *the binding Union 2040 climate target shall be a reduction of net greenhouse gas emissions (emissions after deduction of removals) by 90 % compared to 1990 levels by 2040.* To achieve this target, the EU Commission is tasked to review all relevant legislation and propose a policy package to achieve this target. When developing this policy package, the Commission shall appropriately reflect a long list of issues, including:

- Art. 4(5)(a): *high-quality international credits under Article 6 of the Paris Agreement of up to 5 % of 1990 Union net emissions, corresponding to a domestic reduction of net greenhouse gas emissions by 85 %*; and
- Art. 4(5)(d): *the uncertainties of natural removals and ensuring that possible shortfalls would not be at the expense of other economic sectors*.

The use of high-quality international credits only has an upper bound ('up to 5 %'), the ECL is open to lower quantities as well. This means that the corresponding domestic reduction of 85 % needs to be interpreted as a lower limit, i.e. the sum of domestic reductions and use of international credits always needs to achieve the overall 90 % below 1990.

The ECL also recognises the inherent uncertainties in the LULUCF-sector in a world affected by climate change; a shortfall of expected removals cannot be excluded ex-ante and would endanger achieving the 90 % target if it does not lead to further action in other sectors.

There is a risk that not all the issues specified in Article 4(5) can be achieved in the policy package at the same time. Moreover, they only need to be *appropriately reflected* in the legislative proposal by the Commission. Ultimately, the binding requirement is the net reduction of 90 % by 2040 whereas the considerations in Article 4(5) ECL are of secondary importance.

International carbon credits as a safety reserve

International carbon credits could be used as a reserve in the case of insufficient domestic progress. In this case, EU legislation would be designed to achieve a higher

domestic reduction than 85 %, potentially even 90 %. International credits would only be used if that turns out to be necessary. This might be especially relevant to address the uncertainties around the contribution of the LULUCF sector. There are three ways to deal with these uncertainties and still achieve the 90 % target:

1. The LULUCF target is set at an ambition level which will be achieved even in very pessimistic scenarios. This would require higher reduction efforts from the other sectors, i.e. the ETS 1 and the sectors under the current Effort Sharing Regulation (ESR).

2. A share of the international carbon credits is reserved as a safety net for the LULUCF sector. If the removals in the sector fall short of the target value, this safety reserve can be used to compensate for any shortfall.

3. A shortfall of removals in the LULUCF sector would need to be compensated for by other sectors within the EU, i.e. the shortfall would be at the expense of other sectors.

Options 1 and 2 would be fully in line with the ECL; in option 1, any surplus of removals, which may be achieved if the LULUCF sector performs better than required, might be used to compensate emissions from other sectors, similar to the provisions under the current ESR. The third option would not be in line with the expressed wish of policy makers in Art. 4(5)(d). If option 2 is pursued, the EU would need to reserve a share of the total quantity of international carbon credits for the LULUCF sector to comply with the ECL Article Art. 4(5)(d). Such a safety reserve could either be integrated into the flexibility for national targets (see below) or as an EU-wide instrument.

A safety reserve is not only relevant for the LULUCF sector. The approach could also be used to close a potential shortfall in Member States' efforts to achieve their national targets for the other sectors. In addition, the safety reserve could also be used to bridge a gap between EU-internal rules and accounting under the ECL and the NDC which both will set a single-year target for 2040. In contrast, ETS and today's national targets limit emissions over a period of years due to banking and borrowing provisions. It might therefore be the case that EU-wide 2040 emissions are (significantly) higher than the ECL and NDC targets despite full compliance of Member States and ETS entities with their obligations under EU law.

A separate pillar for international carbon credits

In this approach, the EU legislation would be designed to achieve a lower domestic net reduction than 90 %, in the most extreme case only 85 %. The cap in the ETS and national targets, including for the LULUCF sector, would be calibrated to this lower domestic emission reduction target. The difference between the sum of the sub-targets in EU legislation and the 90 % EU target would need to be covered through the purchase of international carbon credits under Article 6. Depending on the approach chosen for the possible shortfall in the LULUCF sector and the potential accounting gap, this pillar cannot cover the entire Article 6 budget but at most the difference between the overall budget and the safety reserve.

Under the separate pillar approach, the EU would decide ex-ante on a quantity of international credits which need to be purchased. Achieving the 2040 target would

depend on a sufficient supply of high-quality credits under Article 6 at prices that the EU would be willing to pay.

Inclusion of international carbon credits in the ETS

International carbon credits could be included directly or indirectly in the EU ETS.

The experience in the early years of the ETS showed considerable risks of a direct integration of carbon credits, i.e. giving operators the right to buy eligible international carbon credits. First, if the costs of generating international carbon credits are lower than EU allowances prices, this can lead to considerable windfall profits for developers of carbon crediting projects. In the early years of ETS integration, with limited supply of CDM and JI credits and high demand from operators, some projects had only very low mitigation costs while the credits were traded at prices close to EU allowances prices. This approach may therefore increase the costs of the EU for buying international credits compared to an approach where the credits are purchased through other vehicles (e.g. public tenders). Second, it would be more difficult for EU legislators to react to any unforeseen developments, such as lower than expected demand for allowances or integrity risks of some carbon credits that are only identified ex-post. And third, this approach would reduce the auctioning revenues available to EU member states.

An indirect integration of international carbon credits could be pursued in different ways. One option is linked to the approach of a separate pillar: the cap trajectory could already reflect a certain quantity of international carbon credits in the overall climate architecture (see above). Another indirect inclusion would be linked to the Market Stability Reserve (MSR), which issues allowances if the supply in the ETS is deemed insufficient, provided that there are sufficient allowances in the reserve. International carbon credits could be used to fill the MSR, i.e. governments or a central facility could buy an amount of international carbon credits equal to the quantity of EUA created to refill the MSR. A direct inclusion of international carbon credits into the MSR might lead to difficulties due to the unlimited validity of ETS allowances compared to the accounting for NDC periods under the Paris Agreement.

The advantage of this approach is that the risk of a new uncontrolled oversupply is low compared to the direct integration, because the MSR only issues allowances if there is a shortage. The governments would benefit from the price difference between international carbon credits and ETS allowances, reducing the extent to which they lose auctioning revenues due to the lower amount of ETS allowances auctioned.

International carbon credits as a flexibility option for national targets

International carbon credits could also be used as a voluntary flexibility for governments to achieve national targets post-2030. This is already included in Article 11 of the ECL: in the review of the ECL taking place every five years, the Commission shall take *the flexibility for Member States to use high-quality international credits to fulfil up to 5 % of their post-2030 targets and efforts* into account.

If this option is implemented, Member States would be allocated an upper limit for the amount of international carbon credits that they could use for compliance under their national targets. It would be up to Member States to decide on whether, and to what

extent, they make use of this flexibility, i.e. they could achieve their target through domestic action only or use only a share of the allocated amount. The safety reserve for LULUCF compliance could be part of this flexibility option for national targets covering the LULUCF sector. National governments would be responsible to purchase sufficient international carbon credits but might still be able to take short-term domestic action if the supply of credits is insufficient.

Recommendations: The policy package needs to ensure that the EU achieves the net 90 % reduction, even if the LULUCF-sector does not deliver as expected or if the supply of high-quality credits is insufficient. We therefore recommend using a share of the quantity of international carbon credits as a safety reserve, especially for the LULUCF sector. This corresponds to a policy package that is designed to achieve a higher domestic reduction than 85 %. The EU should not allow for a direct use of carbon credits by ETS entities.

How many credits does the EU need to purchase and at which costs?

As referred to above, the amended ECL requires the European Commission to ensure appropriately that a contribution of up to 5% of 1990 EU net emissions is reflected in the legislative proposals for the post-2030 climate target architecture, starting in 2036. In addition, a possible pilot period between 2031 and 2035 shall be considered, which should initiate a high-quality and high-integrity international credit market.

Quantification of credits to be purchased until 2040 following the amended ECL

The maximum amount of international carbon credits which might be bought in the timeframe 2036 to 2040 lies in the range of **236 to 1 180 million units**:

- In the pilot phase from 2031 to 2035, the amount is very uncertain: as there is no direct use of these credits for any target compliance, these purchases will mainly happen to prepare for setting up the necessary institutional arrangements, to establish registry and reporting requirements, and to start interactions with countries for strategic partnerships. Without the possibility to use the credits for compliance purposes, the amount is likely to be small.
- For the period 2036 to 2040, the ECL could be interpreted in different ways:
    - the maximum limit of 5 % of 1990 net emissions (236 million units) could relate to the total period 2036 to 2040,
    - the 236 million units could be interpreted to be used in each year of the period (resulting in a total of 1 181 million units), or
    - the 236 million units could be interpreted to be the endpoint in the year 2040 of a linearly increasing path of carbon credit use between 2036 to 2040 (resulting in a total of 709 million units).

Quantification of credits to be accounted for under the Paris Agreement

The EU has communicated a single-year target for 2030 and 2035 and might do so for 2040, too. The NDC for 2035 has a NDC period from 2031 and to 2035. The NDC for 2040, to be communicated in 2030, will have an NDC period from 2036 to 2040.

The international rules under Article 6.2 offer countries with single-year targets two options to account for the international transfer of carbon credits:

- Averaging, whereby the average number of carbon credits used or sold over an NDC period is accounted for in the target year, and
- Multi-year trajectories or budgets, whereby the use or sale of carbon credits is balanced against the trajectory or budget.

Under a multi-year trajectory or budget, the EU would define an allowable emissions level for each year of the period 2036 to 2040. Single year targets are building the starting and endpoint of a linear trajectory spreading over five years for accounting purposes. The emissions level in each year should be derived based on a linear interpolation between the 2035 NDC target and the 2040 NDC target. For example, if the 2035 target was an 80% reduction compared to 1990 levels, then the allowable emissions level would be an 82% reduction in 2036, an 84% reduction in 2037 and so on. With a linear trajectory the accounting is expanded from the target year (2040) to the entire NDC period (2036 to 2040). This means that the EU would need to purchase carbon credits to fill any shortfall towards the trajectory for the entire period.

However, the international rules do not specify whether a country with a trajectory would need to ensure that its emissions stay below the trajectory in each year or cumulatively over the five-year NDC period (section III.B in the Annex to decision 2/CMA.3). In our assessment, a cumulative assessment is reasonable, noting also that the same approach was applied under the Kyoto Protocol. This would effectively mean that the single year target of the EU for 2040 is, for accounting purposes, transformed into a budget for the period 2036 to 2040, which is derived based on a linear pathway between the 2035 and 2040 targets.

International rules provide flexibility regarding the timing of any purchase of international carbon credits. Two rules are important in this context:

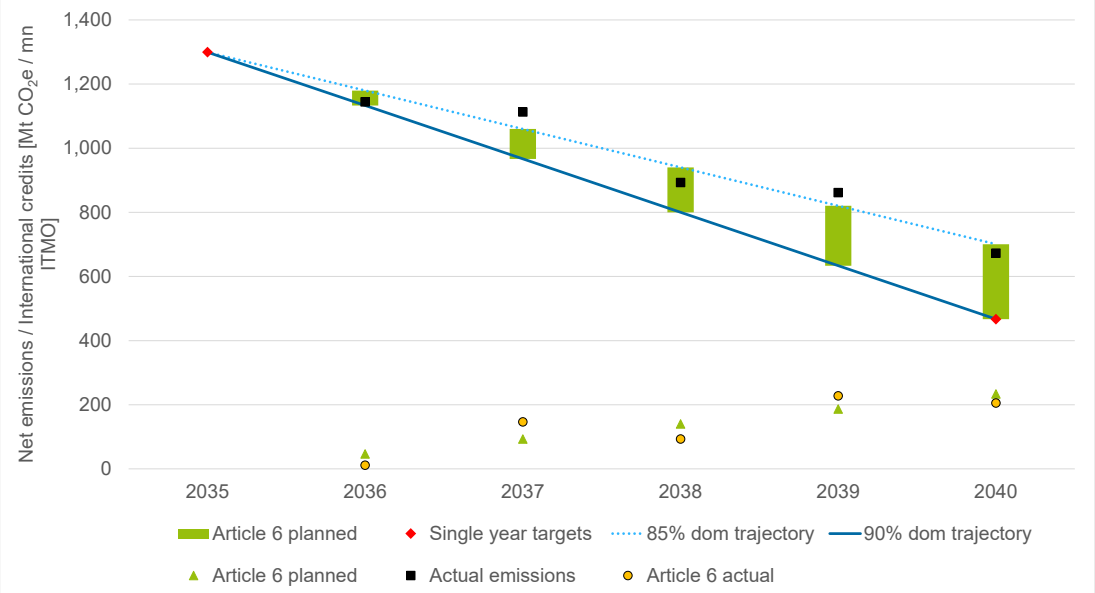
- **No banking: International carbon credits must be generated and used in the same NDC period**. This means that the EU can use in the period 2036 to 2040 only carbon credits for which the underlying emission reductions or removals occurred within this period. It is not possible to use carbon credits with a vintage of 2035 or earlier to achieve the 2040 target (section III.B in the Annex to decision 2/CMA.3).
- **NDC emissions balance closing:** International rules specify a timeline for closing the emissions balance for an NDC period (paragraph 70 in the Annex to decision 18/CMP.1; paragraph 12 in the Annex to decision 2/CMA.3; section II of decision 4/CMA.6). The EU would need to submit its biennial transparency report (BTR) with a closing emissions balance by 2042. Information on international carbon credit purchases are furthermore reported annually in an agreed electronic format (paragraph 20 in the Annex to decision 2/CMA.3AEF). The information submitted on 15 April 2042 for the calendar year 2041 would be the basis for the

BTR. **This implies that any transactions would likely have to be finalized by 2041 or early 2042 for the 2036 to 2040 period**.

Apart from these constraints, there are no further rules regarding the timing. For example, it would be possible for the EU to purchase in 2041 a carbon credit that was generated in 2038 and to use (i.e. account) that carbon credit to achieve the linear trajectory for the year 2036. This means international rules do not prevent the possibility to purchase carbon credits ad-hoc on the market, even after the end of the NDC period, and use them for previous years. In practice, availability of high-quality credits that fulfil EU standards could however be a concern if ad-hoc purchases are made.

Figure 1 gives an illustrative example for accounting based on a linear trajectory. In this example, we assume, that the planned use of international carbon credits would amount to 709 million credits in total and that the actual use of international carbon credits would be slightly lower over the period. However, as emissions vary from year to year, the actual use in each year corresponds to the emissions gap observed in that year.

Figure 1: Illustrative example for linear accounting under Article 6



Source: Öko-Institut

Costs of credits

The use of international carbon credits is often perceived as a cost-efficient way of fulfilling hard to achieve targets. While this has been the experience in voluntary carbon markets and under the Kyoto Protocol, this will no longer be the case under the Paris Agreement, under which all countries have climate targets, higher quality criteria for carbon credits are in place and additional aspects regarding partnership agreements have to be respected (see below).

At this point in time, it is not possible to indicate a price level, as it depends on many unknown factors. First, the avoidance mitigation costs of the relevant technologies at

a future date are uncertain. Second, the price also depends on the share of emission reductions or removals that will remain with third country and how much the EU will contribute to the Adaptation Fund and to an overall mitigation of global emissions (OMGE) (see below). To nevertheless give an indication of current prices, some examples are here provided: Switzerland currently pays 40 USD for international carbon credits (Manuell 2024), carbon credits issued under ART TREES for forest protection in Guyana are traded for 25 USD (Government of Guyana 2022) and for the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) prices of 27-91 USD are anticipated for the years 2033 to 2035 (MSCI 2024). All these credits are not expected to meet high-quality criteria. If all quality criteria are fulfilled, prices could be much higher. For example, Grandpré and Senne (2026) estimate prices of 200 EURO per ton.

The costs of carbon credits are also related to their general availability on the market: It is questionable how attractive it will be for project developers to design projects for which there is only a clear demand for the five years 2036 to 2040. Uncertainty about the interest of the EU to buy might also increase the costs of international credits: If these are used as a safety net, the intention to use them for EU compliance might only be known at the very end of the period, with final numbers not available before the year 2042.

Recommendation: The legislative proposal should clarify the maximum amount of carbon credits which can be used to achieve the 2040 target, bearing in mind that high-quality carbon credits will not be available at low cost. The EU should engage in partnerships with third countries at an early stage to ensure that high-quality carbon credits are available.

Who should buy the credits?

International credits could be bought by national governments, a central EU-institution or through a combination of both. In all cases it will be necessary to agree on quality criteria, eligible carbon crediting programmes, methodologies and project types, and to develop strategic partnerships (see below).

A central purchase programme might have several advantages:

- Lower prices due to a higher purchasing power and avoided internal competition between different Member States;
- Less transactions costs for seller countries with only one instead of potentially 27 contact points in the EU;
- Less transaction costs for Member States which will be especially beneficial for Member States that only need a small quantity of credits;
- Uniform application of rules and standards and faster possible reaction in case of unforeseen developments, e.g. related to the quality of specific carbon credit types.
- The risk of a default, i.e. that the carbon credits transaction fails due to whatever reason, can be pooled across a larger number of purchases.

The main drawback of a centralised purchase programme is the limited possibility to reflect already existing bilateral cooperation between potential seller countries and Member States. National governments are often engaged in strategic partnerships and long-term cooperation on climate change with some countries. These existing relationships could be addressed through specific funding lines within a centralised purchase programme. Alternatively, participation in a centralised programme could be on a voluntary basis, but the benefits of such a programme will decrease with a reduced size.

Who should buy the credits also depends on their use. For credits which are included in the policy design to achieve the 90 % target, a central buyer might be better able to ensure that sufficient quantities are bought. This is the case if international carbon credits are included as a separate pillar where the other policy instruments are designed to achieve a reduction of less than 90 %. This is also the case for a mechanism that replenishes the MSR and potentially for the LULUCF safety reserve. Where international carbon credits can be used by Member States as one flexibility option to achieve their national targets, national purchase programmes might be better suited as an alternative to a central facility.

The timing of any purchases is another relevant dimension. To achieve the intended benefits of Article 6 also for the seller country, long-term partnerships are needed. By definition it is unclear how many international carbon credits will be needed in the safety reserve approach. Buying them only after 2040, once the final demand for credits is established, may be difficult as it would be uncertain if sufficient high-quality credits would be available. The EU and/or Member States should therefore establish early purchase programmes and not wait till the end of the NDC period. If purchased carbon credits are not needed for compliance by the EU, they could be cancelled and be counted as a climate finance contribution.

Recommendations: We recommend the establishment of a central purchasing facility. It reduces risks, transaction costs for both sellers and buyers and will likely lead to lower prices. In addition, it can react more quickly to new developments.

Quality criteria for carbon credits

Ensuring the quality of carbon credits was a major challenge under the Kyoto Protocol's CDM and 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.[1] This could also hold for units that will be generated under the EU's Carbon Removal Certification Framework (CRCF).[2] This raises the question how the EU can draw on these lessons and ensure that carbon credits have high quality.

The ECL refers to the purchase of *high-quality international credits (…) in a way that is both ambitious and cost-efficient*. The *quality criteria (…) should be regulated by Union Law to ensure that they are based on credible and transformative activities (…)*. Furthermore, *when establishing the quality criteria, the Commission shall consider,*

1 See, for example, Probst et al. (2024); Cames et al. (2016); Kollmuss et al. (2015).
2 See Oeko-Institute's blog post Revised methodologies under the EU Carbon Certification Removal Framework continue to lack integrity.

where appropriate, complementing the criteria laid down under Article 6(4) of the Paris Agreement to ensure the respect of those safeguards and the highest quality of international credits, in particular with regard to permanence and human rights. The ECL thus explicitly refers to the PACM as a possible benchmark and additional criteria that the EU may establish.

In our assessment, the PACM is currently the best available benchmark for the integrity of carbon credits. It introduces new principles and requirements for generating carbon credits, which go beyond requirements under the Kyoto Protocol's mechanisms and the approaches currently used in the voluntary carbon market. Examples include applying downward adjustments to baselines, considering international leakage, a systematic assessment of uncertainty, avoiding lock-in, and conducting mandatory assessments of environmental and social risks as well as sustainable development benefits.

However, the future evolution of the PACM is uncertain and should be observed. In some areas, such as non-permanence, key decisions are still outstanding. It will also have to be seen whether current standards are maintained and applied consistently over time. We therefore recommend that the EU uses the PACM as a benchmark for integrity but adopts, in accordance with the ECL, additional criteria and safeguards. Such additional criteria and safeguards could, for example, exclude certain types of mitigation activities where concerns are identified with PACM methodologies or set specific additional requirements (e.g. on the duration for which reversals must be compensated for).

The EU Carbon Removal and Carbon Farming Framework (CRCF) is not suitable as a benchmark for the purchase of international carbon credits. First, the EU CRCF has not been designed for the purchase of international carbon credits. It strongly relies on EU legislation which is not applicable in third countries. Second, the EU CRCF sets a significantly lower standard than the PACM and other accepted integrity benchmarks, such as the Core Carbon Principles and Assessment Framework of the Integrity Council for the Voluntary Carbon Market (ICVCM). Using the EU CRCF would therefore likely result in the purchase of a large number of carbon credits that are backed by actual emission reductions or removals.[3] And third, the EU CRCF does not comply with some of the principles established under Article 6.2 of the Paris Agreement. Using the EU CRCF as an integrity benchmark would thus pose risks that the EU is found to be non-compliance with international rules.

<u>Recommendation:</u> The EU should use the PACM as a minimum integrity benchmark, with additional criteria and safeguards.

How to operationalise quality criteria

The EU could use the PACM in two ways as an integrity benchmark:

- **Using PACM credits only:** The EU could only purchase carbon credits issued under the PACM, as long as they meet additional EU criteria.

[3] See, for example: https://www.oeko.de/blog/revised-methodologies-under-the-eu-carbon-certification-removal-framework-continue-to-lack-integrity/

- **Using credits from various sources:** The EU could purchase carbon credits issued under different carbon crediting programmes, as long as these adhere to PACM standards and additional EU criteria.

In our assessment, both options are feasible but have different advantages and disadvantages. Using only PACM credits, with additional criteria, is simpler as it involves lower transaction costs for assessing the quality of carbon credits. It also best ensures that carbon credits actually meet PACM requirements. A disadvantage is that this approach makes the EU more dependent on the PACM. If the PACM does not uphold its current standards, lower quality credits may quality for use in the EU. It would thus be important that the PACM is regularly reviewed and that any additional EU criteria are updated, where necessary. There could also be political risks, such as that the issuance of credits is blocked by other countries for political reasons. Furthermore, when using only PACM credits, the available credit supply could be more limited as compared to allowing for carbon credits from other carbon crediting programmes.

If carbon credits issued under other carbon crediting programmes are allowed, this may broaden the available supply. It also makes the EU more independent of the PACM. The main disadvantage is that the EU would need to establish a process to assess the adherence of carbon credits from other carbon crediting programme with PACM requirements and additional EU criteria. This may involve considerable transaction costs and create more uncertainty whether the credit quality is actually comparable with the PACM.

The process of approving carbon credits from other carbon crediting programmes could be implemented in different ways:

- **Activity-by-activity assessment** by third-party auditors
- **Exhaustive positive list** for eligible categories of carbon credits developed by the Commission
- **Non-exhaustive positive list or negative lists** for eligible categories of carbon credits developed by the Commission

We recommend that assessments by third-party auditors are only made for matters that can be objectively and easily verified. This may, for example, include verifying whether a project has certain technical features or verifying the point in time when an investment decision was made. For more complex matters, such as ensuring that emission reductions are not overestimated, we recommend that the European Commission develops positive or negative lists, such as excluding certain quantification methodologies or project types from eligibility. In doing so, the EU may prioritize mitigation activity types that are transformational in nature, that cannot be easily achieved by third countries by themselves, and for which emission reductions or removals can be quantified with a high confidence.

If carbon credits from other carbon crediting programmes were allowed, this would entail a similar process and eligibility criteria as under CORSIA or the ICVCM, where eligibility is established for “categories” of carbon credits, which are defined as a combination of eligible project types, eligible carbon crediting programmes, eligible quantification methodologies, and additional criteria where needed. Similar to

CORSIA and the ICVCM, carbon crediting programmes could then identify and tag in their registries carbon credits that fulfil EU requirements.

Recommendation: The EU may consider using either only PACM credits or also allowing for other credit types that meet PACM standards and additional EU criteria. The EU should mainly use positive or negative lists for categories of carbon credits that are eligible or non-eligible. Third-party auditing should only be used for simple checks.

Third-party auditing

Third-party auditing is a well-established practice under all major carbon crediting programmes. Both the project design (validation) and the project implementation and quantification of emission reductions and removals (verification) are assessed by third-party auditors. The ECL refers to *strong (…) verification methodologies*.

The available experience with current auditing approaches is rather mixed. The available literature indicates considerable flaws in current auditing practices.[4] Under the CDM, many auditors were suspended because serious non-performances were identified. Recently, the German Environment Agency took action after identifying serious irregularities and compliance issues in several upstream emission reduction projects under the Fuel Quality Directive, despite prior third parties audits.[5] The company C-Quest Capital, one of the largest developers of clean cookstove projects, was alleged of using manipulated data which has led to the issuance of millions of carbon credits that were not backed by actual emission reductions, despite the auditing by third parties.[6]

An important root cause for these challenges is that third-party auditors are commonly contracted and paid by project developers. Although they must qualify to become auditors and shall not have conflicts of interests, they have an inherent incentive to draw conclusions that are favourable to their clients in order to secure future assignments. The carbon crediting programme Isometric is one of the few carbon crediting programmes where carbon credit buyers, rather than project developers, pay for the auditing services.[7] Another approach could be a random allocation of auditors to project developers and establishing a fixed fee system for their payment.[8] The PACM does not specify by whom the auditors must be paid but allows project developers to hire the auditors.

Recommendation: The EU should ensure that third-party auditors are not selected or paid by project developers. This could be implemented by paying third-party auditors through an EU facility and charging project developers for the respective costs or by adopting a random allocation of auditors to project developers.

4 See, for example: Schneider et al. (2024) and Kollmuss et al. (2015).
5 See https://www.umweltbundesamt.de/en/press/pressinformation/uba-refuses-to-approve-certificates-for-eight-uer
6 See https://verra.org/verra-cancels-5-million-overissued-credits-linked-to-c-quest-capital/
7 See https://isometric.com/writing-articles/pricing-at-isometric
8 See Schneider et al. (2024).

Strategic partnerships with third countries

A key policy question is from which third countries the EU should purchase international carbon credits. The ECL specifies that the purchase of international carbon credits should support *the Union and third countries in achieving net greenhouse gas reduction trajectories compatible with the Paris Agreement objective to hold the increase in the global average temperature to well below 2 °C and pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels*.

Most importantly, this requires that both the EU and third countries have ambitious NDC targets expressed in absolute levels of emissions, are on track to achieve them, and have committed to achieving net zero emissions through their long-term low emission development strategy (LT-LEDS).

Under the Paris Agreement, seller countries have specific responsibilities to ensure that their participation in Article 6 does not undermine integrity or ambition. To avoid a shortfall in their emission balance, it is important that Article 6 activities fall within the scope of their NDCs, and that their national greenhouse gas inventories are granular enough to capture the impact of mitigation activities. Seller countries should also develop strategies for engaging in Article 6 coherent with their NDC and LT-LEDS and have robust governance arrangements in place for authorising carbon credits and meeting the reporting obligations under the Paris Agreement. To ensure that seller countries fulfil key requirements under Article 6 of the Paris Agreement, the EU could also limit its cooperation to countries that do not have any resolved "persistent inconsistencies" identified in Article 6 technical expert reviews.

The EU should support third countries in meeting these requirements and avoid participation in any Article 6 transactions that would jeopardise their ability to implement and enhance the ambition of their NDCs. The EU and third countries should jointly identify sectors and types of mitigation activity for which cooperation under Article 6 has a high potential to enhance ambition, while preserving their competitiveness. For example, subsidising mitigation in the EU through carbon credits in sectors exposed to international competition could negatively impact the functioning of the Carbon Border Adjustment Mechanism (CBAM). In order to safeguard ambition, the EU and third countries should also select mitigation activities and agree on baseline levels that are aligned with Paris-compatible carbon budgets (e.g. by focussing on "high-hanging fruit" mitigation actions and adjusting baselines downwards towards zero emissions in 2050).

<u>Recommendation:</u> The EU should establish strategic partnerships with third countries based on principles that promote integrity and ambition. These should address the ambition and coverage of NDCs and LT-LEDS, Article 6 engagement strategies, the selection of sectors and mitigation activity types, governance arrangements for authorisation, and meeting relevant reporting requirements under the Paris Agreement.[9]

[9] For further specific criteria, see Johnstone et al. (2025).

Sharing of mitigation outcomes

The Kyoto Protocol's carbon crediting mechanisms, the Clean Development Mechanism (CDM) and Joint Implementation (JI), were designed as offsetting mechanisms: reducing emissions in one country allowed another country to increase its emissions by the same amount above its target level. Article 6 of the Paris Agreement moves beyond this approach. Mitigation outcomes achieved through a cooperative approach should be shared among four recipients:

- **Seller country:** The Article 6 rules establish that carbon market cooperation should help not only buyer countries but also seller countries to enhance the ambition of their NDCs. To implement this, seller countries should retain a share of the mitigation outcomes, enabling them to use this share to achieve their own NDCs. Such sharing can be achieved in various ways, such as downward adjustments to baselines, shorter crediting periods, or cancelling a portion of carbon credits.
- **Adaptation Fund:** Secondly, a share of carbon credits should be provided to the Adaptation Fund, which can raise funds by selling these credits. Under the Article 6.4 Paris Agreement Crediting Mechanism (PACM), 5% of credits are transferred to the Adaptation Fund.
- **Global mitigation:** Thirdly, some of the carbon credits should be cancelled in order to deliver an 'overall mitigation in global emissions' (OMGE). These mitigation outcomes are not used by either the buyer or the seller towards their NDCs; rather, they accrue as a global net benefit to the atmosphere. Under the PACM, a minimum share of 2% is required.
- **Buyer country:** Only the remainder of carbon credits should be used by carbon credit buyers.

The ECL recognises this principle and refers to a *high ambition for the share of proceeds for adaptation and the sharing of mitigation benefits with countries concerned*.

Recommendation: We recommend that EU legislation establishes quantitative minimum values for the sharing of mitigation outcomes. We recommend considering minimum values of 30% for third countries, 10% for the Adaptation Fund and 10% for global mitigation, possibly with variations between countries (e.g. higher shares for least developed countries) and types of mitigation activities. Quantitative values provide regulatory clarity and ensure a level playing field across entities purchasing international credits in the EU.

Addressing accounting gaps under the Paris Agreement

The international rules agreed under Article 6 of the Paris Agreement provide a relatively comprehensive framework for accounting for internationally transferred mitigation outcomes (ITMOs). However, the rules leave some important gaps that could lead to double counting or result in higher global GHG emissions. The also speaks to the general principle of avoidance of double counting, which is – in our assessment – only ensured with additional safeguards, beyond the rules under Article 6 of the Paris Agreement. We therefore recommend that the Commission addresses

these accounting gaps in the legislative proposals. We here highlight the most important matters in this regard.

Accounting approach

Most countries have only pledged NDC targets for a single year, such as 2030. This raises complex accounting issues, given that carbon market approaches are commonly implemented over multi-year periods. Article 6 offers countries with single-year targets two options to account for the international transfer of carbon credits: (1) averaging, whereby the average number of carbon credits used or sold over an NDC period is accounted for in the target year, and (2) multi-year trajectories or budgets, whereby the use or sale of carbon credits is balanced against the trajectory or budget. In practice, averaging can lead to double counting and an increase in global emissions even when carbon credits represent additional emission reductions or removals. Averaging also creates large uncertainty of how much units a country can sell or needs to buy (Siemons and Schneider 2022). This is a major loophole in the international rules under Article 6 of the Paris Agreement. As the EU has domestic trajectories with annual targets for almost all emissions through the EU ETS, the ESR and the LULUCF Regulation, choosing a multi-year trajectory as accounting approach is straight-forward for the EU. In addition, the EU should only engage with countries that also use multi-year approaches, rather than averaging.

Robust national GHG inventories

Robust national GHG inventories are the backbone of accounting under the Paris Agreement. While Article 6 rules require countries to submit national GHG inventories, they do not speak to the coverage and quality of the inventories. We recommend that the EU supports third countries to ensure that national GHG inventories cover all sectors, key categories and greenhouse gases, a full time series of emissions and removals, and that Tier 2 or 3 approaches are used for sectors and categories materially affected by Article 6 activities.[10]

Consecutive NDC periods in accordance with agreed time frames

In their NDCs, countries have to specify an NDC period. This period is important in the context of Article 6, as it specifies over which duration the international transfer of carbon credits is accounted for. Some countries have specified overlapping NDC periods (e.g. a period from 2021 to 2030 for an NDC target for the year 2030 and a period from 2021 to 2035 for an NDC target for the year 2030). Such overlapping NDC periods can raise complex accounting matters. Though not explicitly stated, the accounting rules under the Paris Agreement were written based on the assumption of consecutive, rather than overlapping NDC periods. We therefore recommend that the EU ensures that third countries have specified consecutive NDC periods, consistent with common time frames agreed for NDC targets (e.g. an NDC period from 2036 to 2040 for an NDC target for the year 2040).

Article 6 authorisations

Article 6 authorizations are a critical element in the accounting for ITMOs. They not only specify the purpose for which ITMOs may be used but also determine when

[10] For further specific criteria, see Johnstone et al. (2025).

corresponding adjustments must be applied. Due to the various flexibilities provided in the international rules, accounting is rather complex. If key information is not specified or not clear, this may ultimately lead to double counting of emission reductions or removals. While the requirements for authorisations are set out in international rules, it may be useful to provide additional specifications to ensure that all relevant information is included.

Closing the accounting cycle for LDCs and SIDS

Under the Paris Agreement, the accounting balance for Article 6 (referred to as "structured summary"), including the application of corresponding adjustments, is reported in biennial transparency reports (BTRs). Countries generally must submit their BTRs every two years. However, countries that are a Least Developed Country Party (LDC) or a Small Island Developing State (SIDS) are allowed to submit their biennial transparency reports (BTRs) under the Paris Agreement "at their discretion" (decision 18/CMA.1, paragraph 4 and Annex, paragraph 10). This bears the risk that such reports may be submitted very late, or possibly never be submitted, and that corresponding adjustments are thus not implemented and reported. This could ultimately lead to double counting of emission reductions or removals. To address this gap, we recommend that the EU agrees with third countries that are LDCs or SIDSs on specific timelines when BTRs will be reported.

Recommendation: The EU should specify further accounting arrangements to ensure that double counting is avoided and that emissions do not increase as a result of the engagement in Article 6. This should include, inter alia, the following:

- **The EU should not purchase carbon credits from countries that use the averaging approach. Rather, the EU and eligible third countries should use multi-year accounting approaches, either by pledging a multi-year NDC target or by establishing a multi-year trajectory or budget. These targets, trajectories or budgets should be met cumulatively over the NDC period.[11]**
- **The EU should support third countries to ensure that national GHG inventories cover all sectors, key categories and greenhouse gases, a full time series of emissions and removals, and that Tier 2 or 3 approaches are used for sectors and categories materially affected by Article 6 activities.**
- **The EU should provide further specifications to information included in Article 6 authorisations of third countries, including that countries use the voluntary template for authorisations published by the UNFCCC secretariat.**
- **The EU should agree with third countries that are LDCs or SIDSs on specific timelines when BTRs will be reported.**

[11] This means that the cumulative emissions over an NDC period (e.g. 2036 to 2040) after application of corresponding adjustments should be equal to or lower than the multi-year target, trajectory of budget for that period.

Implementing a 'like-for-like' approach for carbon credits subject to reversal risks

Some types of mitigation activities, such as forestry projects, are subject to non-permanence or reversals risks. This refers to the possibility that the carbon stored in reservoirs, such as trees and soils, will be released back into the atmosphere. This could occur due to natural disturbances like fires or human activities like harvesting.[12]

Carbon crediting programmes use a variety of approaches to manage reversal risk, such as requiring reversal risk assessments and compensation for reversals. However, these approaches have strong limitations, including with regard to the time scale they consider (from 5 to 100 years). These approaches commonly do not ensure equivalence in the durability of emission reductions or removals compared to carbon credits without reversal risks. Therefore, carbon credits subject to reversal risks should not be used to offset permanent emissions. This would pose considerable integrity risks, particularly as some ecosystems are shifting from a sink to a source of emissions. It would also raise equity issues, as the seller countries would ultimately bear responsibility for any future reversals.

Recommendation: The EU should implement a 'like-for-like' approach for any use of carbon credits subject to reversal risks. This means that long-lived emissions, such as CO_2 emissions from fossil fuel combustion, should only be offset by carbon credits with no or negligible reversal risks. Carbon credits subject to reversal risks could be used to compensate for CO_2 emissions or a decline in removals in the land-use sector. In order to incentivise continued storage, robust requirements for managing reversal risks should still apply to these carbon credits.

Not counting payments for carbon credits as climate finance

At COP29, the Parties adopted a New Collective Quantified Goal (NCQG) for climate finance. This goal calls on all actors to work together to enable the scaling-up of financing to developing country Parties for climate action from all public and private sources to at least USD 1.3 trillion per year by 2035. Within the scope of this wider target, developed country Parties committed to taking the lead in mobilising USD 300 billion per year by 2035 for climate action of developing country Parties. As carbon credit transactions will take place in the context of bilateral and multilateral cooperation, the question arises as to whether payments for carbon credits should qualify as flows that can be counted towards the two numerical goals of the NCQG.

Recommendation: We recommend that the EU implements two principles with regard to carbon credits and climate finance:

- **The EU should not count payments for international carbon credits used to achieve its NDC, nor funding mobilised through such payments, towards either of the two numerical goals under the NCQG. Such payments are transactional, as the EU in return receives the carbon credits. Therefore, they do not qualify as climate finance, the objective of which is to support the climate action of developing countries. It should be further explored**

[12] FAO (2024).

whether exceptions from this principle may apply to the part of the funding that supports the Adaptation Fund and the host country in achieving its own NDCs, through the sharing of mitigation outcomes.

- **The EU should not subsidise the generation of carbon credits with public funds, including Official Development Assistance. This means that payments for international carbon credits should either not be blended with (other) public funding that supports the credited activities, or carbon credits should only be issued in proportion to the share of funding provided through carbon credit revenues.**[13]

Implications for the wider carbon credit market

The EU's approach towards purchasing international carbon credits could have wider implications for the voluntary carbon market and other compliance markets. This is partially owed to the large size of the EU demand compared to other countries that are already making use of Article 6 (e.g. Japan, Singapore, South Korea, Sweden, Switzerland). Many project developers may be interested in meeting EU standards, so as to have the flexibility to sell to the EU or possibly other countries. Moreover, voluntary carbon market buyers, in particular in the EU, may want to ensure that they follow the EU's approach. The EU's approach could also indirectly affect other carbon credit markets. For example, if the EU uses a *high ambition for (…) the sharing of mitigation benefits with countries*, as referred to in the ECL, this is beneficial for third countries. Project developers may thus not be willing to sell carbon credits with less ambitious benefit sharing arrangements than those that they could achieve the EU. Overall, the approach of the EU could thus also raise the bar for ambition and integrity in the use of carbon credits beyond the EU.

References

Cames, M.; Harthan, R.; Füssler, J.; Lazarus, M.; Lee, C.; Erickson, P.; Spalding-Fecher, R. (2016): How additional is the Clean Development Mechanism?, Analysis of the application of current tools and proposed alternatives. Oeko-Institut. Berlin. Online available at https://climate.ec.europa.eu/system/files/2017-04/clean_dev_mechanism_en.pdf, last accessed on 29 Jun 2025.

FAO (2024): Options for addressing the risk of non-permanence for land-based mitigation in carbon crediting programmes. Food and Agriculture Organisation of the United Nations. Online available at https://doi.org/10.4060/cd3083en, last accessed on 29 Jun 2025.

Fuessler, J.; Kansy, T.; Spalding-Fecher, R. (2019): Blending climate finance and carbon market mechanisms: Options for the attribution of mitigation outcomes (Discussion Paper). CPF/TCAF. Online available at https://www.infras.ch/media/filer_public/f5/52/f55237be-98d7-4b34-8d03-7cda1d696bcf/blending_climate_finance_and_carbon_market_mechanisms_final_march2019.pdf, last accessed on 12 May 2021.

Government of Guyana (2022): Fact Sheet: Guyana Sells Approximately 30% of its Forestry Credits under ART TREES to Hess Corporation for a minimum of US$750M. Online available at https://lcds.gov.gy/wp-content/uploads/2022/12/FACT-SHEET-Summary-of-Forest-Carbon-Credits-Transaction.pdf, last accessed on 27 Apr 2026.

[13] See, for example, Schneider and Haase (2023) and Fuessler et al. (2019).

Grandpré, J. de and Senne, J. (2026): Die Rolle von Artikel 6 im deutschen und europäischen 2040-Klimaziel (Policy Brief). New Climate Institute. Online available at https://newclimate.org/resources/publications/article-, last accessed on 27 Apr 2026.

Johnstone, I.; Schneider, L.; Michaelowa, A.; Grandpré, J. de; Kuci, S.; Ahonen, H.-M.; Probst, B.; Lezak, S.; Hale, T.; La Hoz Theuer, S.; Omukuti, J.; Reséndiz, J. L.; Fankhauser, S. et al. (2025): Oxford Principles for Oxford Principles for Responsible Engagement with Article 6. Smith School of Enterprise and the Environment, University of Oxford. Oxford. Online available at https://www.smithschool.ox.ac.uk/sites/default/files/2025-06/The_Oxford_Principles_for_Responsible_Engagement_with_Article_6.pdf, last accessed on 29 Jun 2025.

Kollmuss, A.; Schneider, L.; Zhezherin, V. (2015): Has Joint Implementation reduced GHG emissions? Lessons learned for the design of carbon market mechanisms (Working Paper). Stockholm Environment Institute. Stockholm. Online available at https://www.sei.org/publications/has-joint-implementation-reduced-ghg-emissions-lessons-learned-for-the-design-of-carbon-market-mechanisms/.

Manuell, R. (2024): Swiss entity estimates 15 mln ITMOs from current Article 6 carbon pipeline, paying nearly $40/t. Online available at https://carbon-pulse.com/297771/, last accessed on 27 Apr 2026.

MSCI (2024): CORSIA: Costs and Implications for the Airline Industry, last accessed on 13 Feb 2025.

Probst, B. S.; Toetzke, M.; Kontoleon, A.; Anadón, L. A.; Minx, J. C.; Haya, B. K.; Schneider, L.; Trotter, P. A.; West, T. A. P.; Gill-Wiehl, A.; Hoffmann, V. A. (2024): Systematic assessment of the achieved emission reductions of carbon crediting projects. In: *Nature communications*.

Schneider, L. and Haase, I. (2023): Carbon crediting and official development assistance (ODA) – A summary of key issues (Working Paper, 5/2023). Oeko-Institut. Berlin. Online available at https://www.oeko.de/fileadmin/oekodoc/WP-Carbon-crediting-and-ODA.pdf, last accessed on 22 Jul 2025.

Schneider, L.; Jung, H.; Haase, I.; Michaelowa, A.; Kessler, J.; Oberpriller, Q.; Füssler, J. (2024): Lessons Learned from the Kyoto Mechanisms for the Article 6.4 Mechanism. German Environment Agency (UBA) (ed.). Dessau-Roßlau. Online available at https://www.umweltbundesamt.de/sites/default/files/medien/11850/publikationen/02_2024_cc_lessons_learned_from.pdf, last accessed on 14 Mar 2024.

Siemons, A. and Schneider, L. (2022): Averaging or multi-year accounting? Environmental integrity implications for using international carbon markets in the context of single-year targets. In: *Climate Policy* 22 (2). DOI: 10.1080/14693062.2021.2013154.

Oeko-Institut | Freiburg | Darmstadt | Berlin

Oeko-Institut is one of Europe's leading independent research and consultancy organisations working for a sustainable future. Since its establishment in 1977, it has been laying the groundwork and devising strategies to realise the vision of sustainable development at global, national and local level. Oeko-Institut has offices in Freiburg, Darmstadt and Berlin.
oeko.de | info@oeko.de

Contact

Lambert Schneider | Oeko-Institut | l.schneider@oeko.de

Acknowledgments

The preparation of this document was partially funded through the European Union's HORIZON EUROPE Research and Innovation Programme under grant agreement number 101137625 (ACHIEVE).

Funded by the European Union

The contribution by Lambert Schneider, Sabine Gores and Sophia Lauer was funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor the granting authority can be held responsible for them.