

International Credits in the EU

Strategic Choices & Practical Implementation

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1. Key Messages

- The European Commission's proposal to import international credits into the EU is an opportunity that can be beneficial in three ways: it can help with containing compliance costs, it can give the EU leverage in international climate policy, it can provide climate finance.
- While buying credits comes with its own risks, these risks are worth taking if possibility of credit purchases makes the 90% target for 2040 more acceptable — leading to higher overall GHG reductions than what would otherwise be politically feasible. The risks can be managed with a robust policy framework. Credit quality criteria are crucial — and these could go beyond environmental integrity requirements and include competitiveness criteria.
- It is impossible to say today how many credits — if any — the EU will need in the next decades to keep its climate goals viable. Instead of setting a credit import ceiling, the EU should rather think about setting target volumes to be purchased.
- The EU should place the purchased credits in a safety reserve and only use them if this becomes necessary due to high prices, or lack of progress towards targets. This reserve should be available for all sectors (ETS 1, ETS 2, ESR, LULUCF) and the determination on when and where to use the credits should be based on pre-defined criteria. Thus, purchasing credits would not automatically mean that they would be used for compliance. If left unused, they could be viewed as results-based finance
- In order to credibly signal its intention to buy credits, the EU should start with setting up its quality criteria and begin building a harmonized EU system of credit procurement and management.

2. Executive Summary

The European Commission's July 2025 proposal for the 2040 climate target introduces, for the first time in over a decade, the possibility of importing international carbon credits into the EU. The proposal foresees that, starting from 2036, up to 3 % of 1990 EU emissions could be met through "high-quality international credits under Article 6 of the Paris Agreement." Though this marks a radical policy shift, key design questions — on volumes to be purchased, timing, eligible sectors, and quality requirements — remain undefined.

The EU's Reasons for Returning to the International Carbon Market

After years of excluding international credits due to the CDM's poor integrity and the EU ETS's oversupply, both issues have faded in relevance. The EU ETS now has robust prices, and the quality of credits has improved through a range of initiatives, both at the UN and in the voluntary carbon markets. The EU's path to -90% by 2040 will however, be increasingly costly and ever more fraught politically. The EU's 2040 decarbonization challenge also coincides with slowing public support for climate policy, energy-price pressures, and global competitiveness concerns. Purchasing credits can thus serve multiple policy aims. It can:

- help contain compliance costs
- provide the EU with political leverage in global climate policy
- function as a form of results-based international climate finance

Scenarios for Credit Use

The paper analyses six main scenarios through a SWOT framework:

1. No credit imports (Business-as-Usual) — avoids integrity risks but leaves the EU with rising compliance costs and progressively diminishing influence in global climate policy.
2. Credits in ESR and LULUCF — lowers costs in agriculture and waste and offsets shrinking sinks but weakens mitigation incentives and creates uneven effort sharing.
3. Credits in ETS 2 — could be the most politically useful, easing household cost pressures; however, the timing mismatch (supply only after 2036) undermines its value for cost containment.
4. Credits in ETS 1 — might later be needed to relieve cost and liquidity pressures as allowance issuance declines toward 2040; yet risks destabilizing the carbon price.
5. Credits in all sectors — offers flexibility to allocate support where needed but increases political complexity over distribution.
6. Credits above the 2040 target (for cancellation) — treats credit purchases as pure climate finance, improving global ambition without weakening the EU's domestic target, though offering no short-term cost relief.

The paper also outlines three basic models for purchasing and using credits:

1. Direct use by obligated entities — simple but hard to control for quality and creates windfall profits.

2. Using credits to raise future caps — ensures predictable supply but locks in future purchases regardless of market conditions.
3. Reserve and safety-valve model — adds credits only when needed, balancing cost containment with integrity.

The paper concludes that the best overall outcomes can probably be expected from applying Scenario 6, i.e. allowing credit use in all sectors and using a reserve and safety-valve mechanism. Thus, the EU should buy credits for a central reserve and use them only if allowance prices spike or sectors fall behind in reaching their targets and cancel any unused units as climate finance.

Building a Common EU Credit Management Framework

The paper outlines Common EU Credit Management Framework built on three pillars:

1. Common Credit Quality Criteria — going beyond Article 6 requirements to ensure integrity, possibly aligned with IC-VCM, CCQI or TCFI standards. Quality rules could also include competitiveness criteria, such as requiring European technology participation, echoing Korean and Japanese crediting models. Bilateral purchase agreements could tailor requirements to host-country circumstances and link them to wider EU policy goals (e.g. trade, critical materials, carbon pricing cooperation).
2. Quantity and Use Rules — the current “3 % of 1990 emissions” ceiling is ambiguous. The EU should focus on purchase targets rather than fixed limits, allowing flexibility depending on actual cost and quality developments. A reserve that aims to keep allowance prices within a corridor — similar to RGGI or Germany’s domestic ETS — could provide a transparent safety valve while preserving market stability.
3. Common Credit Management Mechanism — a centralized entity (potentially within the Commission, CINEA, EIB, or a new “Carbon Central Bank”) should coordinate procurement, quality assurance, and reserve operation. This avoids fragmented national buying and uses the EU’s collective market power to shape global standards. Financing could come from ETS auction revenues or advance sales of allowances, later offset by lower-priced credit purchases.

3. Background: toward a new approach to international credits in the EU

3.1. Europe's long CDM hangover

The EU has not been buying international carbon credits for almost a decade. It has abandoned the international carbon markets for two reasons: i) the oversupply of domestic allowances and CERs in the EU Emissions Trading Scheme (EU ETS) has caused a long period of lower-than-expected allowance prices, thus weakening its effectiveness; ii) the Kyoto Protocol's Clean Development Mechanism (CDM) credits that at that time made up the bulk of the supply of international credits were shown by researchers to be mostly lacking additionality and thus deficient in terms of environmental integrity.¹ This undermined the credibility of crediting mechanisms in the European policymaker community.

Over the last few years however, both reasons mentioned above — the lack of integrity of carbon credits and the impact of the CDM overhang—have lost some of their relevance. As a result of a long and painful political process of adjustment, the EU ETS is not oversupplied anymore: EUAs were trading at around 70 EUR/ton in the first half of 2025.² In the long-term, the EU ETS's primary challenge is to cope with having ever fewer allowances to trade with. If the legally mandated annual reduction of the number allowances continues at the current pace after 2030, allowance prices would increase markedly, as the hard-to-abate industrial sectors (e.g. steel) will not yet be fully decarbonized. Making European heavy industry unviable due to high carbon costs would likely prove politically unacceptable. Thus, the EU will soon need to find an additional source of credits to provide an operating space for industries in the hard-to-abate sectors, if it is to reduce the risk of political backlash.

Circumstances have also changed on the second issue, the quality of international credits. Under the Kyoto Protocol, the CDM was a monopolistic supplier of international credits, offering buyers a “take-it-or-leave-it” deal in terms of credit quality and integrity. Today, under the multifaceted Article 6 trading framework of the Paris Agreement, credit buyers will have much greater control over the quality of credits they choose to buy. Furthermore, several global initiatives have emerged in recent years with the purpose of raising the bar on credit integrity in the voluntary carbon market, such as the Carbon Credit Quality Initiativeⁱ (CCQI), the Integrity Council for the Voluntary Carbon Marketⁱⁱ (IC-VCM), and the Tropical

ⁱ <https://carboncreditquality.org>

ⁱⁱ <https://icvcm.org>

Forest Credit Integrity Guideⁱⁱⁱ (TCFI). In particular, IC-VCM launched its Core Carbon Principles³ in 2022. By late 2024, credits with IC-VCM-approved methodologies have begun appearing on the market.^{iv} In tandem with these advances in self-regulation, new carbon credit rating agencies have developed alongside specialized insurance companies. Finally, prices in the voluntary carbon market have been trending upward in recent years, which, alongside other quality-related analyses, suggests that there is an increasing recognition of and demand for credits with greater integrity.⁴ Thus, the overall quality of carbon credits appears to be improving.

In the meantime, the use of project-based credits has become more widespread globally. Most compliance carbon pricing systems in developing countries — whether carbon taxes or emission trading systems — have allowed for carbon credits to be used in some form toward at least partial compliance with these instruments. Corporate demand for carbon credits also increased markedly following the Paris Agreement in a wave of corporate carbon neutrality claims that relied in some cases heavily on the use of carbon credits. This development was not without its difficulties: demand in the voluntary carbon market crashed in 2020-2021 due to renewed concerns about the environmental integrity of carbon credits. That crash was certainly not helped by a much tougher stance from European claims legislation such as the Empowering Consumers Directive⁵ and the proposed Green Claims Directive⁶ as well as questions on the use of carbon credits from standard-setting bodies such as the Science Based Targets Initiative.

3.2. The EU's decarbonization challenge in a new geopolitical context

Despite the above positive developments, the next stage of the EU's decarbonization journey is promising to be harder than ever. As the least-cost abatement opportunities — mainly in the power sector — run out in the future, reducing emissions further will become ever more difficult. Most studies show that reaching the 90% reduction target suggested by the Commission's impact assessment for 2040 is itself a very ambitious undertaking, in part because the low-hanging fruits of decarbonization have already been plucked and in part because it inevitably causes greater upheavals in citizens' lives than earlier measures.

Held at the zenith of Greta Thunberg's Fridays for Future movement, the 2019 European Parliament elections set a high-water mark for pro-climate voting. Since then, European electorate has become less interested in vigorous climate policy than before⁷. The multiple crises of the past years — COVID, the gas price shock, the war in Ukraine, inflation, tariffs and so on — have produced voters and thus politicians who are now prioritizing bread-and-

ⁱⁱⁱ <https://tfciguide.org>

^{iv} full disclosure: one of the authors of this paper is a Board member of IC-VCM

butter issues. In the meantime, Europe is falling behind its global counterparts in competitiveness, which is undermining the legitimacy of its governance model. On top of all this, the traditional transatlantic alliance with the U.S. has come under unprecedented strain, right at a time when Europe also has to strengthen its armies in a response to Russian aggression in Ukraine.

In this context, it is very difficult for European governments to support climate policy measures that may be beneficial in the long-term but raise the cost of living in the short term. Thus, climate policy can only be successful if it i) does not cost too much for the average household; ii) can convincingly contribute to regaining the EU's competitive edge, and security.

One way to reduce the cost of domestic climate policy is to outsource emission reductions by purchasing carbon credits from abroad. The idea of the EU returning to buying international credits has been gaining traction in recent years. A 2024 research paper⁸ by the European University Institute argued for a limited part of the 90% target to include international carbon credits — either as part of the 90% target or as an additional 2% increase to the target. In May 2025, a follow-up paper by the EUI⁹ looked at the role of a Carbon Central Bank and the potential for international carbon credits, in particular removal credits. As noted in the paper, such a role *“would be very different to the past, when the EU automatically accepted substantial amounts of credits that were endorsed and made eligible by the CDM Executive Board. The EU made no selection of credits and did not put forward any additional quality constraints. Signaling a time frame and a procedure for accepting carbon credits with quantity restrictions and quality conditions attached is likely to be a powerful political signal by the EU to the global community.”* The need for international credit use was also supported by a recent paper¹⁰ from the Polish think-tank CAKE (Centre for Climate and Energy Analysis). Finally, a May 2025 paper¹¹ from ERCST provides a detailed rendering of arguments — and challenges—for the inclusion of international credits in EU policy — also in relation to other parts of EU legislation such as the Green Claims Directive and the Corporate Sustainability Reporting Directive.

These research papers were echoed by a chorus of political voices. The draft German coalition treaty¹² of April 2025 also stated that international credits from “high-quality, certified and permanent” projects should be allowed up to 3% of the 2040 target. The EPP MEP Peter Liese has also stated that a 90% target without any flexibility is too ambitious and buying international credits “could be a way out.”¹³ Krzysztof Bolesta, deputy minister for climate in Poland has also indicated that his country supports the use of international credits in EU climate policy.¹⁴

Of course, importing credits comes with its own political and policy risks, even despite the progress of recent years. The world has seen plenty of scandals involving ineffective or fraudulent credits, and even the best credits have significant transaction costs. They also come with the inherent political difficulty of sending money abroad instead of creating jobs at home. As a result, there are plenty of voices that oppose or caution against the use of credits in the EU — such as Carbon Market Watch,¹⁵ or the Socialist fraction of the European Parliament.¹⁶

3.3. The July 2025 Commission proposal on the 2040 target and on importing credits

It is against this background that the European Commission published its proposal on the EU's 2040 target on July 2, 2025.¹⁷ As expected, the proposal sets out a 90% reduction target for 2040, and it also introduced international credit imports. The proposal reads that:

Starting from 2036, a possible limited contribution towards the 2040 target of **high-quality international credits under Article 6** of the Paris Agreement of **3% of 1990 EU net emissions** supporting the EU and third countries in achieving net greenhouse gas reduction trajectories compatible with the Paris Agreement objective (...) — **the origin, quality criteria and other conditions concerning the acquisition and use of any such credits shall be regulated in Union law.**

The text does make it clear that the Commission proposes a radical change of policy — especially as the idea of credit purchases was not even mentioned in the massive, 600 pages-long impact assessment that has preceded the 2040 target proposal.¹⁸ However, beyond the clear intention to change course, there are key questions that the proposal leaves open:

- a) The size of the credit import window is not clearly defined. 3% of 1990 EU emissions is about 140 million tonnes (roughly equal to the current annual net emissions of the Netherlands), but the proposal is not clear if this is the total amount for the entire period, or this amount could be imported every year between 2036 and 2040, which would bring the total imports to over 500 million tonnes. (closer to the current annual net emissions of Germany). While not within the scope of the proposal, another question that emerges is the level of credit imports after 2040. We know that the EU's 2050 target is domestic only, but this could still allow credit purchases until 2049, potentially bringing up total credit imports to around 1.8 billion tonnes.
- b) The policy use case for the credits is also left undefined. In theory, credits could be used to help compliance in every emitting sector, in EU ETS 1 (i.e., the sectors currently under the EU ETS), in EU ETS 2 (for housing and transport, to be launched

in 2027), or in the remaining non-ETS sectors (mainly agriculture and waste). The proposed legal text itself is completely silent on this matter, although the explanatory memorandum states that the imported credits “*should not play a role for compliance in the EU carbon market.*” This sentence could be interpreted as meaning either that i) all reductions in the ETS sectors need to be achieved domestically, and credits are only to be used in the non-ETS sectors; or ii) imported credits will increase the cap before it is legally fixed; or iii) imported credits need to be converted into allowances before they can be used in ETS 1 or ETS 2. Although the proposed legal text states that the conditions of credit use are to be regulated later, this question cannot be divorced from setting the credit import window: if credits can only be used in agriculture and waste, clearly a lot fewer credits are needed than if they were used in EU ETS 1 and/or EU ETS 2.

- c) The quality requirements for credits are also not specified, the proposed legal text only states that the credits should be of a “high-quality” and they should be “under Article 6 of the Paris Agreement,” with their origin and detailed quality criteria to be regulated later. The explanatory memorandum does expand on this and states that the credits “*should come from credible and transformative activities, and support third countries with net emission reduction trajectories that are compatible with the Paris Agreement objective (...) while enabling and supporting the creation of net-zero supply chains.*”
- d) The mechanism for purchasing credits is also left undefined and consigned to further EU legislation. There is no indication on whether the credits should be purchased by the Member States or by the EU, either on its own account or on behalf of the Member States.
- e) Finally, there is no explanation as to the timing of the purchases: why should they be only allowed from 2036? It is not clear what makes this date so special, and why are Member States expected to decide on something that will only take effect in a decade? One possible explanation is that the EU’s updated Nationally Determined Contribution (NDC) under the Paris Agreement — due to be submitted to the UNFCCC by September 2025 — will apply until 2035, and starting credit purchases before 2035 would imply including this in the NDC. Another limitation is that the banking of credits between NDC periods is generally not allowed under Article 6 rules, although there may be ways to go around this limitation.¹⁹

It is not yet clear how the proposal will fare in the European Parliament and among Member States. While a lot of Member States have supported the idea of importing credits in the past (as referenced in the previous section), there are also critical voices among green NGOs and

MEPs.²⁰ Such criticism is supported by the May 2025 report of the European Scientific Advisory Board on Climate Change (ESABCC) which expressly stated that it “*does not recommend using international credits to replace domestic emission reductions when meeting the 2040 target.*”²¹

With so many key details left unspecified, it seems that the proposal is really trying to do what is usually done in high-level European Council conclusions: obtain a broad political agreement on a policy direction and let the Commission work out the details later. However, when faced with the gauntlet of the full legislative procedure involving the European Parliament and the Member States, such vagueness will likely make it more difficult to find agreement.

A lot of the legislative debate is expected to revolve around raising or lowering the 3% limit, as this is a simple issue that can be easily communicated. At least this is certainly anticipated by the Commission, as the exploratory memorandum expressly mentions what to do, if “*the post-2030 package, as adopted by the co-legislators, include a different percentage of credits.*” However — as we will argue further below — the elements left out from the legal proposal are much more relevant than what the actual percentage value is.

4. Why should the EU return to the international carbon markets?

Perhaps the most important question left unanswered in this uncharacteristically opaque proposal is why EU would want to import international credits? What is the EU trying to achieve with this move? More specifically, as the importing of credits is currently envisaged as a “*possible limited contribution,*” what is the trigger that should turn this possibility into a reality? The risks of bringing international credits into the EU climate compliance framework are clear. The term “*contribution toward the 2040 target*” makes it clear that the imported credits are to fall under the EU’s emissions cap, thus limiting domestic reductions. Furthermore, importing project-based international credits is inherently riskier than only issuing cap-and-trade-based allowances, given the complexity of crediting methodologies and project monitoring mechanisms.

There are three reasons why the EU could choose to return to the international carbon market as a buyer. One is the containment of climate policy compliance costs associated with the achievement of climate targets. This could happen in respect of any of the sub-sectors of EU climate policy, namely ETS 1, ETS 2, and ESR or LULUCF. As mentioned earlier the ETS 1 is currently enjoying a deep and liquid market but as the cap is shrinking with each passing year, prices could increase markedly, prompting a political backlash.

Fewer allowances also bring the risk of low liquidity and more frequent price spikes. This problem could require addressing through the import of international credits.

The 2027 launch of the ETS 2, primarily covering the building and transport emissions, can also potentially see higher-than-expected allowance prices. Although ETS 2 is often described as an extension to the current ETS, it is in fact an entirely separate trading scheme, with no possibility of transferring allowances between the two. The trading of ETS 2 allowance futures has started in May 2025 on ICE, with the price hovering around 80 EUR, albeit at very low volumes.²² There is a lot of uncertainty in price expectations:²³ according to BNEF's recent analysis, allowance prices in the ETS 2 could rise up to EUR 150 by 2030, which in turn would cause a 22-27% increase in road transport costs, and a 31-41% increase in the cost of heating homes.²⁴ The legal framework of the ETS 2 does already have certain built-in cost containment measures, however — as these are already factored into these price estimates — they may prove to be insufficient.

Given the current political prominence of cost-of-living issues, including household energy and transport costs, many EU governments may balk at what they may consider politically untenable price increases. In fact, in June 2025, a paper supported by over half of the Member States called for delaying the launch of ETS 2 and strengthening cost-containment measures.²⁵

Another reason for the EU to become a buyer of international credits is to enable it to shape the international carbon market through its purchasing power. Under the Paris Agreement, there are no detailed credit quality or integrity requirements for transfers between states (Article 6.2), whereas the rules and methodologies for the CDM's successor, the Paris Agreement Crediting Mechanism (Article 6.4, aka PACM) are still under development. If the EU became a united or coordinated buyer with a coherent set of quality requirements, these would have a strong influence on project developers, credit providers, crediting programs, and — indirectly — on carbon prices. The volumes the EU would buy could be on a par with expected demand from CORSIA between 2021 and 2035, estimated to be between 0,6 and 1,5 million credits.²⁶ If the EU becomes a de-facto regulator of international carbon markets by virtue of its purchasing power, this would make the EU much more relevant in international climate policy overall.

The EU's market leverage could manifest itself either through harmonized standards for all projects and/or through bilateral purchase agreements with countries that align themselves with EU objectives. Such alignment could be in climate policy (e.g. the introduction of a carbon price) or in other areas (e.g. trade, security, etc.).

In a carbon credit market that is as of yet shallow, the EU as an arbiter of quality could have a significant and positive impact on several fronts: i) increasing the quality demands on carbon crediting programs (including the PACM), ii) providing appropriate transparency on pricing terms or even establishing price floors. A clear price signal emerging from the EU could boost the development of projects and help international carbon markets grow. In addition, a key constraint in quality is in fact the extremely low price of carbon credits. Low prices have been shown to have negative impacts on the level of benefit sharing and engagement of indigenous peoples' and local communities, as even good projects may simply not be profitable enough to pay for such co-benefits.

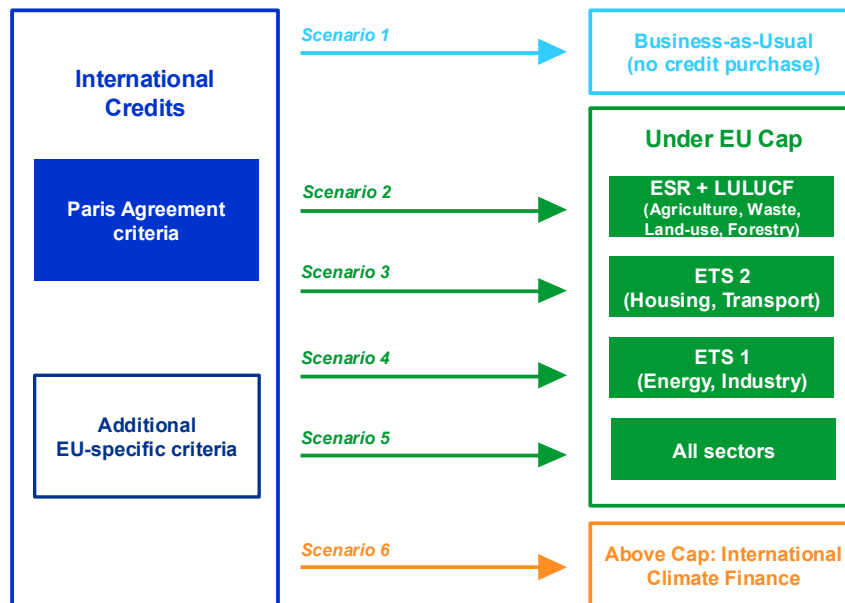
A final reason to start buying international credits could be to use the carbon market as a vehicle for climate finance. Following the agreements reached at the Baku COP in 2024, the EU will need to increase its international climate finance contribution. This, however, is politically difficult to do in the current context, as international development aid is often perceived as costly, wasteful or even corrupt.

Instead of the traditional channels of development aid, the EU could spend some of the climate finance funds on purchasing credits not for use toward EU targets but for cancellation — without any corresponding adjustment in the host country. This would probably be more transparent and would have results that are easier to monitor than direct development aid projects.

Of course, not all climate finance should or can result in measurable emission reductions — projects related to e.g., adaptation, capacity building, or research cannot be financed this way. Thus, international credits should only be one tool in the EU's international climate finance toolbox.

5. Six scenarios for the EU's engagement in the international carbon market: a SWOT analysis

While the impact assessment for the 2040 target proposal did not address the purchase of international credits, the Commission does state in the explanatory memorandum that *“Their specific role and deployment would need to be based on a thorough impact assessment.”* Anticipating this impact assessment, in the following section we will briefly evaluate the different ways these credits could be used. Using the SWOT-template, we will endeavor to do a very brief analysis of the following scenarios: i) business-as-usual (no credit purchase); ii) credit use only in the ESR and LULUCF sectors; iii) credit use in ETS 2; iv) credit use in ETS 1; v) credit use potentially in all sectors; vi) credit use only above the 90% target.



5.1. Scenario 1: “Business-as-usual” — no international credit imports

Under the BaU scenario, the EU adopts the 90% by 2040 target, but without allowing for the use of international credits (or for that matter, linking with other international cap-and-trade systems). Given the considerable uncertainty of mitigation costs across various sectors, and the real prospects of high costs surfacing as cheaper options are progressively exhausted (e.g., electrification of transport and renewables), the EU would need to find alternative cost-containment measures if it wants to avoid politically untenable price increases.

Importing credits is one (potentially relatively cheap) way to contain mitigation costs, although not the only one. The EU could set up more flexible targets, use more domestic removal credits, spend more of the auction revenues on electrification or in lowering electricity taxes, or make more use of frontloading in ETS.²⁷ These options come with their own drawbacks. A more flexible target hurts climate ambition, domestic removal credits are likely to cost at least as much as ETS 2 allowances, and probably there will not be enough of them, considering that sinks are decreasing around the EU. Spending more on electrification means less money for social compensation. Finally, frontloading does lower compliance costs in the near term, but it does not reduce them overall.

Business as usual is likely also to progressively diminish the EU’s role in international carbon market developments, especially as the EU is becoming less of a forerunner in global climate diplomacy, and its share of global emissions is also diminishing with each passing year. Even

if the EU is deeply engaged in Article 6 discussions, the decentralized nature of Article 6.2 means that if the EU is not at the same time a significant purchaser of credits backing high-integrity frameworks, it would leave the field to lower integrity players. This situation is the polar opposite of the CDM: in the CDM days, the EU was not able to exert considerable pressure on the international regulator because there were no alternative credit pools and because, despite its considerable purchasing power, the EU's complaints on the quality of credits being issued under the CDM were mostly ignored by the UNFCCC. Under the BaU scenario, the EU would be abdicating its potential role as a market player and co-arbiter of quality.

Scenario 1: “Business-as-Usual” — no international credit imports	
Strengths	Weaknesses
• No implementing legislation needed • No budget allocation required • No credit integrity risk	• Does not help with cost containment • EU has no leverage on the international carbon market, or in climate diplomacy • No climate finance is directed to developing countries
Opportunities	Threats
An entirely domestic 90% target would prompt companies to make future-oriented investments that contribute to long-term competitiveness. • accelerate the move away from fossil energy imports, helping both climate and security goals	If compliance with targets is too costly, some Member States might fail to meet the ESR targets or refuse to participate in ETS 2, or some other cost-containment mechanism will be required.

5.2.Scenario 2: Using international credits in Effort Sharing and LULUCF

As noted earlier, one interpretation of the Commission's proposal could be that international credits can only be used in the sectors outside ETS 1 and ETS 2. After 2027, non-ETS emissions will almost entirely consist of two emitting sectors, agriculture and waste, that together emitted about 480 million tonnes annually in recent years, or about 12% and 3% of the EU's total gross emissions respectively. A further sector outside the EU ETS is the LULUCF sector, i.e. the carbon sinks of the EU's forests and wetlands.

If the quantity of international credits to be imported is 140 million tonnes (i.e., 3% of 1990 emissions) every year, this would amount to about 30% of current annual emissions from agriculture and waste. 140 million tonnes is also equal to about 70% of the amount of carbon dioxide currently removed annually by the LULUCF sector.

If used in agriculture and waste only, importing credits would massively reduce the incentive to reduce emissions on these sectors. The agricultural sector is certainly considered to be one where reducing greenhouse gas emissions is politically very difficult. Yet the Commission proposal does not explain why they should receive such a high degree of emissions subsidy, especially if other sectors do not receive anything. One explanation could be the desire to essentially exempt these sectors from the rigors of climate policy, which could be justified with political expediency. On the other hand, this would be unwise from a climate policy perspective, given that the 2050 EU net-zero target is to be achieved entirely with domestic emission reductions and this requires reductions in agriculture and waste as well.

Using credits in the LULUCF sector may be more justifiable. The LULUCF sector currently removes about 6.8% of all EU emissions, but they have a much greater impact in heavily forested countries. (e.g. in Romania, the current removal rate is 80% of national emissions.) The rate of removals can vary strongly from year to year, and the variability is frequently due to climatic events (e.g. forest fires, drought, forest dieback due to pests, etc.) that are difficult to control with domestic policy. Alarming, several Member States (e.g. Finland, Germany, Ireland) have seen their LULUCF sector turn from net sinks into net emitters over the past decade. The future outlook for the EU's removal capacity is also not great. There are large uncertainties on how they will evolve over the next decades, but there is a strong likelihood that they will shrink further due to extreme climate events.²⁸ Of course, the decline of removals would place additional burdens on emitting sectors to reduce emissions. All this implies that a safety net of international credits might eventually become necessary just to balance out the loss of sinks.

As the responsibility for managing agriculture, waste and LULUCF lies with the Member States, it would be logical if each Member State did its own share of purchasing, even if to some extent coordinated on an EU level — e.g., on quality standards, or procurement processes. Thus, the EU could set the common minimum quality standards, but Member States would have the option of setting stricter requirements. This would also imply that the EU would need to agree on a formula on sharing the overall 3% import window among Member States.

Scenario 2: Using international credits in ESR and LULUCF only	
Strengths	Weaknesses
• Reduces climate mitigation costs in agriculture and waste • Balances out loss/variability of sinks	• Weakens the cap (compared to a no-import scenario)

• Provides the EU with leverage on the international carbon markets and in climate diplomacy	• Reduces incentives to mitigate in agriculture and waste / to improve sinks • Requires legislative action + budget • Requires governance framework on purchase volume, distribution between MS, purchase process, and credit quality
Opportunities	Threats
• May contribute to international climate finance if purchased units remain unused	• Credits are riskier than allowances — even with proper monitoring, issues with environmental integrity or fraud might emerge

5.3. Scenario 3: Using international credits in ETS 2

As discussed above, one of the primary attractions of importing international credits to the EU would be to help lower compliance costs in ETS 2 — i.e., in the housing and transport sectors, where emissions trading is to start in 2027. Given Member States' concerns about the political impacts of runaway residential heating and fuel costs, there is a risk that allowance prices become politically untenable. Thus, the upcoming ETS 2 is in dire need of an additional mechanism that controls compliance costs. As in the case of the previous scenario, this option would also provide the EU with leverage on the international carbon markets.

The Commission's proposal to buy credits only from 2036 onwards is not ideal for the needs of ETS 2. According to Öko Institut,²⁹ the tightest supply situation in ETS 2 can be expected between 2027 and 2029, with prices gradually softening afterwards as more low-carbon investments come on-line. At the same time, it is quite possible that there would not be enough high-quality credits available for purchase in the next five years. One way to get around the timing mismatch in the case of ETS 2 would be to do a credit-based frontloading: i.e. to auction off an additional amount of allowances in 2027-29, and purchase credits later to make up for the "debt" thus incurred. This solution carries its own risks of course, as it turns the option of buying credits into an obligation.

Using international credits in the ETS 2 would certainly weaken the EU's 2040 cap. However, the environmental and political cost of allowing the import of high-quality credits is probably lower than the alternative, namely the relaxation of targets in case costs become unacceptably high and the whole ETS 2 has to be cancelled, delayed or watered down.

The actual importing of credits can be done in three different purchase and use models, each with its own pros and cons. As these models apply to multiple scenarios, their detailed description is to be found separately under the next section.

Scenario 3: Using international credits in ETS 2	
Strengths	Weaknesses
• Provides the opportunity for cost containment in ETS 2, thereby protecting it from potential failure • Provides the EU with leverage on the international carbon markets and in climate diplomacy	• Weakens the cap, compared to a no-import scenario • Requires legislative action + budget • Requires governance framework on purchase volume, process, and credit quality
Opportunities	Threats
• May generate revenues for EU-internal climate policy • May contribute to international climate finance if purchased units remain unused	• Credits are riskier than allowances — even with proper monitoring, issues with environmental integrity or fraud might emerge • Depending on purchase model: risk of importing too many or too few credits, or cause uncertainty in future credit supply

5.4.Scenario 4: Using international credits in ETS 1

The EU could also consider using international credits in ETS 1. While this is not a hot political topic today, over the next ten years there might emerge a strong case for containing compliance costs in ETS 1. At present, the total cap is legally fixed only until 2030, but if the current regulatory trend continues after this date, we can expect annual issuances to reach zero around 2040.³⁰ At the same time, it is highly unlikely that energy and industrial emissions covered by ETS will also reach zero by that time, which means that allowances or credits that cover any remaining emissions will have to come from other sources. One such source could be international credits.

Although the ETS 1 is expected to reach zero allocation only around 2040, additional allowances might become necessary already much earlier as cheaper abatement opportunities are gradually exhausted and the EU will have to contend with legacy heavy industry that may not be easily decarbonized and yet has decades of useful life in them. The scarcity of allowances could also lead to liquidity problems and a high volatility of prices.

As for the purchasing model to be used, the options are the same as for ETS 2 and they are described in the next section. There is one additional caveat, however in the case of ETS 1: here, a robust, well-functioning carbon market already exists and given that allowances never expire, any decision to increase supply might have an immediate impact on allowance prices. The current ETS allowance price is a hard-fought success; we should be careful not to spoil it with ill-advised policy interventions.

Scenario 4: Using international credits in ETS 1	
Strengths	Weaknesses
• Provides cost containment, reduces volatility, improves liquidity • Provides the EU with leverage on the international carbon markets and in climate diplomacy	• Weakens the cap, compared to a no-import scenario • Requires legislative action + budget • Requires governance framework on purchase volume, process, and credit quality • Could weaken the ETS1 carbon price, which is currently at a sufficient level
Opportunities	Threats
• May generate revenues for EU-internal climate policy • May contribute to international climate finance if purchased units remain unused	• Credits are riskier than allowances — even with proper monitoring, issues with environmental integrity or fraud might emerge • Depending on purchase model: risk of importing too many or too few credits, or cause uncertainty in future credit supply

5.5. Scenario 5: Using international credits in all sectors

The EU can choose to not limit the use of international credits to a particular sector but allow their use in all of them. As we have seen in the previous scenarios, all sectors have good reasons to demand assistance: ETS 1 will have its residual industrial emissions that cannot be decarbonized, ETS 2 might have politically contentious prices, ESR covers politically hard-to-abate agriculture, while LULUCF is exposed to climate impacts. It is difficult to say in 2025 which sector will need credits in 2036 and how much.

Of course, a decision would eventually need to be made on how the use of credits is to be distributed between sectors. However, it is better to make this decision later than sooner, as we have more information on how emissions evolve and where compliance with targets is the most difficult. The downside is that the closer we are in time to actually using the credits, the heavier the political fighting will be on their distribution among sectors. Given the huge differences between Member States' emission profiles, they will likely have strongly diverging views on where credits are needed the most.

Furthermore, even if all sectors are eligible for the reserve, the split between use in ETS and non-ETS would need still need to be done fairly soon so that both national and EU administrations can make arrangements for purchasing and using credits. The economic modelling carried out as part of the impact assessment could help to figure out the right distribution, taking into account mitigation potentials, abatement costs and projected credit prices — i.e. which are the areas where importing credits can be of greatest help.

If the EU decides to allow the use of credits in all sectors, the logical purchasing model is the reserve-and-safety valve model. This implies that the EU should set not only a maximum ceiling of credit use, but rather a target volume to be purchased.

Scenario 5: Using international credits in all sectors	
Strengths	Weaknesses
• Uses credits in the sectors where they are most needed • Provides the EU with leverage on the international carbon markets and in climate diplomacy	• Weakens the cap, compared to a no-import scenario • Requires legislative action + budget • Requires governance framework on purchase volume, process, and credit quality •
Opportunities	Threats
• Can reduce climate mitigation costs in agriculture and waste • Can balance out loss/variability of sinks • Can provide cost containment, reduce volatility, improve liquidity • May generate revenues for EU-internal climate policy • May contribute to international climate finance if purchased units remain unused	• All sectors will have the expectation that they are the ones who deserve support — which may weaken incentives. • Credit use allocation can become politically difficult the closer we get to their actual use.

5.6. Scenario 6: International credit imports above the 2040 target

Finally — although this is not part of the Commission’s July proposal — the impact assessment should consider the option of using international credit imports primarily as a tool for climate finance. The EU could choose to buy a certain target (defined in either financing volume or tonnes of CO_{2eq}) of credits above and beyond its current offer for domestic mitigation, and instead of using them against its own targets, it would cancel them. In practice, such an offer would be tantamount to “*results-based finance*.”

Why would the EU choose to do this? In a first instance, the EU would be supplementing its international climate diplomacy with an offer of financial assistance which may well be more effective than traditional climate/development finance: quality of finance is an increasingly important issue within climate finance discussions, as many climate finance programs have been shown to be less effective than claimed and there are many complaints around both conditionality and increased debt burden on the recipients of climate finance flows. As a form of finance, carbon credits can be considered within wider climate finance packages and folded into instruments such as debt-for-nature or debt-for-carbon swap contracts. (A

notable corollary of using credits as climate finance is that — given its development aid principle and lack of impact on the EU’s own NDC — this scenario would not require the EU to issue corresponding adjustments to credits purchased, nor require host countries to adjust their national inventories.)

This scenario has the obvious advantage of not impacting the original 2040 package proposed by the Commission and the headline target of 90% and as such can be seen as increasing the ambition of the overall package and — if credits are indeed reflective of additional and robustly quantified mitigation — could put the EU more in line with a 1.5°C target. Its main weakness mirrors its key advantage: as it has no impact on the EU’s domestic climate policy package, it does not address the cost of meeting the original 90% target. As with the first scenario, it would leave the EU to find other mechanisms to address cost containment in the future. In addition, the current political climate in the EU is probably not particularly favorable to the prospect of sending more money abroad.

There are numerous historic examples of using international credits for climate finance. Over the last two decades, Sweden has cancelled about 32 million Kyoto Protocol credits without using them to meet national climate targets.³¹ The World Bank’s Pilot Auction Facility — funded by mainly Germany, the US, Sweden, and Switzerland has purchased and cancelled around 25 million credits between 2015 and 2020.³² Credits for climate finance are also present in the current public discourse: e.g., a recent paper by Öko Institut has suggested that the EU should use credits only to “*enhance ambition beyond what is achievable domestically, i.e., beyond reducing emissions by 90–95% by 2040 compared to 1990.*”³³

Scenario 6: international credit imports above the 2040 target	
Strengths	Weaknesses
• Is a form of international climate finance that is arguably more effective than current development aid • Provides the EU with leverage on the international carbon markets and in climate diplomacy • Does not weaken the EU climate target	• Requires governance framework on purchase volume, process, and credit quality • Requires funding (at a difficult time) without tangible benefits to the public • Does not help with containing the cost of meeting EU targets
Opportunities	Threats

5.7. Three models for credit purchase and use

As noted earlier, the Commission's July proposal is not clear on the kind of purchasing model it has in mind. The explanatory memorandum only says that imported credits "*should not play a role for compliance in the EU carbon market,*" but the meaning of this is up for interpretation and in any case, not part of the legal text. In principle, there are three main purchasing options for importing credits into the ETS:

1. Direct purchases by obligated entities to cover a certain share of their emissions liabilities.

This option, while only viable if credits are to be used in ETS 1 or ETS 2, has the advantage of requiring only a minimal effort from governments. Its great advantage is that there is no need to find a budget and to set up a buying program, it is sufficient to set the quality requirements. However, it has a lot of drawbacks too: quality requirements would be very difficult to enforce, any price gap between domestic and international credits would be captured by the entities, or the middlemen arranging the purchases. It would also not be a very reliable way of containing costs, as it would depend on whether these private entities choose to purchase credits or not.

2. Purchasing credits to increase future caps

Under this model, the EU — or the Member States — would purchase a pre-determined amount of credits and cancel them, thus allowing future annual caps to be set at a higher level. This is possible because although the calculation methodologies are known, the exact caps for ETS 1, ETS 2, and ESR are not yet laid down in law beyond 2030. It is important to note that if the amount of credits to be purchased is already set, there is no need to wait with their use until the credits are actually bought, they could be used for compliance even before that. This of course creates an obligation to buy credits, which is a risky proposition.

Using the credits to increase future caps has the advantage of ensuring continuous certainty of supply for the future. The problem with it is that it requires the EU to make a forecast of total demand at least a decade into the future. The EU ETS's track record shows that such forecasts are not very reliable. Too much additional supply may cause allowance prices to crash; too little might result in insufficient cost containment. This option also puts the EU in a difficult situation as a buyer, because if credit imports are baked into the cap, the EU will be legally obliged to buy a certain quantity of allowances, without the possibility of walking away if e.g., prices are too high, or not enough credits of adequate quality are available.

3. Purchasing credits for a reserve and use them as a safety valve

Under this model, the EU or the Member States would purchase a pre-determined set of credits in order to build a reserve that could be used as a safety valve to release

additional allowances to the carbon market if allowance prices are deemed too high, or if the ESR or LULUCF sectors are too far off track from their targets. (Note that it is also conceivable to “borrow” the reserve from the future, either by committing to buy credits later or by deducting the amount from the next compliance period — this latter mechanism is very similar to the solution recently adopted in the California ETS.³⁴

This model is administratively complex, as it requires both a common purchase mechanism and another mechanism for releasing credits into the various sectors. It can also create some uncertainty with respect to future total supply of allowances on the carbon market, making price forecasting more difficult. Its main advantage is that it would increase credit supply with just the right amount that is needed for cost containment, not more and not fewer. It could also provide significant revenues to supplement existing EU climate policy funds, especially if the credits are auctioned off at a time when allowance prices are high. The price gap between credits and allowances would be collected for the public purse.

The following table summarizes the main pros and cons of the three purchasing models:

Purchase Model	Usable in	Pros	Cons
Direct use	Only ETS 1 and ETS 2	• Little administration	• Windfall profits to buyers • Hard to enforce quality
Use to Increase Cap	All sectors	• Certainty on future cap	• Can easily be too much or too little • Complex administration
Use for reserve and safety valve	All sectors	• Just the right amount of supply is added	• Uncertainty of total supply • Complex administration

5.8. Conclusion on the EU's options

Before deciding on the volume of credits and on which sectors the credits are to be used, the EU first needs to decide *why* it is buying international credits. In our view, the EU's return the international carbon markets is both an opportunity to limit the cost of reducing emissions and a chance to improve the environmental integrity of the carbon markets globally — but only if the right quality criteria are set and implemented.

Given that the purchase and use of credits is still many years into the future, we argue that the best solution is the one set out under Scenario 6, i.e. to set up a central mechanism with the purpose of buying credits for a reserve, start buying credits, and decide later on how much to use and in which sectors. This is primarily because: i) it allows for an effective

control on quality; and ii) it does not commit in advance to an increase in supply that could prove either too large or too small.

2036 is probably too late to start importing credits, both from the perspective of international leverage and from the perspective of cost containment, especially in ETS2. However, the EU could take a number of steps to bring forward the impact of credits. It could set a target for credit purchase and set up the necessary legal framework, thus signaling to the world that it is serious about buying. In the ETS, it could also frontload allowances and fill up the emerging gaps later with credits.

A cost-effective and efficient centralized purchasing program requires a common European system of credit quality, credit quantity, and credit management. The outlines of such a system will be described in the next section.

6. The three pillars of a common EU credit purchase system

If the EU started buying carbon credits under its current legal framework, it could not act as a single entity. Purchases would be done on a Member State-level, which means 27 different procurement processes, each with its own conditions, quality requirements, timelines, and processes. As a result, any leverage on credit quality and price that the EU as a group would have from the size of its purchases would fragment and dissipate.

Purchasing credits has significant transaction costs: governments need to think about the type of credits they want to buy, find budgets for buying them and figure out the price they are willing to pay. They need experts to evaluate the projects and run competitive procurement processes or do lengthy negotiations with sellers. All this is costly and time-consuming, and each Member State runs the risk of overpaying due to a lack of price transparency. Smaller and poorer Member States would probably find it difficult to allocate the required resources or would have to resort to the secondary market.

To avoid such an outcome, the EU should set up a harmonized credit purchasing framework. This is to some extent anticipated by the Commission's proposal, which states that "*the origin, quality criteria and other conditions concerning the acquisition and use of any such credits shall be regulated in Union law,*" thus opening the door for a harmonized framework. In our view, a common EU credit purchase system should have three pillars: i) credit quality; ii) credit quantity; iii) credit management.

6.1. First Pillar: Common Credit Quality Criteria

Common credit standards are a must-have under all possible credit purchase scenarios. If credits are used in the ESR sector, Member States with lower credit standards than others could support their agriculture and waste sectors at a lower cost, thus creating an uneven playing field. If credits are used either in ETS 1 or in ETS 2, the full fungibility of allowances across Member States means that low credit standards in one Member State would inevitably compromise environmental integrity in other Member States. Finally, if the Commission does the purchasing, it will naturally need a benchmark set out in EU law for deciding which credits to buy.

The EU's quality requirements are also very important for the global carbon market. If the proposal is adopted, the EU will be one of the biggest buyers of international carbon credits. Its standards will influence every carbon project on the planet and shape the credibility of project-based emission reduction efforts worldwide. The quality standards will also have a strong impact on prices: the stricter the criteria, the higher the price of importable credits.

Environmental Criteria

The Commission's July 2025 proposal does not have quality requirements *per se*, but the explanatory memorandum does propose some conditions for credits, namely that they should: i) come from "*credible and transformative activities*"; ii) support countries that have Paris Agreement-compatible net emission reduction trajectories which are also "*enabling and supporting the creation of net-zero supply chains.*"

It is clear from the proposal that imported credits will have to comply with requirements under Article 6.4 of the Paris Agreement. However, compliance with the Article 6 rules requirement is unlikely to be sufficient as a criterion for environmental integrity. While a lot of work is going into making sure that new project methodologies do indeed have environmental integrity, the practice of taking over legacy project recognitions from the CDM-era creates a dangerous integrity loophole. Such credits are already facing criticism for lack of integrity.³⁵ As a UNFCCC mechanism controlled by Parties, the Paris Agreement Crediting Mechanism is likely to face the same political pressures as the CDM had. In any case, a total reliance on third-party quality assurance was a key flaw of the previous CDM-based EU credit import regime and should be avoided in the future.

Beyond requiring adherence to Article 6 rules and the conditions set out in the July proposal, the EU could either require that credits meet some third-party standard (e.g., IC-VCN Core Carbon Principles) or could come up with its own set of environmental quality requirements. Inspiration for these requirements could be drawn from a variety of sources:

- There are several international non-governmental co-operations that have developed quality standards or principles for voluntary carbon projects. We have already

mentioned IC-VCM, CCQI, and TCFI. Another notable example is the Oxford Principles on responsible engagement with Article 6.³⁶

- Other governments are allowing or have allowed in the past the use of international credits in their emissions trading schemes. For example, California has authorized the import of international forestry credits through its Tropical Forest Standard³⁷ — although no credits were imported through these standards yet.
- There are also multilateral carbon market initiatives on the principles regarding the use of international carbon credits. Notably, The Coalition to Grow Carbon Markets was launched by the UK, Singapore, and Kenya with the purpose of encouraging the use of high-integrity carbon credits. The Coalition’s principles on credit use are to be announced at COP30 in November 2025.³⁸

The European Commissions’ own experience with its Carbon Removal Certification Framework (CRCF)³⁹ could also be instructive for this exercise. The 2024 CRCF Regulation sets out quality criteria for carbon removal projects within the EU in the following areas: quantification, additionality, storage and liability, and sustainability. The methodologies adopted in accordance with the CRCF criteria were strongly criticized by Öko Institut⁴⁰ and others⁴¹ as lacking integrity and applying standards that have even lower integrity than those under Article 6 of the Paris Agreement. This experience shows that finding agreement on adequate standards is neither straightforward nor quickly done.

Competitiveness Criteria: credits with benefits

The EU could also consider adding criteria that are not connected to environmental issues, but rather to boosting European competitiveness, for example by requiring that a particular project has a European technology component or is managed by a European company. This would not be unprecedented, as there are several countries where such requirements are in force:

- In Korea’s ETS, international credits are eligible for importing if the project is either funded by Korean entities, implemented by an entity that is at least in part controlled by Koreans, or uses Korean technology at least in part.^{42,43}
- Japan’s Joint Crediting Mechanism is a crediting scheme built on bilateral governmental agreements that are specifically intended to support the export of Japanese low-carbon technology. Thus, projects supported through the purchase of credits always involve the use of Japanese technology.⁴⁴

The Korean example is instructive as to what kind of competitiveness criteria could be envisaged. They could relate to legal ownership, control or management of the project or

they could require the use of European technology. In the case of credits purchased by Member States, such requirements could be formulated on a Member State-level as well. In effect, such criteria are already applied formally or informally by many Member States in their export credit or development finance programs.

Criteria vs. Negotiated Conditions

The criteria established by the EU do not have to follow a one-size-fits-all model. They could also be tailored to some extent through negotiations with host countries. Bilateral agreements also allow for longer-term certainty, more government support in the host country and better revenue sharing between governments. The country-specific requirements or conditions could be related to matters of monitoring or the level of host-country oversight, or the availability of data in a certain sector, etc. Such host-country specific rules are well-established in existing credit purchasing programs: e.g. Japan's Joint Crediting Mechanism is focusing on small hydro in Kenya, on energy efficiency in textiles in Bangladesh and on waste-to-energy and energy efficiency in Indonesia.

Eligibility to sell credits to the EU could also be linked to the host country's climate policy in a broader sense — e.g. the EU wants other countries to have their own carbon pricing scheme and could make buying international credits conditional upon introducing some form of carbon pricing. Broadening the scope further, these credit purchase agreements could be linked to wider trade issues, e.g. access to rare earths, or tariff regimes, etc.

Price vs. Quality

The price of credits will strongly depend on the type of credits purchased. Permanent technological removals will probably remain too expensive to be relevant for the foreseeable future. Most of the supply will probably come from land-use and forestry-related projects — which further argues in favor of bilaterally negotiated agreements with host countries, given the great differences in governmental forest protection regimes.

The EU should be careful to design its procurement process in a way that the competition on price does not result in a race to the bottom by developers who are trying to cut corners in terms of quality in order to become cheaper than the next project. One way to ensure this is to introduce price floors for credit purchases.

Another risk to prices and credit supply is having too many or too strict criteria. Overdoing the requirements can make it impossible for credit providers to meet them or result in such high prices that the credits are no longer able to reduce costs within the EU. Of course, certain criteria should remain non-negotiable.

It is not entirely certain that the credits the EU is looking for (i.e. with high environmental integrity at an affordable price and possibly helping the EU's competitiveness) will emerge in sufficient quantities that make a difference for the EU's compliance with its own targets. This is because every host country needs to reduce emissions on its journey towards the 1.5 C target, and thus they might need the low hanging fruits of decarbonization for themselves — especially those countries that have high-quality NDCs and therefore would be prime candidates for selling credits to the EU. Furthermore — just as in the EU — cheaper abatement opportunities will be less and less available over time. The way to turn selling credits into a good deal for host countries is to negotiate an emissions benefits sharing agreement — i.e. the EU would leave a certain share of the reductions achieved with the host country government. This, however, further increases the price.

Implementing step-by-step

Once the EU decides to purchase international credits, work on the quality requirements should start as soon as possible, and preferably completed years before actual credits are purchased. Projects often take several years to develop, so it would take quite some time for supply that meets the EU's criteria to reach the market in the necessary quantities.

Furthermore, starting this work soon would send a powerful signal on the EU's renewed engagement in international carbon markets. As a soft start, the EU could begin by reviewing and potentially endorsing existing voluntary quality frameworks such as IC-VCM, CCQI, and TCFI.

Beyond setting the general principles, actual methodologies would probably be approved gradually, i.e., the EU initially approving just a narrow “safe” subset of credits and expanding the range of purchasable credits as it gathers evidence on their safety and reliability. Over time, the evolution of technology, monitoring capabilities, and our scientific understanding will also expand the set of eligible credits. However, once a credit type is deemed safe, there should be some long-term certainty that this authorization is not easily taken away later.

6.2. Second Pillar: Quantity of credits purchased and used

The second pillar of a harmonized framework is determining the number of credits to be purchased. As noted earlier, the Commission's July proposal is very unclear on exactly how many credits could be imported. It allows the import of 3% of 1990 emissions, but it is not clear if this applies every year or for a period. Also, 3% may not sound like a lot, but only because it is expressed in 1990 emissions. If the EU meets its 2030 target, this quantity will be well over 6% of 2030 emissions. According to calculations by Öko Institut, if the use of credits is assumed to be ramping up gradually to an annual 3% between 2036 and 2040, this

would result in a 2040 emission level that is 30% higher than achieving targets entirely domestically.⁴⁵

That said, the 3% in the proposal is termed a “*possible*” contribution, which implies that this is not an exact amount but a ceiling, i.e., the actual amount eventually purchased could be lower than that. This means that the EU should probably think more about setting purchase targets than a maximum limit. When and how the actual purchase volume is to be set depends on which purchase and use model the EU will decide to use. If the EU opts for the model where imported credits are used to raise the cap in certain sectors, this decision will need to be made many years in advance, lest future carbon prices become unpredictable. For example, in the current EU ETS, annual caps until 2030 were set in 2023. Even if credits are used in the non-ETS sectors, both Member State governments and emitters would need to have a long-term view of their reduction targets.

However, as noted earlier, setting purchase targets up to ten years into the future is very risky, because it is impossible to say how things will stand in the future. Wars, financial crises, political instability, climate disasters and technological breakthroughs could upend any long-term emissions forecasts. Closer to home, we don’t know how many carbon removal credits — another potential source of ETS allowance supply mentioned in the Commission’s proposal — will be generated. Any import target adopted could just as easily end up as too much as too little. There are some economic estimates on the import volumes needed to prevent the allowance price going above a certain level (*see* the paper by Rickels et al.⁴⁶), these come with significant uncertainties. Too much import would crash allowance prices; too little would not be able to contain costs. Over a decade ago, the EU learned this the hard way when CDM import limits proved to be way too generous and further eroded prices in an allowance market that was already oversupplied because economic forecasts were unable to anticipate the 2007–2008 financial crisis. Note also that the CDM import limits were set only months, not years before they took effect.

Similar considerations apply to the purchasing model where installations purchase credits directly: if import quotas are set too early, this could have undesirable impacts on carbon price, if they are set very close to actual use, total supply becomes less predictable.

In the case of using credits in ETS 1 or ETS 2, the EU could also adopt the model where imported credits are used to build a reserve that is used to help cost containment, if and when it is needed. Under this system, the credits purchased in advance would be used as a safety valve and released for auctioning only when a certain threshold is reached. The threshold could be expressed in allowances prices or by consumer energy prices — although this latter solution would be tricky given that consumer prices are different across Member States. This model would avoid the near impossible task of long-term economic forecasting,

while ensuring that the presumed objectives of importing credits (international leverage and cost containment) are achieved.

The idea of a price ceiling or a price corridor is not new in emissions trading. Under the RGGI scheme in the Northeast USA, there are floor and ceiling prices fixed until 2030 which aim to keep prices in a price band of about \$10 USD. If the ceiling price is reached, a fixed amount of additional allowances are added to the amounts to be auctioned.⁴⁷ Germany's domestic ETS for buildings and road transport, in many ways a precursor to the EU ETS 2 has a price corridor, set to keep allowance prices between EUR 55 and 66 from 2026 onward, although the government may adjust these prices in the future.⁴⁸ The idea of a price corridor has popularity in other countries: an unnamed French official was reported to indicate their support for the idea of a price ceiling or corridor.⁴⁹

While it has its advantages, the reserve-and-safety valve solution comes with its own drawbacks. One of the cornerstones of EU ETS design is that allowance supply is set in stone for many years into the future, thus facilitating price forecasting and enabling a robust futures market. Introducing a price ceiling would add uncertainty into the total supply and make forecasting more difficult. This could be mitigated by making intervention rules as clear as possible, e.g., by fixing price ceilings and added credit volumes far ahead into the future (as is done in RGGI). However, fixing these variables many years ahead requires its own economic forecasting exercise, which could again backfire in all the ways described above. In the case of ETS 2 an added difficulty is that as there are no actual market prices yet, setting floors and ceilings would involve a lot of guesswork. (One way to get around this is to use a dynamic pricing corridor, i.e. to express price intervention ceilings as a function of the average price in some past period.)

In our view, despite the concerns with the reserve and price corridor model, this is the solution that is the most efficient and poses the lowest risk for the smooth functioning of ETS 1 and ETS 2. Moreover, it makes the decision on the 3% limit set out in the Commission's July proposal much less momentous, as the number of credits actually used in the EU will probably be much lower than the limit, contingent upon the actual implementation of the reserve. Credits purchased will not automatically mean credits used. That said, the absolute limit will still be relevant for forecasting allowance prices.

In practice, the EU could choose to decide on the 3% for now and delay the decision on where to use the credits, which purchase model to use, and what actual quantities to buy — but this would result in a higher uncertainty on future allowance prices, thus dampening the incentive to reduce emissions. Keeping these issues open for a long time would also probably supercharge stakeholders' lobbying efforts.

6.3. Third Pillar: Common Credit Management Mechanism

Agreeing on credit quality and purchase model is important, but not sufficient if we want to unlock the EU's full potential leverage on international carbon markets. Quality standards on their own are not helping with price discovery, are not preventing the fragmentation of the EU's purchasing power and are not saving transaction costs for Member States.

To achieve these objectives, a Common Credit Management Mechanism would have to be established. This mechanism would be in charge of:

- credit evaluations, i.e., whether a certain credit meets the EU's quality requirements.
- the actual procurement of the credits, e.g., scheduled reverse auctions.
- the management of credits already purchased, e.g., the operation of a price corridor.
- relations with host countries, e.g., agreements, and corresponding adjustments, etc.

The EU could entrust one of its institutions (e.g., the European Commission or the European Investment Bank) or one of its agencies (e.g., CINEA, currently in charge of running the Innovation Fund) to run the Common Credit Management Mechanism. It could also be a new entity, e.g., the European Central Bank of Carbon proposed in several research papers, e.g., from CESifo⁵⁰ or CAKE.⁵¹ It could also be part of the Industrial Decarbonization Bank proposed in the Commission's recent Communication on the Clean Industrial Deal.⁵² Such an entity could also support the Commission in its work on maintaining the Common Credit Quality Standards — e.g., through the technical analysis of methodologies.

A Common Credit Management Mechanism should ideally be set up by EU legislation, but even in the absence of such a legislation, the Commission could launch a voluntary cooperation with Member States as its own initiative. This might become an attractive approach if negotiations on credit quality or a Common Credit Management Mechanism face delays in the legislative process. (A voluntary cooperation in this field would not be without precedent: between 2003 and 2007, Nordic Member States were jointly purchasing carbon credits through the Baltic Sea Region Testing Ground Facility.)⁵³ The Common Credit Management Mechanism could be established gradually, with an initial purchase of a smaller quantity of credits as a form of pure climate finance, thus building up capacity for evaluating and purchasing larger volumes, for potential use in the EU ETS.

EU precedents for common procurement

In recent years, the EU has gained a lot of in-house experience with running auctions, as CINEA has already conducted two auctions to distribute subsidies from the Innovation Fund.⁵⁴ CINEA has an “auction-as-a-service” mechanism⁵⁵, which implies that it could also

buy credits for Member States. It should be noted that the purchase process will require a thoughtful design, because — while being cost-efficient is important — the EU should not make low prices an absolute priority, as this could result in a race to the bottom, which runs counter to credit quality.

The idea of a centralized credit procurement agency has also recently emerged in connection with the Commission's planned CRCF Credit Purchasing Programme,⁵⁶ which could be a model for the Common Credit Management Mechanism. The two functions could probably even be carried out by the same entity.

Financing

Finally, we should briefly consider the financing of the Common Credit Management Mechanism. Even if the credits are ultimately paid for by Member States or by obligated entities under the EU ETS, the Common Credit Management Mechanism would require up-front funding for credit purchases and overhead costs. The funding could come from the EU ETS auction revenues or from Member State contributions. Using the EU's general budget for this purpose is less promising but given that the EU's 2028-2034 budget will be negotiated in 2025 and 2026, this is also conceivable.

Crucially however, the Common Credit Management Mechanism could eventually recover a portion of its expenses over time if credits are eventually used for auctioning or resold to governments. Considering the likely gap between the expected price of ETS allowances and international credit price, markups by the system could even be used as a source of funding for other climate policies, e.g., the Innovation Fund, the Modernization Fund or the Social Climate Fund.

In the case of credits destined for the ETS, another way to generate funding for credit purchases could be to decide on the amount of credits to be imported, auction off a corresponding amount of allowances and use the revenues for later credit purchases. This is a risky solution however, as the EU would need to decide well in advance on the amount of credits to be added to the ETS and would then be obliged to procure credits.

7. References

- ¹ Cames M., Harthan R., Füssler J., Lazarus M., Lee C., Erickson P., Spalding-Fecher R., et al. (March 2016). *How additional is the Clean Development Mechanism? Analysis of the application of current tools and proposed alternatives*. Öko-Institut. https://climate.ec.europa.eu/system/files/2017-04/clean_dev_mechanism_en.pdf
- ² ICE *EUA Futures*. Intercontinental Exchange (Aug 2025). <https://www.ice.com/products/197/EUA-Futures/data?marketId=8146894&span=1>
- ³ Integrity Council for the Voluntary Carbon Market (Jan 2024). *Core Carbon Principles, Assessment Framework and Assessment Procedure*, <https://icvcm.org/wp-content/uploads/2024/02/CCP-Book-V1.1-FINAL-LowRes-15May24.pdf>
- ⁴ Ecosystem Marketplace. (December 12, 2023). *State of the Voluntary Carbon Markets 2023 finds VCM demand concentrating around pricier high integrity credits*. Ecosystem Marketplace. <https://www.ecosystemmarketplace.com/articles/new-state-of-the-voluntary-carbon-markets-2023-finds-vcm-demand-concentrating-around-pricier-high-integrity-credits>
- ⁵ European Union (2024). Directive (EU) 2024/825 of the European Parliament and of the Council of February 28, 2024 amending Directives 2005/29/EC and 2011/83/EU as regards empowering consumers for the green transition through better protection against unfair practices and through better information <https://eur-lex.europa.eu/eli/dir/2024/825/oj/eng>
- ⁶ European Commission. (March 22, 2023). Proposal for a Directive of the European Parliament and of the Council on substantiation and communication of explicit environmental claims (Green Claims Directive), COM/2023/166 final, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2023%3A0166%3AFIN>
- ⁷ Mathiesen K., Camut N., Weise Z., Cooper C., Guillot L, (Feb 2024): *Bears, cars and angry farmers fuel green backlash*, Politico, <https://www.politico.eu/article/bears-cars-angry-farmers-fuel-green-deal-backlash-eu-agenda-european-commission-ursula-von-der-leven/>
- ⁸ Delbeke J., (April 2024). *How the EU can support carbon pricing at global level*. STG Policy Papers 2024/12, European University Institute. <https://cadmus.eui.eu/server/api/core/bitstreams/75af162b-67df-59f2-9037-bbf26097d94c/content>
- ⁹ Bencini J., Delbeke J., Dombrowicki P., (May 2025). *Creating EU Demand for Paris-aligned Carbon Dioxide Removal Credits*. STG Policy Papers 2025/07, European University Institute. <https://cadmus.eui.eu/server/api/core/bitstreams/4bf8d777-ca7e-4c19-98b3-605584a7ae05/content>
- ¹⁰ Boratyński J., Rosłaniec M., Pyrka M., Jeszke R., Chodor M., Zborowska I., Lizak S., Gmyrek G., Mazanek K., Antosiewicz M., Lewarska I., Tylka A., Lewarski M., Róžańska Z., Sekuła M. (November 2024). *VII EW on EU ETS 2050: Linking EU ETS with other carbon pricing mechanisms*, Institute of Environmental Protection – National Research Institute / National Centre for Emissions Management (KOBiZE), Warsaw. https://climatecake.ios.edu.pl/wp-content/uploads/2024/11/LIFE_VII EW2050_EUETS_Global-ETS_final-1.pdf

-
- ¹¹ Marcu A., Mehling M., Kushko N., (May 2025). *Introduction of international credits in the EU Climate Change Framework*. ERCST Discussion Paper, European Roundtable on Climate Change and Sustainable Transition. <https://ercst.org/wp-content/uploads/2025/05/International-credits-in-EU-CC-policy.pdf>
- ¹² CDU, CSU, SPD (2025). *Verantwortung für Deutschland, Koalitionsvertrag zwischen CDU, CSU und SPD*, https://www.koalitionsvertrag2025.de/sites/www.koalitionsvertrag2025.de/files/koav_2025.pdf
- ¹³ Abnett K. (April 7, 2025). *Key EU lawmaker says 90% emissions cut too ambitious for 2040 climate goal*. Reuters. <https://www.reuters.com/sustainability/cop/key-eu-lawmaker-says-90-emissions-cut-too-ambitious-2040-climate-goal-2025-04-07/>
- ¹⁴ Krukowska E. (May 13, 2025). *Poland expects EU to allow global carbon credits in climate law*. Bloomberg. <https://www.bloomberg.com/news/articles/2025-05-13/poland-expects-eu-to-allow-global-carbon-credits-in-climate-law>
- ¹⁵ Dufrasne, G. (July 2024) *Why carbon offsetting undermines climate targets — Joint NGO statement*, Carbon Market Watch, <https://carbonmarketwatch.org/publications/why-carbon-offsetting-undermines-climate-targets-joint-ngo-statement/>
- ¹⁶ Socialists and Democrats (July 2025), *S&Ds: 2040 climate target must be met domestically — caution needed on international carbon credits*, Press release, <https://www.socialistsanddemocrats.eu/newsroom/sds-2040-climate-target-must-be-met-domestically-caution-needed-international-carbon>
- ¹⁷ European Commission (July 2, 2025) *Proposal for a Regulation amending Regulation (EU) 2021/1119 establishing the framework for achieving climate neutrality* (COM(2025) 524 final), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52025PC0524>
- ¹⁸ European Commission (Feb 6, 2024) *Impact Assessment Report accompanying the document Communication from the Commission Securing our future Europe's 2040 climate target and path to climate neutrality by 2050 building a sustainable, just and prosperous society*, Commission Staff Working Document (SWD/2024/63 final) , <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52024SC0063>
- ¹⁹ Greiner S. (June 2023) *The no-banking rule in the Article 6 Rulebook*, World Bank-Climate Focus-Transformation Carbon Asset Facility, https://www.tcafwb.org/sites/default/files/2023-09/6_ITMO%20no-banking%20note.Final_%20June%2015.pdf
- ²⁰ Niranjana A. and Rankin J. (July 2, 2025) *EU targets 90% cut in emissions by 2040 as green groups cry foul*, The Guardian, <https://www.theguardian.com/environment/2025/jul/02/eu-targets-90-percent-cut-in-emissions-by-2040-as-green-groups-cry-foul>
- ²¹ European Scientific Advisory Board for Climate Change (May 2025) *Scientific advice for amending the European Climate Law — Setting climate goals to strengthen EU strategic priorities*, https://climate-advisory-board.europa.eu/reports-and-publications/20250602_european-climate-law_advice-for-publication.pdf
- ²² Intercontinental Exchange (ICE), *EUA 2 Futures*, (no date) <https://www.ice.com/products/83048353/EUA-2-Futures/data?marketId=7932292&span=2>
- ²³ German Environment Agency (Feb 2024). *Supply and demand in the ETS 2*, Climate Change 09/2024, https://www.umweltbundesamt.de/sites/default/files/medien/11850/publikationen/09_2024_cc_ets_2_supply_and_demand.pdf

-
- ²⁴ BloombergNEF (March 6, 2025). Europe's new emissions trading system expected to have world's highest carbon price in 2030 at €149, BloombergNEF forecast reveals. BloombergNEF. <https://about.bnef.com/blog/europes-new-emissions-trading-system-expected-to-have-worlds-highest-carbon-price-in-2030-at-e149-bloombergnef-forecast-reveals/>
- ²⁵ Deyl D. (June 25, 2025) *Sixteen member states call for substantial reform of new Emissions Trading System*, EU Perspectives, <https://euperspectives.eu/2025/06/member-states-demand-reform-ets2/> (For a full text of the proposal see this link: <https://carbon-pulse.com/wp-content/uploads/2025/01/Czech-ETS2-proposals.png>)
- ²⁶ Graichen J., Schneider L., Böttcher H. (July 2, 2025) *The EU's 2040 climate target*, Policy Brief, Öko-Institut, <https://www.oeko.de/fileadmin/oekodoc/PB-2040-climate-proposal.pdf>
- ²⁷ Chang H., Harrison K. (Sep 2025), *EU ETS II Pricing Scenarios- Balancing Cuts and Costs*, BloombergNEF, https://assets.bbhub.io/promo/sites/16/EU_ETS_II_Pricing_Scenarios_Balancing_Cuts_and_Costs.pdf
- ²⁸ Joint Research Centre (Jul 2025), *The European forest carbon sink is declining: can we reverse the trend?* Joint Research Centre, https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/european-forest-carbon-sink-declining-can-we-reverse-trend-2025-07-30_en
- ²⁹ German Environment Agency (Feb 2024). *Supply and demand in the ETS 2*, Climate Change 09/2024, https://www.umweltbundesamt.de/sites/default/files/medien/11850/publikationen/09_2024_cc_ets_2_supply_and_demand.pdf
- ³⁰ Appunn K., Wettengel J. (May 23, 2024) *Understanding the European Union's Emissions Trading System*, Clean Energy Wire, <https://www.cleanenergywire.org/factsheets/understanding-european-unions-emissions-trading-system>
- ³¹ Ahonen H., Inclan C., Kessler J., Singh A. (June 21, 2023) *Raising climate ambition with carbon credits*, Discussion Paper, Perspectives Climate Group, <https://www.energimyndigheten.se/49e25f/globalassets/klimat--miljo/internationella-klimatinsatser/raising-climate-ambition-with-carbon-credits.pdf>
- ³² Rogers S., de Bienassis T., (April-May 2020) *The Pilot Auction Facility as a Model for Future Climate Financing*, in *Carbon Mechanisms Review*, Issue 1/2020, Wuppertal Institut, <https://www.carbon-mechanisms.de/fileadmin/media/dokumente/Publikationen/CMR/CMR-1-2020-web.pdf>
- ³³ Schneider L., Fallasch F., Siemons A., Lauer S., Haase I. (June 30, 2025) *Conditions for Using International Carbon Credits towards the EU's 2040 Climate Target*, Policy Brief, Öko-Institut, <https://www.oeko.de/en/publications/conditions-for-using-international-carbon-credits-towards-the-eus-2040-climate-target/>
- ³⁴ Pandey A. (Sep 2025) *Cap-and-Trade Extension Bills Released on California Legislative Website*, ClearBlueMarkets, <https://www.clearbluemarkets.com/knowledge-base/cap-and-trade-extension-bills-released-on-california-legislative-website>
- ³⁵ Carbon Market Watch (April 14, 2025). *EU's 2040 credit line risks bankrupting the climate*. <https://carbonmarketwatch.org/2025/04/14/eus-2040-credit-line-risks-bankrupting-the-climate/>
- ³⁶ Johnstone, I., Schneider, L., Michaelowa, A., Grandpré, J., Kuci, S., Ahonen, H., Probst, B.S., Lezak, S., Hale, T., La Hoz Theuer, S., Omukuti, J., Reséndiz, J.L., Fankhauser, S., Abebe, S., and Hepburn, C. (June 2025). *Oxford Principles for Responsible Engagement with Article 6*, Smith School of Enterprise and the

-
- Environment, University of Oxford. [https://www.smithschool.ox.ac.uk/sites/default/files/2025-06/The Oxford Principles for Responsible Engagement with Article 6.pdf](https://www.smithschool.ox.ac.uk/sites/default/files/2025-06/The_Oxford_Principles_for_Responsible_Engagement_with_Article_6.pdf)
- ³⁷ State of California, Air Resources Board (Sept 19, 2019) *California Tropical Forest Standard*, https://ww2.arb.ca.gov/sites/default/files/classic/cc/ghgsectors/tropicalforests/updated_ca_tropical_forest_standard_english.pdf
- ³⁸ National Climate Change Secretariat, Singapore, (Jun 24, 2025) *The Coalition to Grow Carbon Markets*, <https://www.nccs.gov.sg/the-coalition-to-grow-carbon-markets/>
- ³⁹ European Union (27 November 2024) Regulation (EU) 2024/3012 establishing a Union certification framework for permanent carbon removals, carbon farming and carbon storage in products, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L_202403012
- ⁴⁰ Schneider L., Siemons A., Fallasch F. (May 28, 2025) *Revised methodologies under the EU Carbon Certification Removal Framework continue to lack integrity*, Blog, Öko-Institut, <https://www.oeko.de/blog/revised-methodologies-under-the-eu-carbon-certification-removal-framework-continue-to-lack-integrity/>
- ⁴¹ Scherger S. (May 2024) *Unpacking the EU Carbon Removal Certification Framework*, Institute for Agriculture and Trade Policy, https://www.iatp.org/sites/default/files/2024-05/CRCF%20trilogue%20article_final_o.pdf?utm
- ⁴² Ecoeye, Oct 2023, *Offsetting in the Korea Emissions Trading Scheme*, Presentation for: ICAP & PMI Asia and Pacific ETS Training Course, <https://www.pmiclimate.org/sites/default/files/2023-11/Offsetting%20in%20ETS%20-%20Ecoeye.pdf>
- ⁴³ ICAP (May 2018) *Government of Korea finalizes rules on international offset credits*, International Carbon Action Partnership, <https://icapcarbonaction.com/en/news/republic-korea-finalizes-rules-international-offset-credits>
- ⁴⁴ Government of Japan (Nov 2023) *Recent Developments of the Joint Crediting Mechanism (JCM)*, https://www.jcm.go.jp/opt/all/about/202311_JCM_goj_eng.pdf
- ⁴⁵ Graichen J., Schneider L., Böttcher H. (July 2, 2025) *The EU's 2040 climate target*, Policy Brief, Öko-Institut, <https://www.oeko.de/fileadmin/oekodoc/PB-2040-climate-proposal.pdf>
- ⁴⁶ Rickels W., Rischer C., Schenuit F., Peterson S., (2023) Potential efficiency gains from the introduction of an emissions trading system for the buildings and road transport sectors in the European Union, Kiel Working Paper, No. 2249, Kiel Institute for the World Economy (IfW Kiel). <https://www.econstor.eu/bitstream/10419/273080/1/1850836019.pdf>
- ⁴⁷ The Regional Greenhouse Gas Initiative (RGGI), (2025), *Elements of RGGI*, <https://www.rggi.org/program-overview-and-design/elements>
- ⁴⁸ German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), (November 2020), *Act on National Allowance Trading for Fuel Emissions*, Non-binding translation, https://www.bmu.de/fileadmin/Daten_BMU/Download_PDF/Gesetze/behg_en_bf.pdf
- ⁴⁹ Simon, F. (January 15, 2025) *France, Czechia propose ETS2 changes to improve social acceptability*, Carbon Pulse, <https://carbon-pulse.com/358552/>
- ⁵⁰ Edenhofer O., Franks M., Kalkuhl M., Runge-Metzger A. (April 2023). *On the Governance of carbon dioxide removal: A public economics perspective*. CESifo Working Paper.

<https://www.cesifo.org/en/publications/2023/working-paper/governance-carbon-dioxide-removal-public-economics-perspective>

- ⁵¹ Boratyński J., Rosłaniec M., Pyrka M., Jeszke R., Chodor M., Zborowska I., Lizak S., Gmyrek G., Mazanek K., Antosiewicz M., Lewarska I., Tylka A., Lewarski M., Róžańska Z., Sekuła M. (November 2024). *VIEW on EU ETS 2050: Linking EU ETS with other carbon pricing mechanisms*, Institute of Environmental Protection – National Research Institute / National Centre for Emissions Management (KOBiZE), Warsaw.
https://climatecake.ios.edu.pl/wp-content/uploads/2024/11/LIFE_VIIEW2050_EUETS_Global-ETS_final-1.pdf
- ⁵² European Commission (26 Feb. 2025) *Communication from the Commission: The Clean Industrial Deal: a joint roadmap for competitiveness and decarbonisation* (COM/2025/85 final)
https://commission.europa.eu/document/download/9db1c5c8-9e82-467b-ab6a-905feeb4b6bo_en?filename=Communication%20-%20Clean%20Industrial%20Deal_en.pdf
- ⁵³ Nordic Environment Finance Corporation. (2015). *Testing Ground Facility: Final publication*.
https://www.nefco.int/wp-content/uploads/2022/05/TGF-publication_2015_EN.pdf
- ⁵⁴ European Climate, Infrastructure and Environment Executive Agency. (no date) *Auctions — EU-wide auction for renewable hydrogen production*. https://cinea.ec.europa.eu/programmes/innovation-fund/auctions_en
- ⁵⁵ European Commission (December 2, 2024). *Auctions-as-a-Service for countries in European Economic Area (EEA)*, Concept Note https://climate.ec.europa.eu/document/download/b0316108-0e2b-402d-8e16-bb46ac813332_en?filename=policy_funding_innovation_concept_paper_aaas_en.pdf
- ⁵⁶ Ecologic Institute (May 14, 2025) *Perspectives on a Purchasing Programme for CRCF Permanent Carbon Removal*, Workshop pre-read, https://climate.ec.europa.eu/document/download/b54e5a22-3325-4e54-8697-5dea0a4010f7_en?filename=event_20250521_pre-read_en.pdf