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INTERNATIONAL CREDITS IN THE EU: CREDIT QUALITY CRITERIA AND IMPLICATIONS FOR THE EU'S PURCHASING STRATEGY

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1. Key Messages

The EU's decision to allow international carbon credits to meet up to 5% of its 2040 target is not only a question of policy choice, it opens up a range of implementation questions: How are purchases linked to Article 6 of the Paris Agreement? How will the EU ensure that credits have high integrity? What kinds of credits should the EU buy? How can credit imports serve broader EU objectives, on competitiveness, trade partnerships and technological leadership? This paper focuses on linkages with the Paris Agreement and other international standards, the credit quality criteria and a possible purchasing strategy for the EU, and aims to address key questions of supply, integrity, and strategic relevance. The EU should consider:

- **Embedding its carbon credit purchasing policy in a wider "climate diplomacy and technology promotion" strategy.** Carbon credits should not be seen only as a way to keep climate policy compliance costs down. It should also aim to contribute to broader policy aims, such as the promotion of European green re-industrialization and decarbonization, the EU's climate diplomacy strategy and environmental partnerships, and the promotion of European technology partnerships. This should not, however, come at the expense of environmental integrity.
- **Defining eligibility rules that build on existing crediting standards, including independent crediting standards and the Article 6.4. mechanism (aka the PACM) rather than defining separate standards and methodologies:** The EU should not limit itself only to credit exchanges under Article 6.4 of the Paris Agreement, as it should have autonomy in choosing which standards meet its quality criteria. The EU should define principles which existing standards could be assessed against to determine eligibility and could consider the work of the ICVCM and the establishment of Core Carbon Principles (CCPs) as a starting point for eligibility of methodologies. Building on widely recognized standards would support interoperability between major carbon markets, reducing friction and reinforcing a shared understanding of high-integrity credits while strengthening the EU's role as a global standard-setter.

- **Taking a strategic "portfolio" approach to credit imports** in order to spread risk and achieve multiple policy objectives: The portfolio should include i) technological removals, in order to help scale future removals capacity; ii) nature-based credits, in order to provide credits at scale, quickly and at an affordable price; iii) credits from projects that export European technology, in order to bolster competitiveness and political acceptability. The portfolio should evolve over time, with an initial emphasis on scalable, affordable credits (such as high-quality nature-based solutions) and a gradually increasing share of technological removals as costs fall and capacity expands.
- **Developing early, clear signals for credit requirements**: while credit use is planned from 2036, the earlier the EU's framework and standards are put in place, the earlier host countries and developers can move to meet EU demand. The current supply of high-quality carbon credits will certainly not be sufficient. The pilot period starting in 2031 should be used to test and fine-tune the standards.
- **Exploring innovative crediting pathways** in order to expand the EU's crediting options, bearing in mind that the crediting will take place a decade from now, in a very different technological, economic, and political environment. When exploring new options, the promotion of EU technology should be a key consideration. Furthermore, the EU could consider developing systemwide approaches to crediting because project-based approaches may not be able to generate the necessary amount of credits. Project-based approaches are also potentially unable to mobilize the mitigation potential in low- and middle-income countries. The EU could also consider purchasing credits from other ETS markets.

This paper outlines the credit criteria and purchasing strategy implications that the EU should consider when making use of the option to import international credits.It is one of a series of papers covering various aspects of the EU's international credit purchase policy. The other papers, covering the funding of credit purchases and climate diplomacy-related issues can be found on the https://www.edf.org/international-credits-eu webpage.

2. Setting the scene–Why international credits, and why now?

In December 2025, a political agreement was reached by EU institutions on amending the EU Climate Law[1] (the "Climate Law") to include an overarching 2040 EU climate target. The EU's greenhouse gas emissions reduction target for 2040 will be 90% compared to 1990 levels, of which 85% will be achieved through domestic action and "*up to 5% of 1990 EU net emissions*" can be achieved through international credits starting in 2036, with a pilot period from 2031 onward. The European Commission is currently in the process of developing a legislative proposal for the purchase of international credits, with a proposal to be published in Q4 of 2026.[2] The Climate Law makes it clear that *"the origin, quality criteria, and other conditions concerning the acquisition and use of any such credits shall be regulated in Union law"*. Credits will need to meet over a dozen criteria outlined in the Climate Law, which are to be further defined in the Commission proposal, while also being cost-effective.

The history of international carbon credits in European climate policy is decisively shaped by the experience with the Kyoto Protocol's Clean Development Mechanism (CDM). Under the Kyoto Protocol, countries could choose to meet their compliance obligations with added flexibility through the so-called flexibility mechanisms, particularly the CDM. The CDM allowed countries in the Global North to invest in carbon-reducing projects in the developing world and receive carbon credits which they could use toward their targets.

Crucially for the CDM, the European Union went one step further and linked CDM directly to its flagship climate policy instrument, the EU Emission Trading System (EU ETS) — through allowing obligated entities to cover a portion of their allowance surrender obligations with international carbon credits. This led to a massive increase in the throughput of the CDM, with the EU absorbing well over 80% of the credits delivered.

Alas, that experience left a sour taste: while the CDM link undoubtedly led to a downward pressure on prices, as it helped contain costs, this happened in a strong down cycle of the European economy, depressing prices much farther than anticipated. More importantly, the CDM was slow to reform and to answer to the many criticisms levelled at it by — inter alia — the

European Union. These ranged from the issues of poor demonstration of additionality, suspicions of fraud in some specific project types and many accusations of human rights violations. Finally, the link was severed in 2011 with the reform of the EU ETS, with only minimal demand for CDM credits between 2013 and 2020. The legacy of the CDM in terms of its impact on the oversupply of the EU ETS was finally only fully addressed with the establishment of the Market Stability Reserve.

It is therefore understandable that many people in the EU have mixed feelings about linking EU climate policy to international credits again. Yet in 2025 EU institutions agreed to reintroduce international credits from 2036 onward. As argued in a previous paper by EDF,[3] this reintroduction is no doubt challenging, but can also be seen as an opportunity.

Crucially, the context of European climate policy is now vastly different from 2011, when the EU ETS was decoupled from the CDM, and even more so from 2004, when it first decided to link the EU ETS:

- Europe is no longer a prominent emitter globally: while in 2004, it was responsible for 14% of emissions, today its share is below 6%. The role of the European Union as the primary financing agent for the global energy transition is receding and a much more competitive environment is emerging, both in terms of overall global relations and in the race to master the energy technologies of the future.
- Europe is wracked by a competitiveness crisis and an affordability crisis at the same time. While the energy transition is arguably much more advanced in Europe than in other parts of the world, Europe is not yet reaping its full benefits in terms of a more resilient economy.
- International carbon credits must be seen in this wider context, beyond the issue of cost-containment, as a piece of a wider European climate diplomacy effort, one that ties partnerships in climate with trade and energy links.

- Finally, the context has also changed in terms of the state of the carbon market and its standards. The Kyoto Protocol had a closed system which only allowed for a very defined set of carbon mechanisms to be used toward its targets. By contrast, today's carbon market is a much more multilateral and open system, with most countries relying not on a central UN mechanism (the Article 6.4 or PACM mechanism, the CDM's successor) but instead relying more heavily on bespoke bilateral arrangements that provide a framework for engagement in particular approaches.
- In the new international carbon market framework, Europe can use a coordinated approach to leverage its still significant role in the international carbon market as an important buyer to set the parameters that can define high integrity for the market as a whole. Reliance on any single external institution as the sole purveyor of quality would be to repeat the dependence generated under Kyoto.

3. Policy assumptions

The analysis in this paper is framed by a set of assumptions. These assumptions are *not* forecasts; instead, they are based on our best understanding of information provided via the EU or through various reputable think tanks and research institutions:

- **EU demand for international carbon credits between 2036-2040 is calculated at a maximum of 700 million tonnes (Mt).** The Climate Law does not define the total quantity of international credits allowed into the EU over the 2036-2040 period. Experts have offered a range of values; we think that 300-400 Mt is the most likely outcome.
- **The EU will be one of the largest buyers of credits in 2036-2040.** The EU can expect to account for between one-third and one-half of all the demand in this period. This implies that the EU cannot rely on a spot credit market to provide credits as there will not be sufficient supply. The EU will have to develop its supply — through setting clear criteria years in advance of purchasing and ensuring funding commitments as soon as possible.
- **The average credit price will be between €50-€100:** It is impossible to predict the price of credits ten years in advance, but we should not expect them to come cheap. High-quality credits today cost €15-30. Allowing for inflation, the sharing of benefits with the host country and other costs, we assume €50 provides a lower bound for 2030 onward. We also assume that the upper bound for the average credit price will be determined by the price of allowances under the EU ETS2. Purchasing credits is intended to provide cost containment, and this is not achieved at prices above that.
- **The EU will set up a central purchasing agent, either as a stand-alone procurement agency or in tandem with MS direct purchases.** This entity will carry out the purchases either for the EU as a whole, or on behalf of the Member States. It will be responsible for ensuring that the quality criteria are met and that there is a pipeline of projects that deliver credits.

4. Defining Credit Quality

The Climate Law clearly states that international carbon credits shall be "under Article 6 of the Paris Agreement". It also states that "when establishing the quality criteria, the Commission shall consider where appropriate complementing the criteria laid down under Article 6.4 of the Paris Agreement to ensure the respect of these safeguards and the highest quality of international credits". This text raises several options for interpretation around how the EU defines credit quality.

Article 6 of the Paris Agreement offers two avenues for countries to trade credits: via bilateral agreements, regulated under Article 6.2 or via a centralized UN mechanism called the Paris Agreement Crediting Mechanism (PACM) regulated under 6.4. The text of the Climate Law states that the criteria laid down in Article 6.4 may be complemented with additional, EU-specific requirements for quality. It is noteworthy though that only the criteria and not the entire PACM is being endorsed.

We believe the EU has three options here: i) adopting the PACM standard without change; ii) developing its own EU standard; iii) or adopting principles which other existing standards could be evaluated for alignment against. The three options are discussed in detail below:

Option 1: Adopt the PACM standard as a whole. The EU could choose to follow Art 6.4 rules in their entirety. In this case, the EU would allow the purchase of all credits approved under PACM and ban the purchase of any non-PACM credits.

- **Pros:** This would ease the EU's legislative burden and send a clear signal around the legitimacy of the PACM approach.
- **Cons:** The EU would largely cede quality assessments to a multilateral process instead of self-defining quality. This approach is similar to what happened with the Clean Development Mechanism (CDM), which resulted in critiques of poor-quality credits allowed into the EU. The EU may, for policy and technical reasons, want to deviate from

particular PACM policy choices, such as those on permanence or the downward adjustment of baselines.

Option 2: Develop its own EU standard, taking the principles stated in Article 6.4 and complementing these with specific additional requirements. This approach is analogous to the approach taken by several governments (Japan's Joint Crediting Mechanism (JCM) is a prime example) in designing their own domestic crediting systems and then proceeding to bring them to international projects. The EU could use PACM as a broad template for its quality principles (the JCM initially was built on the back of CDM requirements) but complement them if needed. PACM methodologies would not automatically be allowed into the EU; they would need to be assessed and approved on a case-by-case basis.

- **Pros:** This approach allows for total control by the EU over the execution of its program. It can best tailor its program to specifications around project types or particular implementation options of carbon crediting criteria. It can be embedded into climate diplomacy efforts, as Parties collaborate around Article 6 efforts, as Japan is doing. This system would allow the EU to reject PACM credits it does not deem credible (e.g., because they transitioned from the CDM) and admit credits based on non-PACM methodologies if a corresponding PACM-methodology does not exist or is not considered satisfactory. It also allows the EU to decide strategically which types of partnerships and credits it wishes to use.
- **Cons:** This approach would require more administrative burden — it would require building substantial capacity, including its own methodologies, validation and verification standards and a corps of expert review officers — to assess and approve both specific PACM methodologies and high- integrity methodologies from other carbon markets. The JCM experience is a reflection of the many stresses of building up a mechanism that is embedded into a set of bilateral agreements that are detailed and somewhat cumbersome. Transaction costs also need to be factored: under the Swiss model, the majority of the costs are transaction costs. Lack of fungibility drives up costs, if criteria are so specific to one buyer. In addition, creating a new standard in a world of fragmented carbon markets could be seen as causing further fragmentation and could result in less supply, as well as stifle innovation. However, as the EU is expected to be

one of the largest buyers of credits after the mid-2030s, it could also unite the market on a set of criteria that all suppliers will de facto adhere to.

Option 3: Define EU principles and assess existing frameworks for alignment with these principles.

- There are many different carbon markets already in existence that the EU can take inspiration from or build upon. Key "meta-standards" like CORSIA and ICVCM have assessed multiple standards and methodologies in recent years against pre-defined criteria. The EU could therefore define its principles (e.g., those already set out in the Climate Law or additional ones) or endorse third-party principles by reference (e.g., CORSIA's Emission Unit Criteria or the Core Carbon Principles by the Integrity Council for the Voluntary Carbon Market (ICVCM)). The EU could then assess third-party standards, meta-standards, and/or methodologies against these principles. There is EU precedent for the EU outsourcing standardization to an external nongovernmental body: the standards of the International Accounting Standards Board (IASB) are endorsed by the EU through a special process — but not copied into EU legislation per se.
- Under CORSIA, the Technical Advisory Body drew up a list of Emissions Unit Eligibility Criteria[4] and then invited third-party standards to apply for assessment. These applications ask for additional details about how each standard meets the Eligibility Criteria. Based on the answers, the Technical Advisory Body makes a final determination on which standards and methodologies are allowed into CORSIA. These criteria also have set "re-assessment" periods where previously eligible standards needed to reapply to entry into a new compliance period of CORSIA.
- Likewise, the ICVCM has developed an Assessment Framework that details requirements both at carbon crediting program and methodology level. Carbon crediting programs have then been invited and scrutinized for their adherence to these Core Carbon Principles. As part of their submission, carbon crediting programs are asked to submit the methodologies that they wish to see vetted by the ICVCM. ICVCM's Core Carbon Principles (CCPs) cover the totality of carbon credit environmental integrity criteria, including several that go beyond alignment with Article 6, for example, governance and transparency requirements or environmental and social safeguards. The CCPs

incorporate by reference all CORSIA requirements, and thus any carbon crediting program within CORSIA is deemed to comply automatically with a subset of requirements within ICVCM. ICVCM however goes beyond CORSIA requirements substantively in areas such as transparency, governance, and environmental and social safeguards. CORSIA eligibility is usually granted at program level, with some particular decisions excluding some credits from its consideration. ICVCM does a deeper assessment at methodological level, doing a much finer analysis of methodological issues on a methodology-by-methodology basis. ICVCM comes up short in terms of some of the criteria that are required for intergovernmental trading, such as the requirement on corresponding adjustments. That said, the ICVCM has already required tagging of the status of credits in relation to whether these are seeking CAs under the Paris Agreement or not.

- **Pros: this would effectively outsource a part of the gatekeeping function to an external institution and free up resources within the EU, building on an already established architecture.** This approach still requires some degree of technical know-how for these assessments but does not require the EU to make methodologies from scratch (which is much more technical and resource intensive). This approach also allows the EU to update and refine their criteria over time, allowing for a high degree of control over quality (eligibility is not a one-time approval it is repeated over distinct intervals). It would support interoperability between major carbon markets, reducing friction and aligning the EU with several other governments considering referencing CCPs in internal regulations, and with efforts in the voluntary credit market, such as those of the intergovernmental Coalition to Grow Carbon Markets that have already endorsed and referenced the ICVCM, building a shared understanding of what high integrity looks like. It would allow for a steadily growing pipeline of projects and credits. Moreover, with its clout as a major buyer/client of its regulation, the ICVCM would need to consider European vetting of its work. Further, with the EU only purchasing credits for a period of 5 years, this approach would allow suppliers to sell to other markets, meaning that developers would be incentivized to choose EU-aligned methodologies (in contrast to option 2, where developers may not choose to use EU methodologies for only a 5-year demand window).

- **Cons: these third-party bodies are not fully controlled by the EU and thus might take decisions that the EU does not like.** Such risks could, however, be minimized by conducting critical reviews of third-party decisions through time and exercising a right to reject their decisions — as it is the case for IASB standards. Singapore is currently considering exactly such a system as it ponders whether to integrate ICVCM decisions into its carbon market regulation. Finally, under both CORSIA and ICVCM, there is a recognition that approval at the carbon crediting program and methodological level would likely not ensure full compliance with environmental integrity criteria, as methodological and program guidance may be interpreted and implemented with some variation by projects and host countries. To that end, this approach would likely need to be complemented with further information at project level.

Recommendation: Considering the EU's negative experience in the past with full reliance on the CDM, but also the extensive capacity needed to develop a standalone EU standard, we suggest Option 3, which allows for a degree of quality control by the EU, while outsourcing the issue of management of that quality control and methodology development to third parties. In fact, this same approach could and should go beyond a reliance on ICVCM alone, allowing for incorporation also of other gatekeepers, including the Paris Agreement. Furthermore, the EU should consider a periodic review of its reliance under such an approach. This would also allow for a feedback loop between the EU and its "gatekeepers" allowing these to recalibrate their own operations, if required, to the requests of the EU. This should also be complemented with project-level information that is currently gathered by several rating agencies.

Regardless of which option is chosen, the EU should make these decisions in a transparent, time-bound manner.

The current supply of eligible credits will likely be insufficient to meet future EU demand, and the market will need time to invest and produce high-integrity, EU-eligible credits. As one of — if not the — largest anticipated markets for international carbon credits by 2040, the EU should provide clear criteria well in advance to procure the necessary credits, rather than depending on off-the-shelf options.

5. Safeguarding Credit Quality

Setting credit quality requirements is just the first step — the EU will also need to ensure that these requirements are actually respected by the projects financed by the EU. This requires both an initial "gatekeeping" review, where the project proposal and the project's initial terms and conditions are evaluated, and ongoing "safeguarding" work, where the annual monitoring and reporting of the project is verified and validated.

The EU could, of course establish its own in-house capacity or engage consultants for this work, but — in keeping with the approach of building on existing work set out in Option 3 above — we think that it would be much more effective to use the services of third-party commercial rating agencies. The primary intention of a carbon rating agency is to estimate the risk of a particular credit failing to deliver on its claim to remove or avoid a ton of emissions, but as they carry out deep research into the project's details, they can evaluate other claims and conditions (e.g., human rights issues, biodiversity claims, etc.) Many of these organizations have already rated many hundreds of projects, have invested a lot of money into developing their evaluation methodologies and usually employ dozens of qualified experts. It is difficult to imagine that the EU would be able to dedicate a similar amount of staffing and financing in-house for the work of rating credits. Such an outsourcing approach was adopted by Singapore, which in 2025 has invited three ratings agencies (Calyx, Sylvera, and Bezero) to jointly support the environmental integrity assessment of its projects.[5]

Of course, the rating agencies themselves will need to be vetted before the EU can rely on them as an authoritative source of information. In this context, it is worth mentioning that the European Securities and Markets Authority (ESMA) will start regulating ESG ratings agencies in 2026, which will provide oversight from an integrity perspective.[6] In addition, the EU could consider initiating a standardization of the actual rating methodologies, if it has concerns in cases where discrepancies between the ratings of individual agencies of the same project exist.[7] Finally, the EU would need to find a way to make sure that it works with multiple agencies in order to ensure that it does not overly rely on any one of them. A useful parallel is Switzerland, which in 2025 has engaged a rating agency for a limited mandate of overseeing three projects.[8]

Recommendation: The EU should incorporate by reference CORSIA and ICVCM principles (in line with the Coalition to Grow Carbon Markets, for example) and as a basis for evaluating which standards and methodologies should be eligible under its international carbon credit criteria. For project level information, the EU should consider the use of project rating agencies. However, the EU should use its own heft as a large buyer to demand as much transparency as possible into rating methodologies and outcomes. Given the variability of assessments, reliance on a single ratings agency would not be suitable. Instead, just as with sovereign debt ratings, using a full set of ratings agencies and introducing minimum thresholds for eligibility at project level may be preferable.

In the next section we explore the EU's criteria in detail and compare them to the requirements and principles set out under the Paris Agreement.

6. Credit quality criteria in the Climate Law

Under Article 5(a), the Climate Law introduces a long list of credit quality requirements and establishes that these requirements should be set out in EU law. Deciphering the requirements is not straightforward: some apply to the host country, some to the project, some criteria are easy to assess (e.g., no double counting), while others are rather vague (e.g., ensure "integrity"). In any case, these criteria will require further legislation to specify and explain them.

As mentioned earlier, the Climate Law implies broad adherence to Article 6.4 criteria when it states that the "*Commission shall consider where appropriate complementing the criteria laid down under Article 6.4."* Thus, it is worth examining how each criterion relates to the criteria under Article 6. Below is a summary of how Article 6.2 and Article 6.4 criteria meet aspects of the Climate Law criteria. These articles are very different and reflect different approaches to the construction of an international carbon market: Article 6.2 is an accounting framework for the tradability of ITMOs (allowing full flexibility on what these mitigation outcomes are and how they are generated). Article 6.4 is a centralized carbon crediting program, modeled off of the CDM. It follows that Article 6.2 is not prescriptive; instead, it is largely up to each participating country to agree on how a transaction of international carbon credits (aka ITMOs) meets these principles. Article 6.4, on the other hand, cedes much decision-making on the implementation of these principles to the PACM Supervisory Body; thus, there are often much more specific requirements that methodologies and projects must meet.

The difference can be demonstrated on how Article 6.2 and Article 6.4 handle the principle of permanence:

- Article 6.2 requires Parties to describe how they have "minimized the risk of non-permanence of mitigation across several NDC periods and how, when reversals of emission reductions or removals occur, the cooperative approach will ensure that these are addressed in full." The specifics of this are left entirely up to each buyer and seller country to agree upon.

- Article 6.4, meanwhile, has developed a specific, 18-page standard[9] that details how non-permanence should be managed and is developing supplementary mandatory tools on the topic in 2026.

Thus, while the principles underlying Article 6.2 and 6.4 are largely the same, significant differences exist between those two frameworks in how thoroughly these criteria are specified and enforced.

Table 1 provides a comparative view of the Climate Law quality criteria and their counterparts in Article 6.2 and Article 6.4.

TABLE 1:

Summary of Climate Law and Article 6 requirements

No.	Text in Climate Law	Article 6.2	Article 6.4
1	supporting ... third countries in achieving net greenhouse gas reduction trajectories compatible with the Paris Agreement objective	Yes	Yes, and have additional requirements for "downward adjustments" of baselines for any PACM projects, which ensures the project will help the country with its trajectory in the Paris Agreement
2	*ensuring the environmental integrity of these credits*	Yes	Yes, and PACM has additional environmental integrity requirements via its Sustainable Development Tool, which includes additional "Environment and Social Safeguards Elements and Criteria" around energy; air, land, and water; and ecology and natural resources
3	*while promoting the EU's technological leadership*	Not mentioned	

4	*based on credible and transformative activities in partner countries*	This is not a specific category listed under Article 6.2 or Article 6.4 but is embedded throughout the construction of several different criteria (of ensuring environmental integrity and promoting sustainable development) via raising ambition and overall mitigation of global emissions (OMGE). However, while embedded, there is no standalone criteria on this topic in Article 6.	
5	*(ensuring) avoidance of double counting*	Yes, both have clear guidance around making a corresponding adjustment to ensure no double counting	
6	*(ensuring) avoidance of double counting*	Yes	Yes, and there is a specific standard, “Demonstration of additionality in mechanism methodologies”
7	*(ensuring) permanence*	Yes	Yes, and there is a specific standard “Addressing non-permanence and reversals in mechanism methodologies” and additional tools are being designed
8	*(ensuring) transparent governance*	Yes	Yes
9	*(ensuring) strong monitoring, reporting and verification methodologies*	“Strong” is subjective; unclear what is required by the Climate Law	
		Yes	Yes, and this is regulated via two standards, “Article 6.4 validation and verification standard for projects” and “Article 6.4 validation and verification standard for programs of activities”

10	*(ensuring) economic, social and environmental co-benefits*	Somewhat – Article 6.2 requests countries minimize and where possible avoid negative social and environmental impacts, and to report on positive social and environmental impacts when applicable. Parties in each transaction will have substantial leeway in how they would like to address environmental and social safeguards. Bothe the Article 6.4 SD tool or other requirements from the ICVCM and from independent carbon crediting standards can be referenced here.	Yes, via the Article 6.4 sustainable development tool
11	*(ensuring) human rights safeguards*	Negligible – Article 6.2 only references the 11th preambular paragraph of the Paris Agreement, which asks countries to consider human rights. Likewise, as with environmental and social safeguards, there is independent carbon crediting program experience in this regard, and Parties to an article 6.2 transaction can use by reference these safeguards or that of article 6.4.	Yes, via Article 6.4 sustainable development tool
12	*ensuring) high ambition for the share of proceeds for adaptation*	"High ambition" is subjective; unclear what is meant by the Climate Law	
		No requirement via A6.2, only allowed on a voluntary basis	Yes, required (5% of issuances given to the Adaptation Fund)
13	*(ensuring) high ambition for the sharing of mitigation benefits with concerned countries*	Not specified	Not specified, unless using the "mitigation contribution claim" approach via A6.4:

Thus, when assessing both Article 6.2 and Article 6.4 against the Climate Law criteria, there are several areas where the existing requirements under Article 6 do not cover what the Climate Law requires. These areas are:

- Promoting the EU's technological leadership
- Ensuring credible and transformative activities in partner countries
- Ensuring high ambition for the sharing of mitigation benefits with concerned countries

Additionally, the EU Climate Law made special mention of the potential need for additional criteria around permanence and human rights. As a result, we will also dive more into these topics below.

6.1 Promoting the EU's Technological Leadership

As currently one of the EU's primary concerns is to stop the decline of European industry and retain its position in the global clean economy, this criterion (aka "competitiveness criteria") is key from the perspective of the overall acceptability of credit purchases. Without projects exporting European technology, credit purchasing will be seen as just "sending money abroad." In the following, we will look at i) how Korea and Japan are using competitiveness criteria; ii) EU precedents for a European technology component.

Competitiveness criteria in Korea and Japan

Korea allows the import of international credits into its Emissions Trading System (K-ETS), subject to a project certification process. Although it is not expressly stated in law, in practice, projects are certified if either i) the project is at least 20% Korean-owned; or ii) if a Korean company supplies low-carbon technology worth at least 20% of the total project cost.[10] These conditions are not only theoretical — in 2022, about 650,000 credits were imported from international projects.

Japan's Joint Crediting Mechanism (JCM) is a crediting scheme built on bilateral governmental agreements that are intended to "*facilitate diffusion of leading decarbonizing*

technologies and infrastructure, etc., through investment by Japanese entities."[11] The role of Japanese technology is ensured through tailor-made methodologies that are often developed by the technology providers themselves. In addition, roughly half of the projects benefit from generous investment subsidies from the Japanese government which are always awarded to Japanese companies.[12] Over the last decade, the JCM has built up a large portfolio of projects. There are almost 150 projects in the registry[13] that are either registered or in the pipeline, delivering almost 1 million tonnes in 2025.

Competitiveness criteria in European aid programs

European development aid policy also sets out different criteria for promoting European technology. The NDICI, the EU's primary development aid instrument, is expressly free from any country-of-origin requirements.[14] However, aid finance provided by individual Member States is usually formally or informally tied to some degree of either using donor country technology or employing donor country firms. For example, the French Development Agency expressly states that in 2024, almost half of the contracts were won by French companies.[15] Although not formally tied, German international climate finance is also claimed to "open up markets and opportunities for German enterprises."[16] There are also many examples of express tying, including in France's FASEP fund[17] or Finland's Public Sector Investment Facility.[18] In addition, Member State private-sector development finance agencies often provide soft loans for their nationals[19] for projects that are commercially not viable but relevant from a development perspective.

Concerns and recommendations

Applying competitiveness criteria is crucial in the current European political context where increasing the EU's industrial competitiveness takes centre stage. The current discussion in the EU about whether to require domestic content in EU public procurements under the Industrial Accelerator Act is an indicative parallel.[20] The EU will need projects that transfer European technology to ensure political acceptability of the entire credit purchasing programme. However, we should also be mindful of the limitations of this approach:

- First, technology requirements can increase credit prices if the European technology in question is more expensive than other alternatives. Thus, the EU should expect that many of the technology projects could only be made possible through blended finance, i.e., through the mixing of credit revenues, development aid, and soft loans.
- Second, the EU probably cannot afford to require an EU technology component in all its credits purchases. Not only because these might turn out to be costly, but also because many more affordable projects (e.g., nature-based projects) have no significant technology component. EU technology should be a plus, not a must-have.
- Third, size and process matter when it comes to transaction costs: the EU should avoid the JCM's precedent with tiny project sizes and methodologies tailor-made for each project. Technology requirements can also be set indirectly, for example, the EU could set performance standards towards the products used in a project that place European companies at an advantage.

Although the Climate Law does not expressly set out a European project ownership requirement, ownership conditions occur frequently in the examples discussed above. This could be seen as a simplified test of the technology requirement and could be seen as particularly relevant if the project involves some kind of subsidy. The EU could consider setting up such project ownership requirements — however, it is very important to clarify that these should not extend to land ownership.

6.2 Sharing of mitigation benefits

The Climate Law states that the EU wishes to ensure "*high ambition for the sharing of mitigation benefits with concerned countries,*" which can be interpreted in two possible ways:

- **Ensuring high ambition from trade:** Trading of carbon credits under Article 6 should lead to an overall mitigation in global emissions (aka OMGE). This idea first emerged in the early discussions around Article 6, as some negotiators were concerned that trading of carbon credits would simply result in an accounting exercise but not lead to an increase in global ambition around mitigation. Negotiators agreed to require that

all Article 6.4 issuances set aside 2% of credits, which will be cancelled, thus ensuring a net reduction in emissions, rather than just 1-to-1 offsetting of greenhouse gases. If the Climate Law text is referring to OMGE, then this is already included under Article 6 and further consideration is not needed (except, perhaps, for the EU to consider if "high ambition" means a higher discount rate than 2%).

- **Sharing mitigation benefits:** Alternatively, it is possible that the Climate Law is referring to the idea that seller countries could receive a share in the mitigation benefits.

Seller countries have already been considering this idea quite seriously, with many seller countries implementing: i) a corresponding adjustment fee to cover the cost of finding new ways to meet their climate goals (with seller countries assuming that the new methods of reducing emissions might be more expensive than the mitigation just sold); or ii) buffer pools to retain and store a portion of credits sold to ensure permanence (e.g., Indonesia requires a range of 5% of credits sold domestically and 10-20% of credits sold internationally to be held in their buffer).

There is also a lot of precedent for such sharing of benefits. A CDM, or JI-levy was common in the Kyoto Protocol-era, and today Japan's Joint Crediting Mechanism splits the credits from JCM projects across both Japan and the seller country. The EU could consider setting up such a model – however, this would, of course, result in lower volumes and higher prices.

6.3 Ensuring Permanence

In addition to listing it among the criteria, the 2040 Climate Law expressly refers to permanence (alongside human rights) as an area of particular regard when considering how Article 6.4 criteria should be complemented. In this section, we address how permanence is currently understood in relevant frameworks, and how the permanence criteria can be addressed and managed.

How is permanence addressed across other crediting systems?

Views differ on the durability of storage needed, ranging from forty years of permanence, recognized by ICVCM, to the one hundred years set by the California Cap and Trade program.

Others view durability as 1000 years or more, but these views have not been integrated into any major carbon markets to date. Within existing markets, carbon credits that meet the various durability storage requirements (often 40–100 years) are considered fungible with credit types with longer durability horizons.

Other markets, notably the Clean Development Mechanism (CDM) and the EU's own CRCF framework have taken a different approach to dealing with non-permanence risk: instead of requiring durability to last a specific set of years, they split credits into two types: "permanent" and "temporary" credits. Under the CDM, temporary credits (called tCERs) needed to be replaced with "permanent" credits by the buyer once expired (~20–60 years). Given this particular construct and the uncovered liability that would come from member state acceptance for compliance with ETS requirements of temporary credits, the EU chose not to allow for temporary credits under the CDM in its EU ETS. Nonexistent demand for tCERs caused this approach to not be implemented in practice. Similar concerns with potential reversal risks and ongoing liability for past purchases of temporary credits have also hindered the use of temporary crediting under voluntary corporate commitments.

The CRCF classifies activities into either 'permanent' removals — mostly technology-based activities — or 'temporary' carbon storage for carbon farming and nature-based solutions but does not require mandatory replacement periods. Still, this distinction creates a binary between permanent and non-permanent credit types.

The PACM adopted the standard on non-permanence last year; early drafts sought to introduce much higher thresholds for monitoring and compensation periods for activities under the PACM, with an expectation that reversal risk be managed on multi-decadal timescales, or until the risk of reversal can credibly be demonstrated to be negligible. However, the adopted standard pushed key decisions on non-permanence risk management, such as the definition and estimation of negligible reversal risk, down to the methodological level. At the same time, other tools —including a reversal risk assessment tool and a concept note on reversal risk remediation — are still being developed.

Managing risks associated with permanence, reversals, and disturbances

For the purpose of developing principles that the EU should use when evaluating credits, durability should be considered on a *spectrum*, not via a binary (permanent vs. non-permanent) system.

The reasoning for this is rooted in the IPCC, which recognizes that carbon storage spans a range of durations, and that different durations can play meaningful roles in mitigation pathways (IPCC, 2023). Short- and medium-term storage (20–100 years) have real merit; these solutions help to buy time for long-term structural decarbonization and for higher-durability removal options to mature and scale.[21]

Additionally, there are various options the EU can consider to mitigate reversal risk. Buffer pools are currently the most commonly utilized and scientifically robust approach employed by most carbon markets. Work is ongoing under the ICVCM and with carbon crediting programs to further deliver guidance on both a) stress-testing buffer pool requirements for systemic reversal risk events and b) ensuring transparency over buffer pool contents and assessment outcomes.

Beyond buffer pools, there are additional novel strategies under development that the EU could consider. This includes an insurance policy, which could be triggered in event of a reversal. Insurance companies, including niche insurers, have been active in the market developing policies for carbon market operations. Additionally, the EU could consider a fund-based approach, which would essentially tie credit sales to a trust fund that could then purchase additional credits in the event of a reversal. Under the ICVCM work program on permanence, for example, American Forest Foundation (an NGO but also project developer) and Kita (an insurer) have partnered on defining the parameters for such a permanence fund approach. The potential involvement of a sovereign buyer in endorsing and backstopping such approaches would render these approaches much more viable in essentially providing the "negligible risk of reversal" that Article 6.4 targets. The EU as a sovereign buyer could also agree to take on the management of reversal risk by committing to buy replacement credits if necessary.

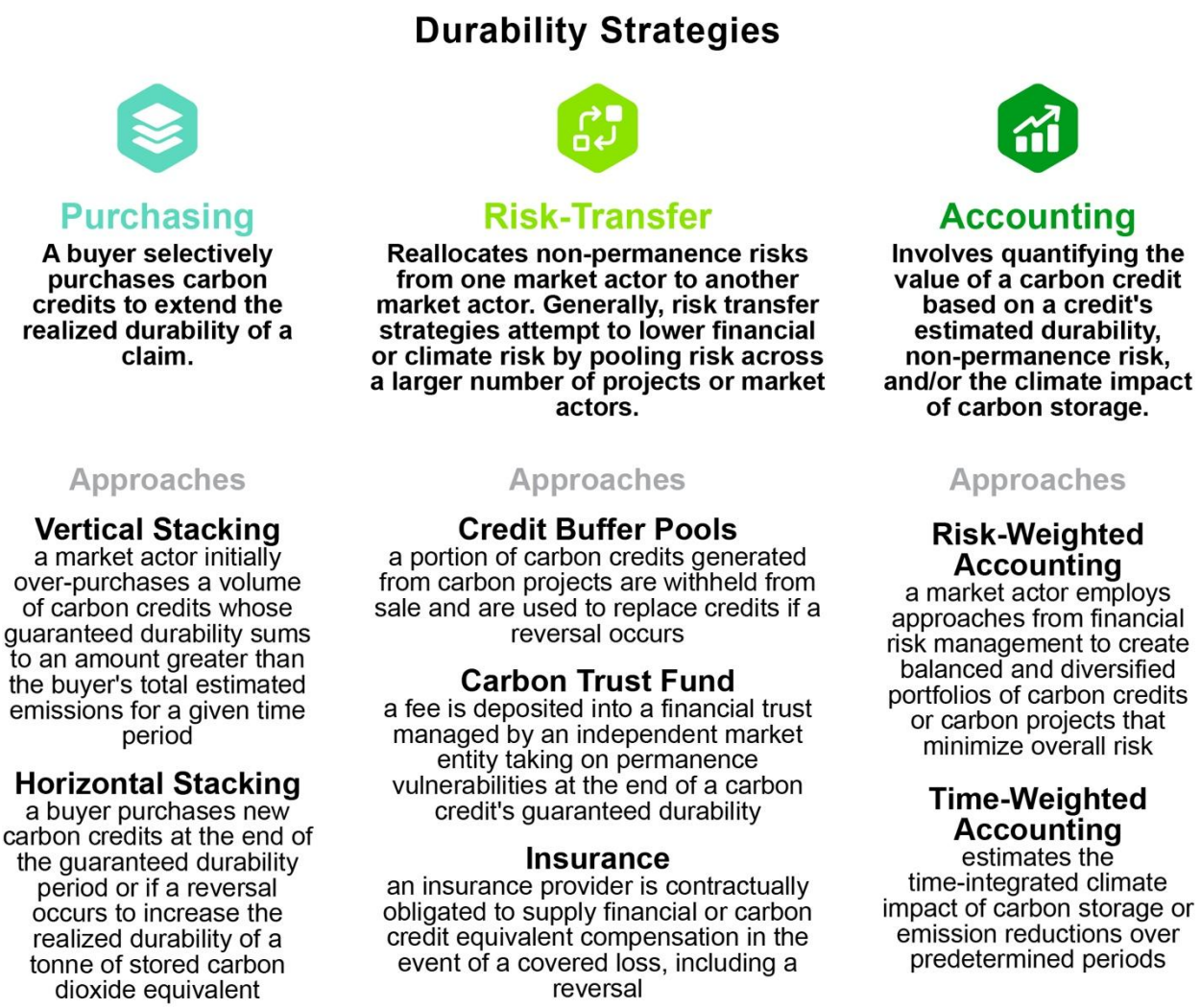


Figure 1: Approaches for managing durability in carbon markets can be generally organized into three strategies: purchasing, risk-transfer, and accounting. (Source: Gupton, S.D., Kuebbing,S., Thyr, I., Kirchner, M., Notto, R., Riley, L., Anderegg, W., Cook-Patton, S.C., Truitt, N., Dhond, A., Gurwick, N.P., and the Beyond Buffer Pools Working Group (2026) Buffer Pools & Beyond: Unifying Terms and Approaches for Durability Strategies in Carbon Markets. Science for High Integrity Frameworks to Transform Carbon Markets (SHIFT-CM) White Paper).22

Different standards and sovereign buyers have taken different approaches to managing non-permanence, highlighting the myriad options already in the market to mitigate reversal risk. The below table highlights existing non-permanence approaches in the market already, which the EU could draw from when determining its own non-permanence approach.

	Approach	Summary	High level summary
ICVCM	ICVCM created a set of "Core Carbon Principles" (CCPs) to assess methodologies, which includes a permanence section.	ICVCM's permanence requirements use CORSIA as a basis and then add additional requirements. These include a minimum of 40 years for monitoring & compensation (matching with the latter half of CORSIA's requirements) and additional details around how to calculate reversal risk and how to ensure full compensation via buffer pool reserve.	CORSIA + additional requirements Buffer pools
CORSIA	CORSIA created a set of "Eligible Emissions Criteria" (EECs) to assess methodologies, which includes a set of questions around permanence.	CORSIA requires eligible methodologies and projects to assess their risk, then monitor and compensate for reversals over 20–40 years (20 years for activities starting before 2027; 40 years for activities starting in or after 2027). All reversals much be fully compensated (1:1) with other CORSIA-eligible credits, meaning the buffer pool must track which credit types are included in it.	20-40 year monitoring and compensation; and full replacement of any reversals by an equivalent CORSIA credit Buffer pools
Singapore	Singapore has identified a general list of eligible standards and methodologies but then discusses which specific standards and methodologies are allowed per host country agreement. For example, Bhutan allows for ART/TREEs credits to be sold to Singapore, while Ghana does not. Relevant NCS methodologies recognized by Singapore: ART/TREEs and VM0047 (ARR) by Verra VM0048 (REDD+) by Verra	Singapore allows for all ART/TREEs credits, but has placed additional restrictions on Verra's VM0047 and VM0048 with regards to permanence. Specifically, eligible Verra projects must be: 1) nested public-private partnership within a jurisdictional REDD+ system OR through Verra's long-term monitoring system which launches in 2026), 2) or must be validated with data from an independent source (such as national inventories or Global Forest Watch).	ART/TREES is recognized as eligible in both ICVCM and CORSIA. Verra's M0047 and VM0048 are recognized under ICVCM. VM0047 is allowed into CORSIA, but only for micro (<7000 tCO2e/year) projects. VM0048 is potentially allowed into CORSIA, as long as it is part of a nested JREDD+ program under Verra's Jurisdictional and Nested REDD+ (JNR) Framework.

Japan	Japan's Joint Crediting Mechanism, which was created prior to the Paris Agreement, creates its own methodologies —and these methodologies are unique to each JCM country partner. That means that Laos's REDD+ methodology is slightly different from Cambodia's REDD+ methodology.	There is no required monitoring or compensation; instead, to address reversal risk, the program must apply discounts (e.g., Laos's methodology requires a 30% discount) on total issued credits.	Have not applied for recognition under ICVCM or CORSIA but likely would not gain approval based on current permanence requirements.

In sum, the criterion on permanence should not be misconstrued as a means of excluding activities with the possibility of reversal risk given the many risk mitigation strategies that exist to minimize and account for reversals. This is especially true when considering nature-based solutions in a broader context: these represent large-scale, low-cost mitigation potential that can be scaled up rapidly, with notable co-benefits. The relatively low-cost, scale, and availability of nature-based solutions argues for a portfolio approach that combines emission reduction pathways. Varying degrees of permanence provide distinct, quantifiable climate benefits. Permanence criteria should consider how long carbon is stored, at what scale, and how effectively eventual losses are compensated for.

Recommendation: Reversal risk is a governance and market-design problem, solvable with tools that are available and that policymakers can mandate; it is not a justification for excluding nature-based solutions and other less durable solutions from crediting. Recognizing co-benefits (i.e., rewarding projects that deliver meaningful biodiversity, water, resilience, and social outcomes) and supporting balanced removals portfolio across the durability spectrum are essential.

6.4 Human rights

As noted earlier, the other area that the Climate Law requires to be given special regard when complementing Article 6.4 criteria is human rights. As such, the EU may wish to add additional criteria around human rights and Indigenous Peoples' rights to complement what is already

required under PACM's Sustainable Development Tool. This tool includes the following elements:

- Environment and Social Safeguards Elements and Criteria: Energy; Air, Land and Water; and Ecology and Natural Resources
- Social safeguards Elements and Criteria: Human Rights, Labor, Health and Safety, Gender Equality, Land Acquisition and Involuntary Resettlement, Indigenous Peoples, Corruption, Cultural Heritage

However, these requirements are often applicable to the PACM project, not the host country. Thus, the EU could supplement these requirements; for example, while Free, Prior and Informed Consent (FPIC) is required for any PACM projects, the EU could require evidence of national FPIC frameworks in place within the host country and/or a recognition of Indigenous land rights. Additional host country requirements could include national laws, frameworks and/or support for: FPIC implementation; local livelihoods, including labor rights and benefit-sharing protections; and human rights protections. Under the ICVCM, for example, there is a body of work on assessment of FPIC frameworks in place at project level and within jurisdictional programs.

There is a large body of research around these topics that the EU could consult when determining additional criteria; the key here will be the need to balance ideal scenarios against real-world scenarios. Very few countries will likely meet all of these criteria, so the EU should think carefully about how to apply these criteria, as well as working with host countries to support their ability to meet requirements in the future. In particular it needs to decide if these requirements constitute a strict barrier where countries are either allowed in or not, or is it rather a journey, where countries progress toward certain criteria.

Recommendations: The EU should recognize complexity while maintaining integrity. The EU should develop a framework that pushes for enhanced human rights protections without becoming so stringent that it only validates a handful of wealthy nations while excluding the countries where carbon market finance might matter most.

6.5 Host country criteria

Several of the Climate Law criteria can be best understood as applying either fully or in part to the host country and not a particular credit. Most notably, the first criterion refers to countries that have set out emission reduction trajectories that are compatible with the Paris Agreement targets. Evaluation against these criteria call for setting up country-level eligibility criteria. These criteria would assess whether host countries possess the institutional frameworks, policy commitments, and governance structures necessary to ensure that carbon credit generation aligns with broader climate objectives. This approach represents a more systemic assessment of risk and quality than project-by-project evaluation alone. Country-level eligibility provides a first filter that concentrates due diligence resources on projects in countries that meet minimum standards.

Clear country-level requirements also create leverage for broader policy alignment beyond carbon markets specifically. The prospect of accessing EU carbon credit demand (potentially representing significant revenue streams for developing countries) could provide an incentive for countries, to strengthen their climate governance, improve transparency, enhance social and environmental safeguards, and align with EU priorities on issues like biodiversity protection or just transition principles. The EU may also wish to consider prioritising countries that align with other EU policy priorities, such as trade, security, or other strategic interests. The EU can therefore leverage its purchase of international credits as a key arena for climate multilateralism, as well as an opportunity to anchor climate diplomacy within a broader diplomatic framework, drawing connections between climate and energy, trade, and security.

Country-level criteria under Article 6

The summary of the criteria laid out in the table below lays out the underlying rationale. In essence, these barebones requirements under Article 6 relate to the accounting framework of the Paris Agreement and are not specifically tied to any quality or environmental criteria. All together these criteria allow for traceability across the Paris Agreement accounting and reporting framework of mitigation outcomes under Article 6. These participation requirements are essentially: a Party must be a Party to the Paris Agreement and must have prepared and communicated its NDC and produced its initial report thereunder, set out how it is aiming to use

and participate in transactions of ITMOs, ensure the tracking of ITMOs and ensure the availability of its national inventory (without which, a comparison cannot be established between the NDC and the ITMO transfer and an emissions balance cannot be finally reported to the UNFCCC). These are therefore minimum host country requirements by the EU. With some exceptions for LDCs and SIDs, all Article 6 trades must meet the requirements set out Table 2 below.

Requirement	How to prove compliance
Party to the Paris Agreement	Provide a link to the United Nations Treaty Repository, highlighting its ratification, acceptance, approval and/or accession date.
Prepared, communicated, and maintained NDC	The NDCs prepared and communicated by Parties are available in the NDC Registry, and a link to the most recent NDC could be included in the initial report to demonstrate this participation requirement.
Arrangements in place for authorizing the use of ITMOs towards achievement of NDCs pursuant to Article 6, paragraph 3	There is no single model to be used across the participating Parties, but common information may include: • Name and contacts of the institution(s) responsible for the authorization; • General description of the authorization procedures; and • Legal background used for the authorization
Arrangements in place to track ITMOs	Arrangements may differ depending on the choice of registry. The information used to explain arrangements in place may include: • Name of the registry used by the participating Party; • Name and contacts of the institution(s) responsible for the registry; • General description of the registry procedures and how they are consistent with the accounting requirements, including the corresponding adjustments, reporting of information for the Article 6 database, and the structured summary; and • Legal background used for tracking
A recent national inventory report	In accordance with decision 18/CMA.1, the most recent national inventory report will only be available once the BTR is submitted. Parties have until 31 December of 2024 to submit their first BTR. In the meantime, participating Parties can refer to the latest national GHG inventory submitted under the UNFCCC: national GHG inventories of Annex I Parties and national GHG inventories of developing countries via national communications and/or biennial update reports.
Participation in Article 6 contributes to the implementation of the country's NDC and long-term low-emission development strategy (LT LEDS), if applicable, and the long-term goals of the Paris Agreement.	Finally, the contribution to the implementation of a Party's NDC, long-term, low-emission development strategies (if available) and the long-term goals of the Paris Agreement could be demonstrated by describing how the Party understands that the cooperative approaches contribute to (i) the NDC targets, long-term goals (if available); and (ii) the goal of holding the global average temperature increase to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels

Importantly, these requirements do not require any international judgement on the specificity of national commitments or their level of ambition. In fact, experience to date regarding the review of the few initial reports submitted by Parties under the NDC emphasize further the limitations of what is essentially a facilitative process. Under such — legitimate — constraints, it falls to each Party to a transaction to ensure in its own terms the level of ambition and the relation to the host country and buyer country NDCs and national commitments. This in turn presents a potential role for an important buyer such as the EU in fostering an overall increase in ambition in NDCs. The EU could signal in its overall guidance, bilateral agreements, and multilateral engagements on how it would view and assess the ambition of host countries and conditions for bilateral trading. This assessment can be informed by several political considerations, including most prominently the consideration of the impact on the environmental integrity of the Paris Agreement, as reflected in assessments such as those of the Climate Action Tracker.

Host-country selection could also be guided by broader diplomatic priorities. In the midst of a rapidly changing geopolitical landscape, strengthening bilateral partnerships through crediting could fit into a broader strategy of EU's multilateral leadership, spanning across climate and environment, as well as trade, security, and development. Embedding carbon credit purchasing in climate diplomacy could also mean increasing cooperation with the most climate-vulnerable countries, including LDCs and SIDS, where high-integrity nature-based solutions such as green and blue carbon are likely to be critical both for mitigation and for adaptation co-benefits.

Recommendations: When evaluating these requirements, the EU may wish to establish and assess additional details around the specificity and ambition of the NDC targets, and/or LT LEDS targets (with preference for well-below 2C pathways and/or economy-wide reduction targets), and consistency with NDC implementation (favouring countries with consistent policy implementation track records). Beyond enhanced transparency and ambition under the UNFCCC framework, the EU has an opportunity to leverage bilateral agreements to promote wider climate and trade diplomacy, embedding credits purchasing within a broader effort to strengthen strategic partnerships.

7. What types of credits should the EU buy?

7.1 The limitations of today's credit supply

The Climate Law does not offer any guidance on what types of international credits the EU should buy. In other words, all credits are eligible as long as they are of a high quality – as in, if they meet the criteria described in Section 0. In addition to meeting the criteria, the credits will also need to be plentiful enough to meaningfully contribute to the EU's needs, and they also need to have a cost-effective price. In the following, we will look at these constraints in detail.

The present supply pipeline in international credits is shaped by the dominant demand forces of the past ten years. It relies heavily on both renewable energy and project-based avoided deforestation credit types. This reflects both the overhang from the initial wave of carbon credits under the Kyoto Protocol and the second wave of carbon credits with emphasis on avoided deforestation. For different reasons, both these project types came under intense scrutiny and critique, leading finally to an overall sharp retraction of the market in 2021–2022, with prices for these project types collapsing, and dragging with them overall transaction volumes and mitigation outcomes. Looking therefore at existing market conditions is a bit like looking in the rearview mirror – it does not give an indication of direction of travel.

Consequently, at present, the carbon market would not generate enough credits to supply the EU's future needs. Figure below gives an overview of the voluntary credit market today. (The Paris Agreement Article 6 framework has only transferred symbolic amounts so far.) In 2025, the voluntary carbon market has issued about 276 million credits.[23] However, only 10%[24] of credits issued were using a methodology that was approved under ICVCM's Core Carbon Principles (CCP) label (which should be regarded as a proxy for the minimum level of quality the EU will likely seek in its purchases). This is only in part due to the CCP labelling process being still relatively recent. Many current credits have quality problems: ICVCM considers all current renewable crediting methodologies, largely based on the old CDM methodology, to fail its assessment on both additionality and lack of robust accounting reasons, and a third of all credits available today are from renewables.[25] In addition, avoided deforestation methodologies were

not even submitted to the ICVCM for assessment, as the program concerned found it wiser to substantially change its own methodologies and introduce much tighter baselines in order to meet market (and ICVCM's) expectations[26].

If we consider that the EU will probably not be the only source of demand for high-quality credits in 2036–2040, it is clear that many more high-quality credits will be needed in the future. This speaks to the importance of early clarity in providing a demand signal that the market can respond to: the considerable lead time for bilateral government agreements and framework conditions, methodology development and calibration, project development, validation, and verification speak to timelines of 5–10 years to get credits generated. This in turn means that the pilot phase must be effectively considered as having already started.

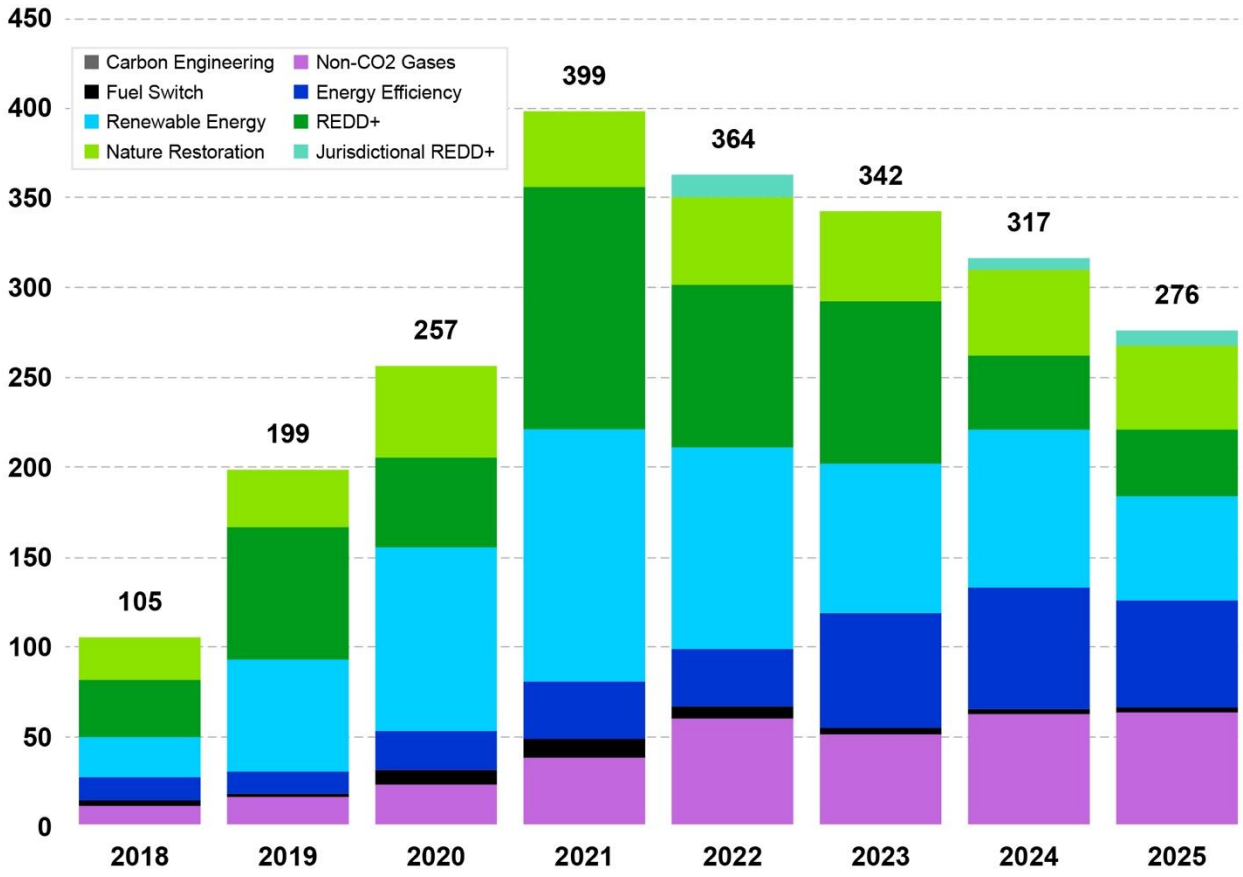


Figure 2: Annual issuances by project type (MtCO2e) (source: MSCI)[27]

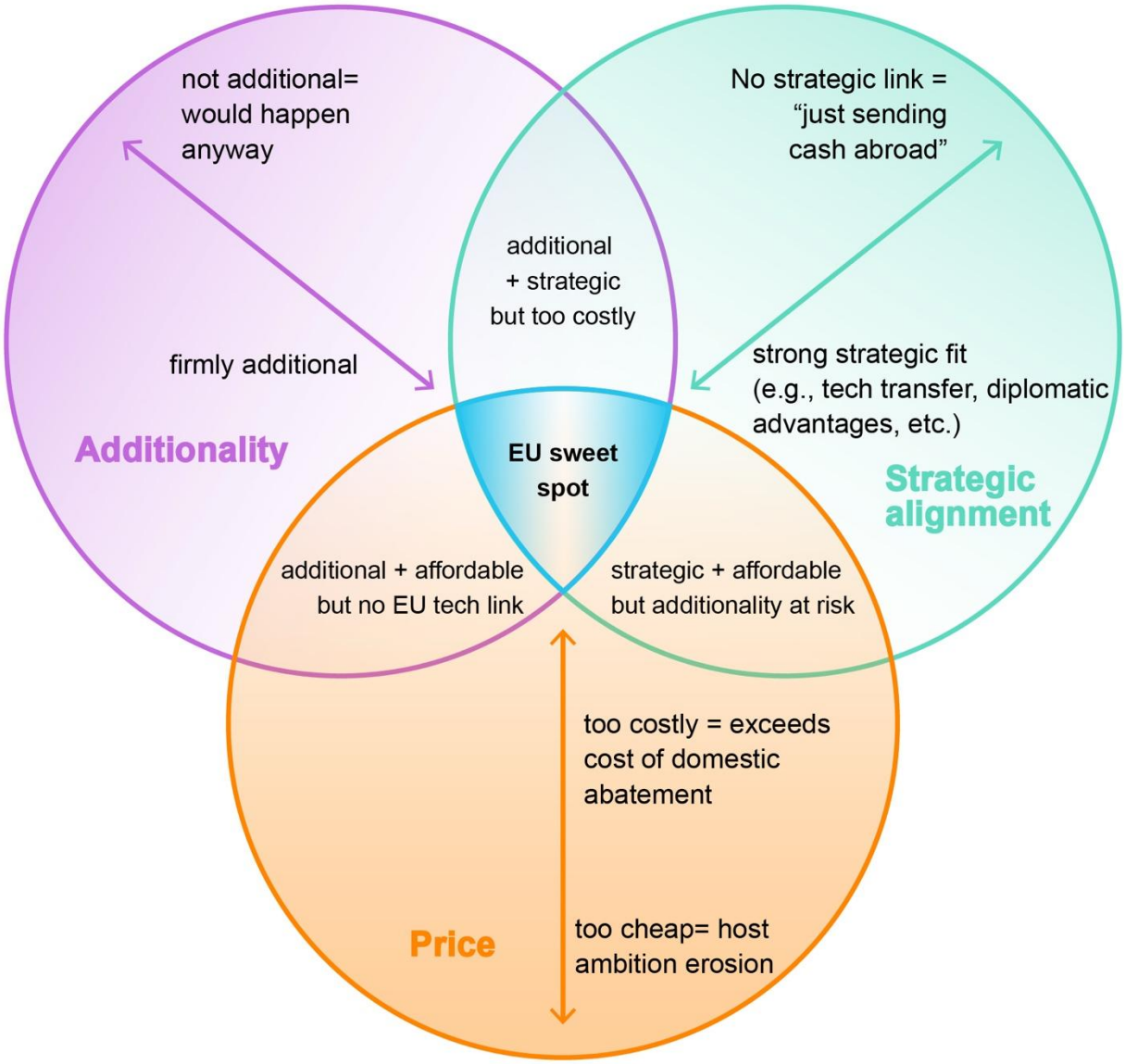
Another issue with credits currently available on the carbon market is the project size. In 2025, the average number of credits issued by CCP-approved projects was about 100,000 tons.[28] As the EU is planning to import an annual average of 140 million credits, this project size would mean that the EU would need to assemble and continuously monitor about 1400 projects, which will have huge transaction costs. In turn, this means that the governance of this pipeline is best managed through gatekeeping provisions, rather than development of its own standard, as well as reserving a window for project types that deliver larger quantities of credits — and these tend to be nature-based solutions. The median project size among current projects is up to several millions for Jurisdictional REDD+ and peatland projects, and between 200,000 – 300,000 for CCUS, N2O, Avoided Deforestation, and SF6 projects. It is notable that in Japan's JCM projects the average annual crediting from non-renewable technology projects is a minuscule 3700 tons.[29]

Price is another important consideration. As indicated in our assumptions under Section 2, we expect that the average purchase price for credits should be between €50 and €100. This range rules out buying significant quantities of Direct Air Capture (DAC) credits, as their current benchmark price is around $500.[30] High-quality credits of other types also come at a price premium: a BBB-rated ARR-credit has an average price of over $40, compared to a C-rated ARR-credit which only costs $8.[31] A CCP-label can translate to a price premium of "up to 25%."[32]

Finally, an important consideration of the EU's credit purchasing strategy is the size of the globally available crediting space. By crediting space, we mean those credits that a host country can afford to export and still be able to progress towards its NDC under the Paris Agreement. According to a recent report,[33] many countries are overcrediting, i.e., issuing or planning to issue credits despite a lack of a clear and up-to-date NDC or a comprehensive inventory — thus potentially exporting the low hanging fruits of mitigation. A large proportion of credits available today are probably resulting from over-crediting. The EU's host-country criteria described under Section 0 are intended to avoid such credits by ensuring that credits are only purchased from countries that are implementing the Paris Agreement properly. One way of addressing this risk is to share benefits from project activities, i.e., allowing host countries to retain part of their mitigation outcomes within their emissions balance or national inventory. Note however that

this only minimises the problem, it does not solve it. In order to address this issue more head-on, the EU may wish to provide conditionality of its engagement on the premise of increased future ambition in next-cycle NDCs.

The diagram below gives an overview of how the various considerations overlap to highlight the "sweet spot" where the credit suitable for EU purchasing could be found.



7.2 Technology in the mid 2030s and the EU's role

The above considerations effectively rule out standalone renewable energy in the mid-2030s – they are both firmly additional everywhere and should be prioritized for domestic abatement. There are however novel approaches such as energy transition or storage technologies that may still be additional, if only for a limited time. Most other energy or industrial projects credited today will likely have similar additionality issues. Some of the prime candidates for an EU procurement strategy should be nature-based credits, as they have well-established techniques for providing a large amount of credits in a short time at an affordable price.[34] They also have significant co-benefits for biodiversity.

In sum, none of the currently available crediting solutions are ideal for the EU's purposes. Permanent removals are likely to be too expensive, most energy projects are not additional, small or limited in potential, and nature-based removals can do little to promote European technology — while they may contribute to European corporate engagement in supply chain management and as such be an important lever for European corporate engagement. The EU should therefore consider what other potential crediting approaches could be developed. The world in 2036 will be very different from today: new crediting opportunities might emerge, while others pass into the realm of non-additionality. In the following, we will look into our crystal ball to consider i) the state of technology in the mid 2030s, ii) the position of European technology iii) the upsides of organizing crediting as an intergovernmental activity. We will then use these findings to think about innovative crediting pathways for the EU.

Technological futures: The world's clean energy sector is expected to triple by 2035[35]. By that time most clean energy solutions will be commercially more attractive than the fossil alternative. This is already true of electricity, heat pumps, electric vehicles, and will come eventually for a part of shipping and air travel. Thus, by the mid-2030s, the decarbonization of energy use will not be about finding clever ways (e.g., carbon credits) to make an uneconomic investment attractive. It will be rather about speeding up the investment cycle, getting rid of old polluting equipment, and accelerating the deployment of new (clean) equipment.

A notable exception is industrial decarbonisation where some products will still carry a "green premium" in the mid-2030s, i.e., they cost more per unit than the fossil-based alternative. Whereas, green steel is expected to be cost-competitive with fossil-based steel by the mid 2030s[36], green cement and green aluminium will still remain a costlier alternative.

In the coming decades, most decarbonization will happen through electrification — in households, transport, and industries. This will require massive increases in the generation and distribution of renewable energy. Apart from the availability of capital, we expect that the most important bottleneck in speeding up decarbonization will be transmission grid capacity constraints, which is a global problem and one that is expected to persist for decades to come. As energy generation projects become unavailable for crediting, attention will inevitably shift to emission reduction opportunities outside energy, in particular to reducing methane emissions in oil and gas mining and in agriculture. Finally, over the next ten years, the cost of technological removals will likely drop significantly,[37] but they will still cost over €100 and thus be beyond the EU's price range.

The EU does have competitive technologies: Although China has taken the lead in most green technologies in the past decade, Europe still has some strong positions.[38] The EU is building the over half of all airplanes, a quarter of all wind turbines, a third to a quarter of electrolyzers, and most industrial heat pumps. The EU is also a world leader in grid technologies (cables and transformers) and has strong positions in industrial heat recovery and carbon capture and storage technology. Generally, the EU is strongest in costly, complex, bespoke, high-end technologies where there is a lot of IT integration. It cannot keep up with China when it comes to low-cost, mass-produced, commoditized products. The EU's competitiveness profile is not likely to change in the next decade.

An EU-led crediting program has key advantages over crediting organized by the private sector: the EU as a large sovereign buyer has a broader range of tools at its disposal than a traditional private sector project developer. The EU can deploy blended finance, where development aid, capacity building support, credit guarantees, and export finance are rolled into a single vehicle that will generate — among other benefits — carbon credits. Japan and Korea are already

mixing their development aid processes with carbon crediting, and the EU and Member States also have some experience in blended finance.[39] The EU also has better chances of succeeding at jurisdictional crediting (where climate benefits are counted across an entire economy and not just the actual project) or crediting based on a program of activities (where a large number of interventions are credited in one go). Such crediting becomes much more credible if the buyer is also a government, not just the seller. Finally, the EU has the legal authority to take decisions on the dilemmas related to evaluating additionality[40] or permanence which means that it might consider crediting approaches that were thus far considered not feasible.

7.3 Innovative crediting pathways

With the above considerations in mind, let's explore the most promising crediting future pathways. These avenues are not promising because they exploit some new technology — it is very hard to guess how fast those will emerge. They are promising because i) there is European technology involved; ii) they are likely to be additional in the mid-2030s; and iii) they can be better organized through intergovernmental cooperation than through the private sector. None of these options are particularly cheap or easy to unlock. That is just as well, because if they were cheap or easy then they would not be additional or would result in overcrediting. Note that this is a very basic feasibility assessment; a detailed analysis of costs, opportunities and risks would be needed for a proper evaluation for the EU's options.

- **Coal transition projects:** One of the most important levers of decarbonization is drawing down the huge amounts of coal still burned in large Asian countries. India and Asian countries consume more twice as much coal as the EU, US, and Russia combined. One estimate says that phasing out coal in Asia (outside China) could yield around 1 billion tons of credits a year[41]. Coal transition crediting could also be interesting for the European neighbourhood where some countries (e.g., Serbia and Kosovo or Türkiye) are using a lot of coal. Price estimates for transition credits are very uncertain, but they are all below EUR 50, even after adding costs related to addressing social issues.[42] Coal transition crediting is by no means easy however: there are serious questions around additionality that need to be addressed: coal plants do not stay open or close based on economics only —a lot of politics is involved. Paying coal plants for closure could even create a perverse incentive to keep

operating for longer[43]. The closure of coal plants also creates significant social problems that require addressing. An advantage of coal transition crediting is that it is very suitable for being negotiated through bilateral agreements between the EU and host countries. "Suitable" does not mean "easy" however, as the recent failure to close a plant in Indonesia as part of a Just Energy Transition Partnership shows.[44] Coal transition projects could be also used to help the spread of European technology if e.g., the host country is required to use crediting revenues for grid development or wind power investments.

- **Investing in electricity grids:** As noted earlier, the expansion of power grids is a major decarbonization bottleneck.[45] Grid building is rarely commercially attractive and thus tends to be neglected, causing the long interconnection queues. Developing countries are also suffering from high-transmission losses on their existing grids. The EU is a major supplier of grid technologies, especially in the area of HVDC transmission. Grid investment is also ideally suited for bilateral intergovernmental agreements. At present there are no methodologies for large-scale, jurisdiction-level crediting of grid investments, these would need to be developed. The price of credits generated this way is strongly dependent on the carbon intensity of the fossil generation that is being displaced, but preliminarily calculations show them to be potentially affordable.
- **Industrial decarbonization:** This is an area offering multiple potential crediting pathways.
    - The EU is a dominant technology provider in the area of industrial heat pumps, and while the technology is more and more commercially attractive by the day, there will still be some applications (e.g., for temperatures over 200°C) where they will be probably still additional in the mid 2030s and provide credits at an affordable price. However, as the unit size of heat pumps is small, such crediting would need to be implemented as a program of activities.
    - The EU could also obtain credits from the building of new large clean industrial facilities using European technology, such as green cement, or hydrogen-based green steel or chemicals. In these cases, crediting could be based on unit of green product sold. The "low-carbon" nature of the product could either come from using CCS, using hydrogen or some novel technological process. (Heidelberg Materials opened a CCS-equipped cement plant in Norway in 2025[46], which shows that they have the

technology that they could export if they had the right incentives.) Supporting large investment projects works well in the context of bilateral agreements. A key risk with such projects is the products might compete with existing European producers.

Another key area is methane abatement which, while not a new crediting sector, will increase in importance as energy projects become non-additional:

- **Municipal Solid Waste Management:** There were almost two million landfill credits issued in 2024, mostly in the US. This is a very promising opportunity: EU businesses have strong technological positions in these activities, the potential for crediting is huge (over 700 million tonnes per year according to one paper47) and not too expensive and there are existing methodologies. MSW projects will require strong government-to-government cooperation, especially as individual projects are not too large (about 100 000 credits per year). The key concern is whether the host country would not rather exploit these reduction opportunities for its own NDC — although waste management is usually the type of public infrastructure that is difficult to find money at home.
- **Methane abatement in cattle farming:** This is another area where EU firms are technology leaders, producing additives that can significantly reduce methane emissions from cows — although we should note that these technologies are fairly new and are not yet entirely reliable. The scope for crediting is quite large, entering fermentation in cattle produces billions of tonnes of emissions in CO2eq. Only a portion of this can be credited as the monitoring is really only feasible in large industrial operations. The credits are not particularly costly, and there are existing methodologies. The additionality case is solid as reducing these emissions will not bring in extra revenues.

Develop a complementary system-wide approach. The EU has an important role to play in innovating and creating a new "jurisdictional" model for crediting at scale under Article 6. that rewards effective public policy as well as direct mitigation actions. Project-based approaches may not be sufficient to generate the number of credits the EU would need. They also might prove to be unable to mobilize the mitigation potential of low- and middle-income countries.

For example, parthways such as electrification, may make the most sense as a sector-wide, "jurisdictional" approach that can embed necessarily policy changes into the overall crediting approach. The Energy Transition Accelerator Framework aims to create a jurisdictional standard that would quantify emissions reductions across a jurisdictions power sector, which could encompass coal transitions, electrification, and grid infrastructure investments holistically. However, this Framework was jointly supported by the US Department of State, and progress has stalled in the wake of administrative changes in the US.[48] These are just two examples of how innovative crediting pathways may require alternative crediting models that go beyond pure project-based crediting. Additional consideration of these pathways should occur later this year, in 2026, via PACM, as the Supervisory Body is expected to release a Concept Note on Large-Scale Crediting, which would "*undertake consideration of eligibility of. . . In the context of piloting or adopting such systemwide approaches, the EU could consider allowing the purchase of credits from other national emissions trading systems — effectively treating these systems as they were projects. Other types of activities such as a policy, jurisdictional, or sectoral program to incentivize increased ambition and mitigation at a large scale…*" [49] In the context of piloting or adopting such systemwide approaches, the EU could consider allowing the purchase of credits from other national emissions trading systems — effectively treating these systems as they were projects.

There are also some crediting options that would probably not work:

- **CCS in energy:** The EU has strong positions in CCS technology, and there are available methodologies for such projects.[50] However, such credits would probably be fairly costly, and they would also come with the political risk of the EU being seen as perpetuating fossil use. Such projects would also not align with ICVCM or CCQI.
- **HFC destruction from end-of-life equipment:** There is a lot of low-cost and evidently additional potential in this area, alongside some European technological capabilities, although organizing the collection of HFCs is not easy. That said, HFC destruction is a typical low-hanging fruit that should be left for the host country's own NDC. Furthermore, HFC destruction requirements are becoming progressively stricter, and thus such projects might leave the realm of additionality by the mid 2030s.

- **Airplane fleet renewals:** The EU is very strong in airplane production, with Airbus responsible for over half of global production. Airplane fleet renewal itself is not additional, as it is hugely profitable to buy new and more efficient planes — at present, there is a six-year queue for new planes[51]. Fleet renewal could be additional in LDCs and SIDS with aged fleets and no financing for new planes, but this would require the EU to also provide financing for the purchases. What is more, such projects would only lengthen Airbus's backlog.
- **Electrification of trucking:** The EU is an important supplier of both trucks and the grid solutions needed for large-scale truck electrification. Buying electric trucks is also likely to remain additional in poor countries for at least a decade, so this could be a promising avenue. There are two difficulties, however: i) China produces cheaper trucks and is more advanced in the charging infrastructure; ii) this is likely to be a fairly expensive way of reducing emissions (certainly over €100/ton).
- **Contrail avoidance through flight path diversion:** Avoiding contrails is a potentially very cheap way of reducing radiative forcing and thus reduces global warming, although the measurement methodologies are still under development. There is also a lot of European technology and know-how involved. There are several problems with its crediting, however. The most important ones are related to accounting: international flights are not under the inventory of any UN Party, which means that no corresponding adjustment is possible at present. Thus, the world would probably need some multinational agreement on how to credit these — and given that contrail avoidance is fairly cheap, if countries do start negotiating this, they might instead choose to make this part of a mandatory flying protocol and recognize the positive impact for their own NDCs.

8. A portfolio approach to purchasing credits

As we have seen, the EU's credit purchases will need to meet a variety of requirements on price, volume, political acceptability, and diversification of risks. Therefore, the EU, will need to put together a credit portfolio consisting of the following key components:

- Technological removals, which are rather expensive, but the EU should generate some demand for it to help its infrastructure development and scaling as an industry that we will certainly need after we reach net-zero.
- Nature-based projects, which require innovative solutions to ensure permanence, but are needed because they can generate large volumes of credits at affordable prices relatively quickly.
- We also need projects that deploy European technology because such projects anchor the credit purchasing program in the EU's competitiveness agenda and make credit purchasing politically acceptable

Credits should also come from a broad range of countries and project types in order to make the EU less exposed to the bad performance of a particular project or to political changes in a particular country. Furthermore, the average credit price of the portfolio should be comparable to allowance prices in the ETS. The portfolio composition should be set as a broad objective and not as a strict proportional target because diplomatic and technological developments will have a strong impact on eventual purchases. The EU should also avoid setting an order of preference in credits (e.g., mitigation is better than removal, or vice versa) because any ranking would undermine the principle that each credit is of a high-quality and represents an equal level of integrity.

In practice, the EU's portfolio will also be shaped by which crediting methodologies it adopts or approves and when it does so. The EU could give indications about its intentions by providing a multi-year work program of methodologies to be adopted or developed — this could function as an indicative "whitelist". In our view — unlike in the era when the EU ETS imported CDM

credits — there is no need for an express list of project types to be excluded, as the EU is able control the types of credits permitted through the adoption or approval of methodologies. In any case, whether a project is of high-quality or not depends less on the project type but on the individual characteristics of the project.

9. Conclusion

With the demand created by the 2040 target, the EU is poised to be a key player in the international carbon credit market in the coming decade. It must embed this in a wider European diplomatic effort and can leverage this opportunity to promote European decarbonization technologies, provide for climate-resilient European supply chains, build partnerships that increase climate ambition, and achieve environmental integrity in tandem with other priorities.

The EU must now decide which architecture to build to develop its crediting pipeline. Quality and timing considerations argue for the quick implementation of a lean but robust approval system, leveraging existing efforts of organizations which already act as “gatekeepers,” notably the ICVCM and the PACM, while maintaining a critical review role, that can feedback EU integrity and quality expectations to these bodies. The EU should not rely on any single “gatekeeper” but ensure there is a diversity of credits available from across standards.

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