# CDR in the EU ETS? No thanks.

## Why CDR integration in the ETS brings high risks and low rewards

CARBON MARKET WATCH

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# Key messages

- Permanent carbon dioxide removal (CDR) is a necessary climate tool that the EU will need to utilise to reach climate neutrality and net-negative emissions. But mitigation deterrence is a key issue: removals should not lead to a slowdown of emission reduction efforts and results. CDR must complement, not substitute, emission reductions.
- However, the European Commission's July 2026 EU Emission Trading Scheme (ETS) proposal falls short of these basic principles. Integration of removals in the ETS is undertaken to enable more emissions, rather than to scale up the CDR sector.
- Key safeguards in existing legislation meant to limit the use of removals for hard-to-abate emissions in both the ETS Directive (Article 30(5)a) and the EU Climate Law (Article 4(5)b) are completely ignored by the ETS proposal.
- The policy proposal builds upon key, untested assumptions that contradict scientific assessments of CDR. First: CDR and greenhouse gas emissions can be deemed equivalent. Second: CDR will become relatively cheap, reaching near price parity with ETS emission permits in the coming decade. Third: CDR will be relatively abundant, with 250 million tonnes of CDR delivered by 2040.
- To make matters worse, the proposal relies on the Carbon Removals and Carbon Farming (CRCF) framework, which is currently ill-suited to certifying real removals, especially from BioCCS.
- Rather than allowing more emissions to fund removals, the ETS should dedicate funding to scale up the CDR sector. ETS revenues can play a crucial role to contribute to a separate EU permanent removals target, while the ETS itself remains laser-focused on reducing emissions.

# Background

On 17 July 2026, the European Commission published its proposal to amend the EU Emissions Trading System (ETS) Directive. The proposal introduces several adjustments that weaken the climate ambition of the ETS by slowing efforts to phase out fossil fuels across the covered sectors. As it stands, the ETS revision proposal is at severe risk of being a barrier to achieving the EU's 2040 target, while undermining the bloc's 2050 climate neutrality goal.

Among the proposal's new elements, and for the first time in the history of the EU ETS, the Commission suggested integrating carbon dioxide removal (CDR) activities from BioCCS (Biogenic emissions Carbon Capture and Storage) and DACCS (Direct Air Carbon Capture and Storage), certified under the EU's Carbon Removals and Carbon Farming (CRCF) Regulation. More specifically, 250 million more pollution permits (corresponding to 250 million tonnes of $CO_2$ released into the atmosphere) will be auctioned under the system between 2031 and 2040 to supposedly finance an equivalent amount of CDR. On paper, this would mean the extra emissions (on top of the ETS cap, that is, the annual amount of pollution permits created, which decreases over time) will be cancelled out by a corresponding amount of permanent removals.

However, the applied logic does not stand up to scrutiny and is dependent on a series of questionable assumptions. The approach put forward by the European Commission will, in any case, allow for more industrial pollution and send the wrong signal to industry at a time when it is of the utmost importance to decarbonise urgently.

Reducing emissions is the key objective of the EU ETS, and much more work remains to cut climate pollution from ETS1 sectors to a truly residual level in the next decade. The current ETS Directive - Art. 30(5)a - established a clear safeguard for any CDR integration: the inclusion of carbon removals must "ensure that such removals do not offset necessary emission reductions". However, the current ETS revision proposal ignores this principle completely, as neither the legislative text nor its accompanying impact assessment defines what constitutes necessary emission reductions, and assumes that the integration of

removals creates “extra space for residual emissions” to enable so-called “cost-efficient abatement”.

## Does the EU ETS need CDR? The real reason behind the proposed integration

The EU ETS does not need carbon removals to operate until 2040. The results of a study commissioned by Carbon Market Watch and conducted by the Oeko Institute found that the EU ETS1 will not run short on ‘liquidity’ or ‘supply’ by 2040, even under the current rules that are significantly more demanding in terms of overall pollution permits than the ETS proposal. Sandbag also found that if emissions reductions by covered sectors take place, as foreseen by the S3 scenario in the EC 2040 target impact assessment, there would still be an oversupply of 157 million pollution permits (called EU allowances - EUAs) in 2040.

There is therefore no need for removals to add ‘liquidity’ to the EU ETS. Rather the opposite. The ETS is still dominated by fossil fuel pollution (representing more than 80% of emissions from covered factories and power plants). Adding more supply to the market is not only unnecessary for the ETS’s functioning, but it also hampers efforts to phase out fossil fuels.

Complementary non-market policies and measures, such as support schemes for clean breakthrough technologies and industrial emission performance standards, are required to prevent an unreasonably high carbon price signal that would require giving polluters an exemption, and have the potential to ensure that the required emission reductions are delivered in a timely manner, avoiding a lock-in in high-emitting infrastructure, while keeping abatement costs reasonable.

Carbon removals are needed to contribute to efforts to limit the climate breakdown. CDR is necessary particularly to compensate for residual emissions, but critically not only within the ETS sectors. Climate pollution from the whole EU economy (including sectors outside the scope of the ETS - most notably agriculture) will also need to be compensated by permanent removals to achieve climate neutrality by 2050.

Ultimately, CDR integration has two main objectives according to the Commission's impact assessment accompanying the ETS proposal: to ensure that the ETS achieves its net contribution to the EU target; and to avoid carbon leakage and protect the EU's competitiveness. Both these objectives ignore a key scientific principle: effective climate action requires both carbon removals and emission reductions - they must be complementary rather than a substitute. Allowing for more emissions in order to fund removals diametrically opposes this key principle and is reason enough to reject any short-term CDR integration in the ETS.

The real reason behind this element of the proposal seems to be to allow polluters the flexibility to continue emitting. Senior policymakers have even stated outright that CDR in the ETS should be done to push down carbon prices. Permanent removals won't do that, but their integration opens the door to cheaper and lower-quality offsets down the road - including biochar or options with high risks of reversals, such as forestry and soil carbon. This slippery slope may well be the end goal of some who push for integrating CDR in the ETS, and should concern everyone who champions the ETS as an effective climate tool.

Backing the development of credible carbon removals seems to be a very distant second priority. This is demonstrated by the Commission's lack of political will to find a less risky solution to finance removals through the ETS, for example, by earmarking removal revenues from the auctioning of existing allowances. A solution that, however, was used to secure funding for international carbon credits.

## Let's call it for what it is: Offsetting

The Commission's proposal is based on the broad and faulty assumption that permanent carbon removals and emissions are completely equivalent, and that the former can always be used to offset the latter. More specifically, the impact assessment presumes that a removal unit can (and needs to) fully and permanently cancel out the effect of emitting one tonne of $CO_2$, thereby replacing the need to pay for that tonne. While this approach can be used to justify exclusive use of permanent removals to counterbalance truly residual emissions, it loses legitimacy and credibility if used to justify continued, abatable emissions.

The truth is, a tonne emitted is not the same as a tonne removed: once released into the atmosphere, $CO_2$ emissions have permanent and often irreversible impacts on the Earth's climate, ecosystems, and people that removals cannot fully undo. In 2021, the IPCC concluded that a tonne of carbon removed from the atmosphere may have less impact on atmospheric $CO_2$ concentrations than a tonne emitted, due to interactions with land and ocean carbon stocks. Fully reversing the impacts of global heating with removals is also not possible (especially not on timescales relevant to humans). The human and environmental costs of increasingly severe droughts or storms cannot be undone, and sea-level rise could take millennia to reverse.

An extra layer of complexity is added when considering that removals are a weaker form of climate mitigation than not emitting in the first place. To function, they need extra sustainable biomass, land, clean energy and water - resources that are already under pressure - meaning their usage must be developed responsibly. They also require long-term storage (and linked - and likely costly - Monitoring, Reporting and Verification systems).

What makes matters even worse is that the EU cannot rely on the CRCF framework to certify real removals. The CRCF's permanent removals methodology is faulty to the core and risks certifying activities that add greenhouse gases to the atmosphere as removals (which, instead, should subtract them). Key concerns related to BioCCS and DACCS are that the CRCF largely ignores emissions from biomass supply by wrongly treating all biomass certified under the Renewable Energy Directive (RED) as zero-rated. The DACCS methodology lets companies greenwash their electricity use by setting overly generous accounting criteria for the emissions embedded in electricity they use.

So, removals are not directly equivalent to emissions, even when done well, but there is an additional risk to climate integrity and the climate value of removals used in the ETS: the CRCF may well certify projects that do not lead to removals at all.

Removals cannot and should not replace cutting abatable emissions, especially in the near-term. Support for sustainable, high-quality removals has to be considered additional to tangible action to decarbonise the EU's most polluting sectors. We have already missed the opportunity to limit global warming to the safer level of 1.5°C because of decades of deeply inadequate climate action. With immediate, rapid and deep emission cuts, it would

still be possible to limit peak warming to 1.7-1.8°C, and when adding removals on top of these cuts, warming could be returned to 1.5°C by the end of the century. The 'on top of' means both emission reductions and removals have to be scaled up at the same time, again, not either/or following an offsetting logic. However, continued delay in cutting global emissions would worsen the still-achievable climate outcomes: for every five years of delay, around another 0.1°C of warming will be locked in.

## A lose-lose solution

### Cap

The Commission's proposal suggests adding emissions "on top" of the EU ETS cap. The cap represents the annual supply of emissions allowances, and decreases year after year due to the so-called Linear Reduction Factor (LRF). As mentioned above, the Commission justifies this choice based on the perspective that removals-backed allowances would be fully compensated by removals, meaning the extra emissions do not have any impact on the atmosphere (again, an overly naive assumption).

However, in practical terms, this approach increases the total amount of emissions in the system (the "gross emissions"), with some of them supposedly balanced out by removals, which, as explained above, may still result in changes to the "net emissions" (as represented by the cap). The increase in the gross emissions negatively affects the transition of major polluting industries by making more pollution permits available. It also sends the signal that the climate transition is optional for polluters: removals will enter the system so emissions can continue.

Especially worrying is that the European Commission's proposal doesn't specify or prioritise which emissions will be compensated by scarce removals. By not choosing or even setting a framework for 'residual emissions', every industry - however difficult it is for them to actually decarbonise in the real world - can maintain that their emissions deserve to be compensated with removals. This can only lead to more emissions over time, enabled by the false promise of abundant removals.

In addition, increasing the number of emissions allowances in the ETS, regardless of whether they are offset by removals, affects the market price: with a larger supply, individual allowances are worth less. This, in turn, disincentivises companies from decarbonising earlier, as the price of polluting is depressed. Auctioning additional allowances could even lead to lower total revenues if prices are significantly depressed. This is a serious risk, considering the enormous volume of allowances the Commission plans to add to a system they are already trying to weaken in myriad ways.

A better solution to increasing the gross cap would be to simply include removals under the cap, an approach functionally equivalent to either earmarking auction revenues directly or auctioning a set amount of regular allowances to collect revenue for removals. This approach would ensure that CDR integration does not adversely affect the functioning of the ETS and the signals it sends to the polluting companies it covers.

## At risk of not delivering for the climate

An incoherent logic is applied by the European Commission to its planned funding of carbon removals. And that comes with a significant risk that the envisaged CDR procurement system will fail, resulting in the non-delivery of removals and, therefore, increased net emissions under the ETS1 (even if emissions and removals are considered equivalent).

Under the Commission's proposal, additional emissions permits will be auctioned to raise funds for the purchase of removal units. But those proceeds will be spent only once removals actually materialise. Because it may take time for permanent removal projects to start and deliver removals, we presume that the extra allowances auctioned for removals may be frontloaded at the beginning of the decade, and that these extra emissions may not be compensated by removals until a later stage - if at all.

The Commission's proposal provides that future delegated acts detail the modalities of the purchase of domestic permanent removals. These delegated acts shall ensure that any early auctioning of "removals-backed allowances" (the existence of which is justified by the removals) in the ETS is "balanced out" through the auctioning of allowances by member states. This is meant to calibrate the amount of allowances in the system to avoid a shock

in the supply of permits and achieve a gradual integration of removals. However, this remains risky for three main reasons.

First, it is based on the overly optimistic premise that 250 Mt of removals will actually happen by 2040, which should not be taken for granted. The Commission's proposal does not contain a compensation mechanism to cancel allowances if CDR doesn't materialise in the quantities envisaged after the extra EUAs have already been auctioned. Such a mechanism is needed to ensure that extra EUAs haven't entered the ETS market without a CDR supposedly offsetting those extra emissions by 2040. Any volume of earlier-sold "removals-backed allowances" must be backed by a purchased removal, or an equivalent volume of normal EUAs must be cancelled from the auctioning calendar to ensure no additional net emissions. Otherwise, ETS sectors will emit more than they should be allowed to without even the dubious cover of potentially low-quality CRCF removals to offset those extra emissions. This would bring the already unambitious 2040 target even further out of reach.

Second, depending on when removals materialise, there is a high chance that there will be a few years during which additional emissions in the system are justified by removals implemented at a later date. This will not only cause oversupply; if the cancellation mechanism, as explained above, is not included or is included too late, net emissions will be higher at the end of the period.

Third, ETS prices are expected to be significantly lower in the first half of the decade (also because of the 'extra emissions space' the Commission is proposing to give emitters). This means revenue for removals may be lower if the Commission plans to raise funds at the beginning of the decade. Lower revenues reduce the likelihood that an amount of removals equivalent to the number of allowances already auctioned could be purchased. Depending on how the auctioning of removals-backed allowances and allowances by member states will be calibrated, this may also mean less revenue for member states in the first half of the decade due to postponed auctions of normal allowances. It could even lead to net-lower revenues if the extra allowances substantially impact the carbon price itself.

The risk that the removal target set in the Commission's proposal will not be met is tangible, given current deployment. In 2025, *global* removals from BECCS and DACCS reached half a million tonnes of $CO_2$ (0.51 and 0.0015 $MtCO_2$, respectively), according to the

State of CDR report. This is minuscule compared to the Commission's proposal: 500 times lower than the cumulative domestic 250 Mt that the Commission is meant to buy between 2031 and 2040, and about 100 times lower than the level in 2040 under the proposal. Failure to reach those high removal levels results in net atmospheric emissions under the Commission's proposal.

The ESABCC is suggesting a DACCS potential between 0-20 million tonnes of $CO_2$ per year by 2040. The Commission's Impact Assessment on the 2040 target instead assumes potential DACCS between 0 and 42 million tonnes per year and BECCS between 4 and 34 million tonnes per year by 2040.

The deployment of BioCCS has severe limits and negative impacts as well, including the availability of sustainable biomass. As mentioned, the CRCF ignores most emissions associated with biomass supply and builds on the flawed RED III framework. However, in the real world, the CRCF and RED framework pose severe risks to biodiversity, energy security, food prices and, of course, the land sink. The EU's LULUCF sector is also off course in its supposed effort to reach its 2030 target; any increased harvesting to feed BioCCS for removals brings the EU further away from achieving this target.

## Funding gap

The proposal for integrating CDR into the ETS is also likely self-defeating. 250 million tonnes of CDR are to be bought with the revenues from 260 million allowances (250 on top of the cap, and 10 million EUAs in addition from under the cap to bridge the price gap). This implies that there needs to be close to price parity between CDR and EUAs across the entire 2031-2040 period. However, as mentioned above, the EUAs may be frontloaded to raise revenues in the first half of the 2030s. That means the lower EUA prices expected in the early 2030s have to be at nearly the same level as BioCCS and DACCS prices later in the decade. This should be viewed as a highly naive assumption, as shown when comparing the price estimates from the ETS impact assessment with the ESABCC's projections.

The impact assessment shows that the modelling behind the ETS proposal used a cost range of 185-370 EUR/tonne of $CO_2$ for DACCS by 2040, while ESABCC expects higher costs (200-500 EUR/tonne of $CO_2$) a full decade later (while the technology is widely assumed to get cheaper over time). ESABCC estimates current DACCS cost at around 500-1000

EUR/tonne of $CO_2$. While EUA prices in Autumn 2026 are approximately 85 EUR/tonne. In comparison, the price gap in the short- to medium-term for one of the key technologies (DACCS) should therefore be assumed insurmountable, with only 10 million EUAs to be auctioned to bridge the additional requirement. For BECCS (both the impact assessment and ESABCC concentrate on BECCS rather than wider BioCCS), the price gap is significantly smaller, but there is a limit to how much BECCS can be implemented without adding even more pressure on the land sink.

The Commission itself estimates the funding gap at €3 billion, but considering their extremely optimistic DACCS cost estimates, that gap is likely to be significantly wider. A lot of pressure is therefore set on the proposed 2034 review of the CDR funding mechanism in the ETS. If funding is insufficient, then more resources could be shifted towards purchasing CDR after that review, or cheaper, lower-quality removals could be considered instead.

However, a better approach to close the funding gap is to focus on how many EUAs from under the cap can be dedicated to funding CDR. This way, there is no overreliance on CDR if it doesn't materialise at the levels foreseen by the Commission. The funding gap would also no longer be an issue, as the focus is on mobilised resources rather than an unrealistic CDR purchasing target. This could be linked to an aspirational goal for how much CDR should be purchased, though we would urge a significant limit on the volumes of CDR purchased through the ETS across the entire period.

## Eligibility

The Commission's proposal currently only plans for the indirect integration of CRCF-certified BioCCS and DACCS into the ETS. We already mentioned that CRCF methodologies are not fit for purpose, especially for the purpose of certifying removals from BioCCS projects. BioCCS (and biochar) projects only transfer a portion of the biogenic $CO_2$ stored in biomass (e.g., forests) into a more durable storage form (e.g., geological formations), with the rest released back to the atmosphere. This means they do not remove carbon from the atmosphere and deliver removals only if and when the biomass regrows. BioCCS projects may be considered only once the respective CRCF methodologies have been improved.

Nevertheless, it is at least clear to the Commission that any CDR method or pathway that cannot ensure the permanence of its storage cannot be considered for offsetting any (residual) emissions. This is an important principle that should remain at the centre of any CDR policy. Any attempts to include methods that cannot ensure permanence, such as biochar, or temporary sequestration methods, such as nature-based solutions and carbon farming, should be curtailed. Scientific literature indicates that nature-based solutions face substantial and rising climate risks to their durability, and that current or novel approaches to permanence and reversal risk management are either not based on rigorous evidence (as in insurance) or simply do not work (as with buffer pools).

Any inclusion of CDR in the ETS will be a 'slippery slope': once some methods are in, there will be a strong incentive to gradually lower the eligibility criteria to ensure sufficient and cheap CDR supply, and depress the carbon price. Recital 36 and Article 9c(8) of the Commission's proposal show this dangerous direction of travel and that the slippery slope is already appearing. Nature-based solutions are suggested for potential future integration in the ETS  alongside permanent removals..

## Residual emissions

The recent revision of the EU's Climate Law foresees a role for domestic permanent removals, but only to compensate for "residual hard-to-abate emissions" within the EU ETS. This safeguard was added by co-legislators to limit the risk of mitigation deterrence and is broadly in line with the safeguard in the ETS Directive itself ('removals do not offset necessary emission reductions'). Damningly, both versions of this safeguard are unacceptably ignored by the European Commission proposal. Yet, these safeguards are critical to ensure CDR actually contributes its full potential towards achieving the EU climate targets. The lack of clarity or vision on which emissions will be the hardest or last to abate in the ETS (and its overall endgame) means there is no targeting whatsoever of CDR towards residual emissions.

What is clear is that the ETS is nowhere near reaching 'hard to abate' territory. Over 80% of 2024 emissions from plants and factories in the ETS1 were fossil fuel-based, and the EU power sector alone emitted 250 million tonnes of $CO_2$ from coal in 2025. Introducing CDR

from 2031 is at the very least premature, even when ignoring problems such as mitigation deterrence.

## The way forward

High-quality permanent removals need to be developed to counterbalance residual emissions and reduce atmospheric $CO_2$ concentration, so the Earth can return to safer temperature levels. In the EU, permanent removals will be needed to meet the bloc's 2050 climate neutrality goal and to achieve and maintain net-negative emissions thereafter.

To achieve the above, permanent removals cannot be used to compensate for emissions in the ETS sectors that can otherwise be abated. Funding removals with additional polluting permits from 2031 onwards runs counter to this and turns the ETS into an offsetting tool once again. This signals that policymakers want to curb the impact of the ETS, which in turn will hamper emission reduction efforts, while likely not delivering on the promised CDR.

Even worse, if permanent removals do not materialise, the additional emissions that were meant to be counterbalanced will add to current greenhouse gas levels in the atmosphere, further fueling the climate crisis. If included in the EU ETS, permanent removals will undermine the integrity of the system by sending polluters the signal that they don't need to cut emissions as quickly or as deeply as they would otherwise. **Setting a separate, realistic target for permanent removals**, in addition to targets for gross emissions reduction and land-based sequestration, is a better policy solution for several reasons. Permanent removal targets can be set by member states, in the context of the emerging post-2030 climate architecture.

The Commission should also develop a dedicated permanent removals strategy at the EU level, including a dedicated target for permanent removals and a separate financing framework for CDR. Part of ETS revenues and the Innovation Fund can be used, as well as additional funding from existing funding programmes within the EU budget, particularly the research and innovation programme succeeding Horizon Europe, as well as contributions from member states and private companies.

In the context of the current ETS revision, CDR integration is premature and counterproductive. In order to prevent further weakening of the EU ETS on the basis of the

European Commission proposal, a number of improvements and basic safeguards must be implemented:

- Funding must come from EUAs auctioned under the normal cap to limit mitigation-deterrence risks. At the very least, any 'removals-backed' allowances that were sold in excess of removals purchased need to be compensated by rapidly deleting normal allowances from the auctioning calendar.
- The consideration of carbon removals must be limited to the most sustainable and credible CDR options (such as DACCS that use additional renewable energy) to ensure support for these pathways, rather than prioritising cheaper but damaging CDR options (such as BECCS and biochar).
- Purchased CDR units must be used towards a separate permanent removals target, rather than being integrated into the ETS system as offsets.
- Biochar, as well as CRCF nature-based sequestration and carbon farming, must be kept completely out of the system.
- Companies should never be able to directly purchase or use their own removals to offset their emissions. An indirect integration based on procurement by the Commission would somewhat ensure the quality of the CDR that is bought, as companies would always prefer the cheapest options rather than the highest quality; increase transparency; and also limit further damage to the functioning of the ETS by ensuring a gradual integration of CDR.
- Any CRCF units purchased by the Commission through the ETS programme must not have been previously sold, transferred, retired or claimed through any other mechanism like the CRCF Buyers Club and national NDCs, or used by any entity for offsetting or the substantiation of climate-related claims.

**European policymakers must refrain from integrating CDR into the EU ETS. The risks are too high, the rewards are too low.**

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Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.