



Fit for 2040

Adding international carbon credits and carbon removals
will undermine EU ETS contribution to climate target

Executive summary

The Oeko-Institut report 'EU ETS and 2040 EU Climate Target' outlines policy recommendations to ensure that the EU ETS remains a useful instrument to deliver the EU's upcoming 90% emissions reductions by 2040 climate target.

The results of the study find that the Emissions Trading System covering emissions from the electricity and heat generation, industrial manufacturing and aviation sectors (ETS1) is fit for purpose until 2035 at the earliest when the demand for allowances may begin to exceed supply. Earlier emissions reductions by covered actors will delay the onset of a lack of 'liquidity' or a mismatch of supply and demand in the market.

In addition to the ETS1 and the upcoming carbon pricing system for buildings and road transport (ETS2), strong complementary policies such as national targets, emissions standards and investment have a strong role to play. Beyond 2035, any weakening of the market stability reserve or linear reduction factor which control the level of pollution allowed in the markets will have to be overcome by an increase in the ambition of non-ETS sectors to remain in line with the EU 2040 climate target, predominantly from the agricultural sectors which poses significant political and societal challenges.

The Oeko-Institut warns strongly against including international carbon credits into the ETS as they will destroy the hard won integrity of the ETS to deliver a carbon price incentive adequate to trigger decarbonisation, and will funnel investment outside of the EU.

The integration of carbon removals into the ETS, currently under assessment by the European Commission will do little to develop the high quality, permanent carbon removals needed to reach net zero by 2050 and risks creating emissions mitigation avoidance.

Regarding ETS2, high levels of price uncertainty means that the market should be allowed to function in its initial years to avoid unnecessarily weakening the system which is essential to meeting the 2040 target.

Lastly, policymakers should exercise caution in considering merging ETS1 and ETS2 due to the inherent differences in the market functioning and price sensitivity of market actors.

The 2040 climate target

In July 2025, the European Commission will outline its 2040 climate target by proposing an amendment to the European Climate Law for a [90% net reduction in greenhouse gas emissions by 2040 compared to 1990 levels](#).

In its ['Fit for 55' legislation](#) the EU set the long term strategy to reduce 2050 domestic net greenhouse gas emissions by 55%. The upcoming 2040 amendment strengthens the 2030 target by establishing the investment signals needed for increased emissions reductions and contributions from all sectors of society and the economy.

As stated by the [European Advisory Body on Climate Change \(ESABCC\)](#) and echoed by [Carbon Market Watch](#) and others, the rumoured European Commission proposal to allow for EU member states to contribute to their Nationally Determined Contributions (NDCs) through the purchase of international carbon credits puts the integrity of the EU climate target at risk.

It must be the principle priority of the EU climate architecture to achieve early, domestic decarbonisation to benefit climate action, accelerate clean tech innovation and reduce long term cost. In order to avoid increasing global emissions and maintain the environmental integrity of its emissions reduction target, the EU must not rely on international offsets which have been proven to have a grossly [overestimated ability to reduce emissions](#).

As highlighted within the findings of the report, allowing Article 6 credits to contribute towards the climate target risks severely undermining the functioning of the EU Emissions Trading System (EU ETS) where regulated entities could in practice purchase cheap and ineffective offsets abroad rather than mitigate emissions domestically, reducing the level of EU investment generated for climate action and cleantech.

Within its [2026 ETS review](#), the European Commission is currently considering a proposal to integrate carbon removals into the EU ETS carbon market. Inclusion would be a further risk of the ETS to mitigate emissions as it is unsuitable at facilitating an appropriate carbon price that would effectively incentivise the development of the high quality, permanent carbon removals the EU needs to balance the very last unavoidable emissions, and to reduce historical concentrations of CO₂ in the atmosphere.

Alternative funding mechanisms and incentives will be needed to ensure the development of high quality carbon removals. Rather than leading to high quality carbon removals, including removals under the ETS is more likely to send a troubling signal to polluters covered by the ETS by increasing the ETS' emissions budget, reducing the carbon price and taking pressure off emission reduction responsibilities.

The importance of the EU ETS in achieving the 2040 climate target

By 2027, about three-quarters of the EU's greenhouse gas pollution will be regulated by the EU ETS.

Just as the integrity of the EU climate target must be protected to ensure that the EU contributes its fair share of global emissions reductions, the ability of the EU ETS to deliver emissions mitigation from regulated entities must also be protected. Past problems with the oversupply of allowances are gradually being addressed through the Market Stability Reserve (which removes and deletes excess allowances from the market or adds additional allowances to the market from its reserves in times of short supply). A clear and predictable trajectory of emissions reductions is in place through the Linear Reduction Factor (which annually decreases the cap by a fixed amount of allowances), ensuring the Emissions Trading System covering emissions from the electricity and heat generation, industrial manufacturing and aviation sectors (ETS1) is on track to deliver substantial emissions reductions.

Covered emissions have reduced by [48% since 2005](#), mostly in the power sector with heavy industry and aviation lagging behind due to a carbon price signal that is weakened by the [free allocation of pollution permits](#). The carbon price has been complemented by sectoral policies such as the Energy Efficiency Directive, the Renewable Energy Directive and other targets and measures which address barriers to the uptake of clean energy alternatives. The success of ETS1 is evidenced by the decision to establish a second Emissions Trading System from 2027, known as ETS2, to cover emissions from buildings and road transport and small industrial installations. With ETS2 sectors responsible for [roughly 40% of EU CO₂ emissions](#), the EU ETS will continue to be an important market-based climate instrument to deliver cost-effective emissions reductions.

2026 ETS review

During the 2026 EU ETS review it will be important to not undermine the ETS so that it can deliver the necessary emissions reductions to contribute to the new 2040 climate target, in line with the EU's Paris Agreement commitment.

Within the legislative remit of the review is a potential alteration to the market stability reserve (which controls the number of allowances in the market), the potential inclusion of municipal waste incineration emissions, the potential role of carbon removals in the EU ETS, and the expansion of international transport coverage.

Importantly the ETS2 will not be under review at this time as it will start operation from 2027. According to the [ETS directive](#) the ETS2 is not foreseen to be reviewed until the European Commission must assess the functioning of the price control mechanisms in 2028 and the potential to merge ETS1 and ETS2 in a single market in 2031.

EU ETS homestretch

A topical political discussion point coming into sight is how emissions reductions will be navigated by both the EU ETS1 and ETS2 when the emissions cap in the market reaches zero. Currently the linear reduction factor (LRF) that determines the pace of emissions reductions in each market forecasts that the new supply of allowances added to the market will reach zero by 2039 (or 2044 including aviation emissions) for ETS1 and 2044 for ETS2 – which will be in advance of the EU's net zero by 2050 goal.

The availability of emissions allowances must be thoroughly examined in tandem with consideration of the rate of emissions reductions in the EU ETS. The fundamental principle of the ETS is that emission allowances become scarcer over time and therefore it becomes gradually more expensive to pollute.

Within ETS1 the consequence of a lack of emissions reductions within industry, aviation and maritime sectors under the ETS and a reduction in the number of allowances can be foreseen and the necessary investments to abate emissions must be triggered urgently. The failure to reduce emissions in a timely manner could result in financial pressure on energy intensive companies on top of the pressure of high gas prices, inflation, and labour costs, which could result either in closings or relocations of manufacturing or in additional State aid handed to private companies to avoid these consequences.

This lack of foresight by these sectors to decrease their dependence on fossil fuels can not serve as a justification to undermine the functioning of the EU ETS, which is a crucial tool to deliver European climate action. Within the ETS2 additional considerations are required to account for the social costs of energy prices on households while strong, socially targeted investments will be needed to mitigate rising ETS2 prices.

It is essential that clear ETS market rules are in place as Europe approaches 2040 to send a strong investment signal for industry and people that fossil fuels are on the path to extinction. As outlined in the report, any efforts to reform the ETS to increase market liquidity must preserve the ability of the system to deliver the necessary emissions reductions that are compatible with climate neutrality by 2050 as mandated by the European Climate Law, rather than facilitate offsetting.

The emergence of an issue concerning a lack of 'liquidity' in the ETS is caused by a mismatch of supply and demand for emissions allowances due to the necessary decline of the cap combined with the lack of emissions reductions from covered sectors, and must not result in a weakening of the ETS and an overshooting of the EU's carbon budget. As evidenced in Figure 1 this mismatch of supply and demand only emerges from 2035 onwards. Before that moment, there is no reason to implement changes to the functioning of the ETS1. At least until 2035, EU policymakers should focus on preserving the ability of the EU ETS to deliver the necessary emissions mitigation.

Report methodology

The report 'EU ETS and the 2040 Climate Target' explores potential options to recalibrate the EU ETS1 and ETS2 in light of the 2040 climate target. To determine likely greenhouse gas (GHG) emission paths in the ETS 1 and ETS 2, Oeko-Institut selected scenarios modelling GHG emission pathways in the EU27 for different covered sectors.

The selected scenarios differ in their speed of decarbonisation and the date climate neutrality between 2040 and 2050 is achieved. Specifically, the following three scenarios are explored:

- The Climate Target Plan (CTP) Impact Assessment Scenario 2.5 of the European Commission, achieving climate neutrality by 2050
- The EU Gas Exit Pathway, achieving climate neutrality by 2050
- The Paris Agreement Compatible Scenario (PAC) 2.0, achieving climate neutrality by 2040

The [PAC 2.0 scenario](#) outcome is the focus of this policy briefing, in which the potential for the ETS to contribute to net zero emissions by 2040 is examined. In this climate ambitious scenario there will be faster emissions reductions in ETS1 prior to 2035 until the cap is exceeded in 2036, plateauing after 2040 with 99mt of CO₂ remaining in ETS1 covered sectors (excluding shipping) and 41 Mt CO₂ in ETS2 sectors by 2050.

Figure 1. Cap and emissions development for ETS1 (EEA scope including aviation and shipping)

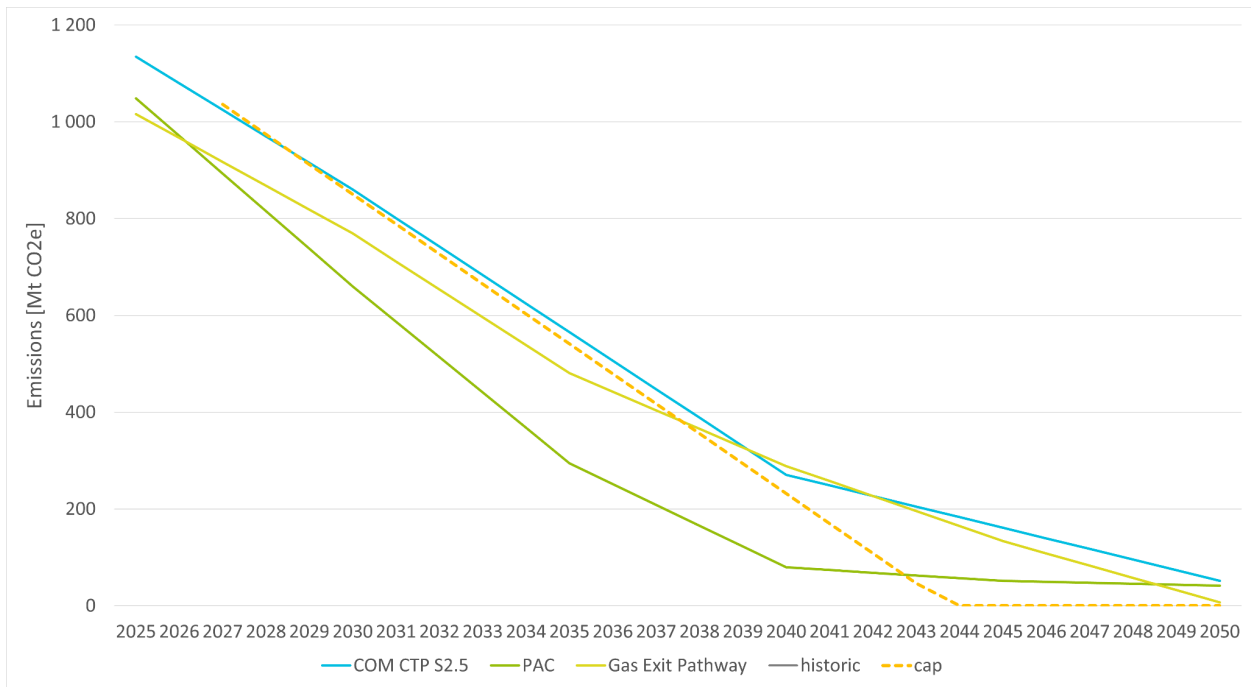
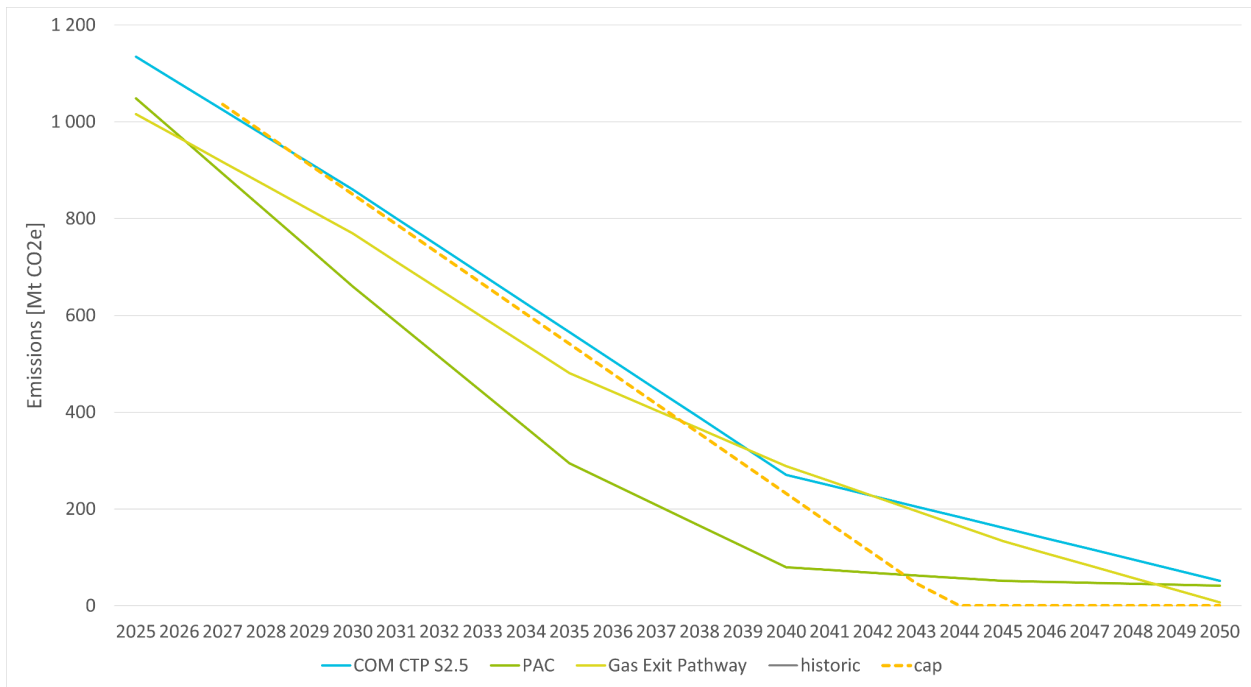


Figure 2. Cap and emissions development for the ETS2



Preserve the integrity of the EU ETS

Don't risk Article 6

The [European Commission is considering](#) weakening the 2040 climate target by permitting member states to offset their contribution to the EU Nationally Determined Contribution (NDC) by purchasing carbon credits through Article 6 of the Paris Agreement. Allowing these credits would defy the science-based recommendations of the European Scientific Advisory Board on Climate Change which has definitively stated that the climate crisis demands that the EU cut emissions by [90-95% through domestic action](#), not the offsetting of ambition overseas.

Article 6 of the Paris Agreement aims to foster international cooperation towards reducing global greenhouse gas emissions through carbon markets. Article 6.1 of the Paris Agreement states that the mechanism can only be used to increase climate ambition. Allowing the use of Article 6 would therefore require increasing the ambition of the EU's climate target, e.g. by achieving climate neutrality earlier than the year 2050.

The guiding principle behind this mechanism is that a global market for mitigation can be the most cost-efficient way to reduce global GHG emissions by realising the cheapest mitigation options first. In theory this would minimise the costs of achieving global climate goals. However, Article 6 in its current form will [fail to deliver this goal](#). Rather than fostering cost-effective mitigation, Article 6 risks incentivising weak NDCs, exploiting host countries, many in the Global South and undermining real decarbonisation efforts.

While weaving Article 6 credits into the EU NDC does not immediately infer that they will be considered for inclusion into the EU ETS it sets a worrying precedent. Experience with the vast oversupply of Kyoto-era Clean Development Mechanism (CDM) credits in the ETS has shown that allowing the offsetting of ETS emissions undermines both the price signal and the polluter pays principle mandated by EU law. After 1.6 billion CDM credits were allowed to enter ETS1, carbon prices plummeted to €5 per tonne of CO₂ due to a severe oversupply of allowances in the market. At such cheap prices entities regulated under the ETS1 had no incentive to decarbonise their operations.

The Article 6 rulebook is not robust enough to ensure transparent trade of high quality permanent credits. This is evidenced by a [recent Carbon Market Watch analysis](#) of the first project approved to transition from the Clean Development Mechanism to the Paris Agreement Crediting Mechanism which found that this cookstove project overcredited the level of emissions avoided by more than 26 times.

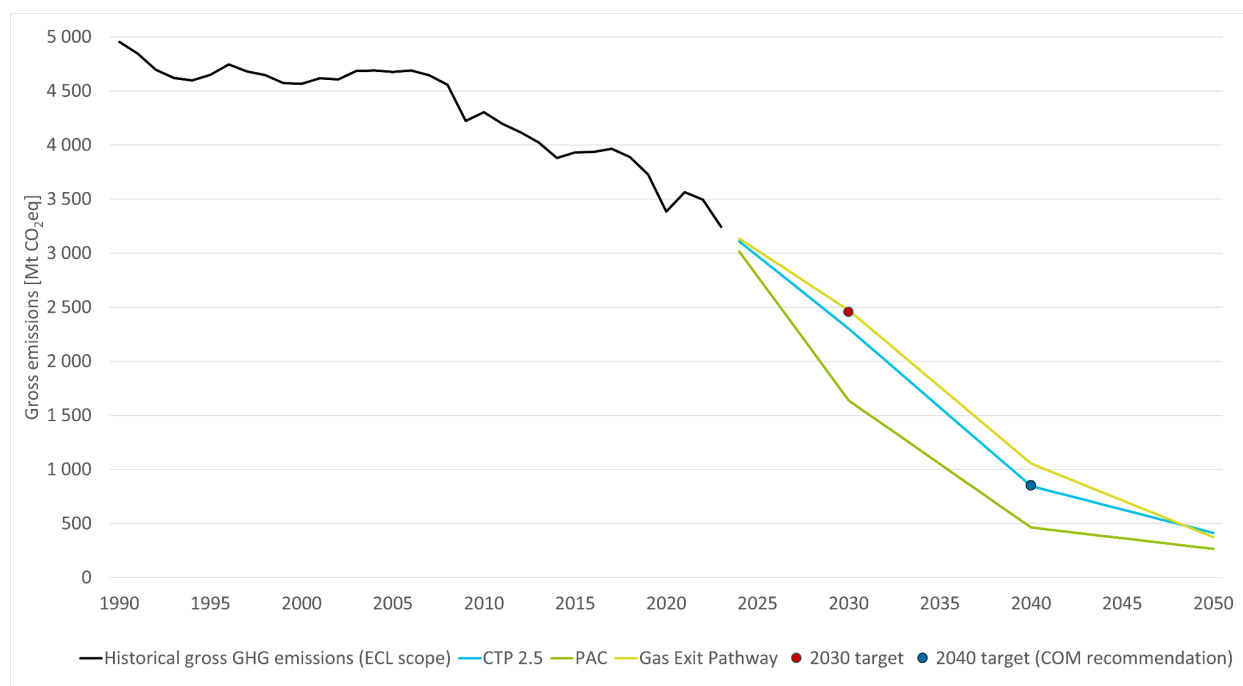
This project represents just one of over [1,388 projects of the former CDM](#) that has applied for verification, and will inevitably flood the nascent Article 6.4 market with inflated credits. Despite existing rules for verification and crediting, the history of the CDM proves that only a very low share of credits actually fulfill minimum standards and that most credits are of dubious quality or have no climate benefit at all. Fraud and abuse of such systems has been a recurring issue as the imperative to offer credits at the lowest cost produces a race to the bottom.

Excluding Article 6 credits from the EU ETS is necessary to retain a functional and credible EU carbon market. International carbon offsetting mechanisms have too many inherent environmental, social and economic shortcomings. In addition, the decarbonisation pathway of the EU is put at risk due to delayed action and governments would lose auctioning revenues urgently needed to fund climate investment.

EU ETS: Unsuitable for growth of high quality carbon removals

As outlined in Figures 1 and 2, all climate neutrality scenarios show limited residual greenhouse gas emissions until the year 2050. Beyond this date, the limited emissions remaining covered under the ETS will be considered 'hard to abate' due to technical, economic or social reasons. Therefore, negative emissions will be needed to reach climate neutrality by 2050. As outlined in the European Climate Law these negative emissions must be delivered domestically. Currently the European Commission is assessing the potential inclusion of carbon dioxide removals (CDR) in the EU ETS.

Figure 3. Different pathways for residual emissions in carbon neutrality scenarios



As a central guiding principle of climate action, all targets and instruments to incentivise negative emissions must be designed not to undermine reducing emissions in the first instance. The ETS Directive Art 30(5)a enshrines this principle defining that the inclusion of carbon removals must “ensure that such removals do not offset necessary emission reductions”.

Only the phase out of fossil fuels ensures the most reliable carbon storage – keeping fossil fuels in the ground. Treating emissions as equivalent to carbon dioxide removals by integrating them into the ETS ignores valid scientific concerns surrounding permanence, additionality, double claiming and equity.

Nature based removals such as those encapsulated within the Land Use, Land-use Change and Forestry (LULUCF) regulation face significant constraints due to [high resource demands](#) and are not considered permanent removals due to their vulnerability to re-emission caused by the risk of human and natural disturbances.

However, nature based removals have a critical role to play both for climate change and other compatible environmental objectives including biodiversity and adaptation. Permanent removals such as Biomass and carbon capture and storage (BioCCS) and direct air carbon capture and storage (DACCS) can, if well executed, ensure that carbon is stored for at least several hundred years – and hopefully for several millennia. Yet, these practices are highly limited by high costs, questions of technological feasibility, intensive energy demand, and the environmental and land

use implications of biomass use. Considering the [lack of scientific consensus on the permanence](#) of biochar a precautionary approach would exclude biochar from the integration discussion.

The Carbon Removal Certification Framework (CRCF) and its proposed methodologies could pave the way for certificates devoid of [meaningful quality standards](#), raising red flags if these were to be considered for integration into the EU ETS. As the price of removal credits is related to quality and sustainability (especially the level of permanence guaranteed), at least until the medium time perspective, the price for technical removals will likely be far higher than the ETS price.

If criteria are not stringent, cheap and uncertain natural removals could flood the market and undermine the hard won integrity of the ETS. As the report outlines, if sufficient rules are in place to only permit high quality permanent removals it is highly unlikely that from 2035 onwards, a volume of these credits will be available at a date that would address a shortage of EUA permits in the ETS. Any separate consideration of permanent removals after 2035 would need to be measured on sustainable scales (such as available volumes of sustainable biomass) while still ensuring mitigation deterrence is minimised.

On the other hand, any integration of CDR in the EU ETS creates a moral hazard and indicates to polluters that they can scale back mitigation efforts today in anticipation of relying upon removals in the future, delaying urgent climate action.

Furthermore, this could create political pressure to introduce non-sustainable or non-permanent removals given the expectation for large volumes of sustainable permanent removals to enter the ETS, which might not materialise in plentiful amounts.

Separating emission reductions and carbon removal (split between permanent removals and sequestration in the land sector) targets within the 2040 climate target is the most appropriate method of incentivising the growth of high quality carbon removal technologies, and actions that protect and expand ecosystems, while not undermining incentives to reduce emissions, as evidenced by the [recommendations of the ESABCC](#).

This separation also reduces regulatory uncertainty for land-based carbon sequestration and permanent removal project developers, providing them with a clear indicator of the long-term direction of travel. This can reduce regulatory risk and support investment in permanent removals.

Setting a separate target for permanent removals involves determining a sustainable quantity of achievable removals as well as the quantity of residual emissions. The latter requires a serious societal discussion about what types of emissions, in which sectors, are too important to abate and can be considered 'residual'.

ETS1 homestretch

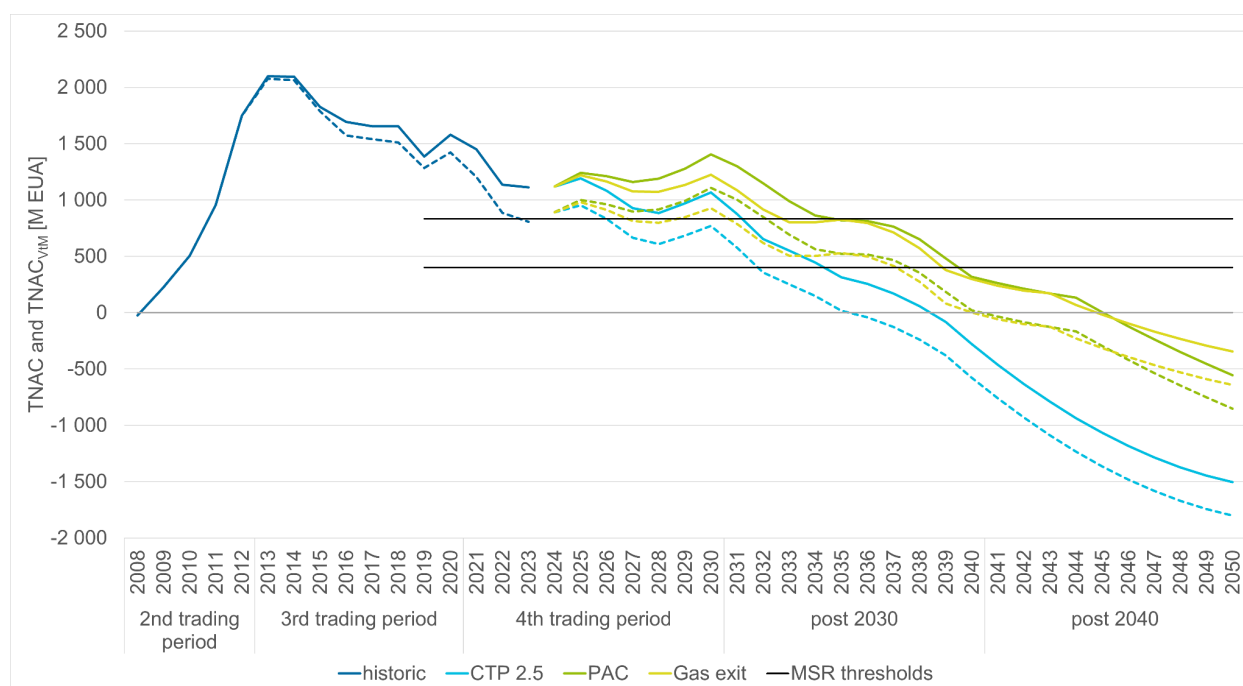
No additional liquidity needed in ETS1 until 2035

Since 2013 the linear reduction factor has reduced the supply of emission allowances in the ETS1 by a fixed percentage of the average emissions in the period of 2008–2012. As a result of the latest reform in 2023, the LRF has been set to 4.3% from 2024 and 4.4% from 2028 onwards which is forecasted to result in the ETS1 cap reaching zero in 2045 (including aviation and maritime allowances with extended coverage from 2024).

While the cap of the ETS1 reaches zero in 2039 (or 2044 including aviation emissions), none of the report's scenarios achieve zero emissions by then. This means that in all scenarios there will be a deficit of EUA at some point. However, the more emissions reductions that take place in the sectors covered by the ETS, the later this deficit will occur. In the PAC 2.0 scenario and the gas exit scenarios a deficit of allowances only occurs from 2036 onwards while the Climate Target Plan (CTP) 2.5 scenario experiences a deficit as early as 2032.

The Market Stability Reserve within ETS1 will continue to remove excess allowances from the market up until 2031. In 2036 the Total Number of Allowances in Circulation in the market (TNAC) falls below the outflow threshold for the first time and begins to release its remaining 400 million EUA into the market until it is exhausted in 2040. The fact that the outflow threshold of the TNAC is not breached until 2036 means that the need for additional EUAs or a change to the LRF is not necessary until 2036, and should be avoided to ensure that as many emissions as possible can be effectively mitigated.

Figure 4. TNAC and TNAC VtM development until 2050 in the ETS1 in all scenarios



As there is no mismatch in the supply and demand of allowances until 2035 the linear reduction factor (LRF) and Market Stability Reserve (MSR1) of ETS1 should remain untouched until this point to ensure emissions reductions stay on course at the established rate. Maintaining existing rules until 2035 inspires a strong investment signal, upholds revenue streams for member states to fund decarbonisation efforts and leads to cost effective decarbonisation efforts.

Prioritise reducing emissions

Decreasing emissions at a rate beyond what is forecast by the three scenarios is the optimal development for the climate.

If the rate of emissions reductions in ETS1 sectors is increased between now and 2035, post-2035 market liquidity will be increased. For emissions reductions approaching 2040 to be affordable it will be essential that the ETS is considered as just one tool amongst a broader policy mix: the push

for energy efficiency and renewable electrification and uptake (including generation, grids and storage) needs to pick up pace to first reach and then go beyond current renewable energy goals.

Both public, and especially private, investments, are also needed to establish lead markets for clean base materials (such as green steel and low-clinker cement), through mandatory CO₂ reduction requirements outlined in the selection criteria laid out in the EU's Public Procurement Directive, and through setting minimal performance requirements under the Ecodesign for Sustainable Products Regulation (ESPR).

Moreover, to quickly reduce Europe's reliance on oil & gas imports the use of coal in the steel sector must be phased out and fossil fuel subsidies must stop immediately.

Finally, the EU ETS price signal should be supported by a meaningful revision of the Energy Taxation Directive, and the halting of state aid subsidies for the compensation of indirect energy costs. These goals can be achieved, among other efforts, through the fair and efficient use of [ETS revenues](#), both at EU and member state level via the [Innovation Fund](#) and the future [Industrial Decarbonisation Bank](#).

Throughout the lifespan of the ETS1 emissions have consistently remained well below the cap – through external shocks, but mostly through the success of complementary policy instruments working hand in hand with the carbon price signal. In particular the much faster than anticipated increase of electricity generation from renewable sources has driven CO₂ emission reduction in the energy sector. To complement the ETS, policy options including ending fossil fuel subsidies to unlock resources for renewable energy generation and grids, pushing for fast electrification, and creating lead public and private markets for clean products, will be key to further reduce the emissions of industrial and transport sectors.

Supply and demand after 2035

According to the analysis, from 2036 onwards, EUA demand exceeds supply leading to a deficit in the number of emission allowances traded in the market. To address this issue post 2035, the LRF or MSR could be altered.

Modifying the functioning of the MSR has the same effect on the supply-demand balance as adjusting the LRF, by increasing the supply of EUAs when the market tightens. However, both options may have a negative impact on the EU's carbon budget if a greater supply of allowances in the ETS is not accompanied by more emissions reductions in non-ETS sectors, especially agriculture.

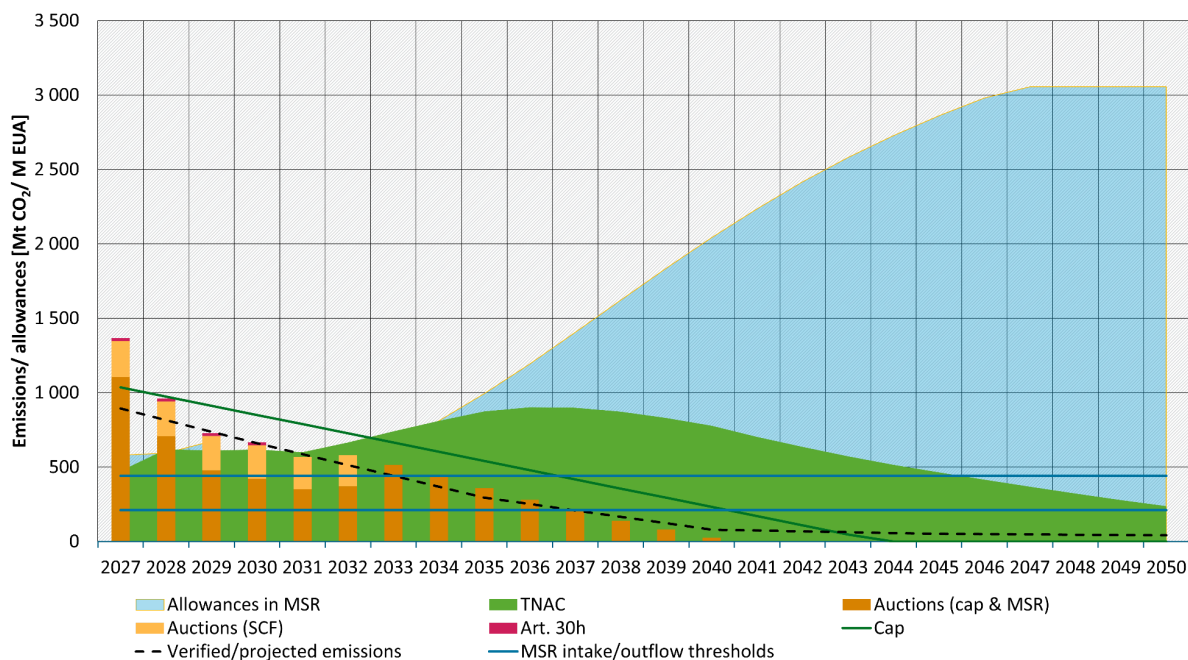
Minor changes to the LRF are shown to have significant impacts on the available emission allowances over time. Overly strong changes could weaken the system's ambition or even lead to the perception that the ETS has failed, and the EU is backtracking on its climate targets. Any changes to reduce the effectiveness of the MSR risk undermining the proper functioning of the reserve, which in recent years has been crucial to maintaining an effective price signal.

Beyond 2035 additional supply of allowances could be facilitated by changes to the LRF or the MSR. However a weakening of either will increase pollution and will then have to be compensated by increased ambition in other sectors in order for the EU carbon budget to not be exceeded. To avoid weakening the functioning of the market prematurely, a review of the MSR and LRF could be undertaken alongside the review of the functioning of the ETS2 in 2031.

Supply and demand in ETS2

For ETS2 the PAC 2.0 scenario does not predict a deficit of allowances prior to 2050 as emissions in the ETS2 are initially set lower than the cap. A build up of allowances in the market is sufficient to meet demand until well after 2040. However, the PAC 2.0 scenario does rely on steep projected emissions reductions in the early years and will require strong complementary measures for that to be achieved.

Figure 5. TNAC development for the ETS2 PAC 2.0 Scenario



In the ETS2, scenarios largely depend on the assumptions of uptake rates for electric vehicles and heat pumps. Member states will have an important role to play in establishing the conditions to remove the barriers to investment beyond the ETS2 price signal such as a lack of upfront investment, skilled labour and awareness.

Emissions projections for entities covered under the EU ETS2 vary significantly, which shows the high degree of uncertainty around future emission levels. If a large surplus of allowances materialises (as predicted in the PAC 2.0 scenario) the current MSR will not be fit for purpose to absorb this surplus and reinstate a functioning allowance market.

However, unlike in the ETS1 all 600 million of the allowances within the market stability reserve in ETS2 (MSR2) were not initially removed from the market due to oversupply, but instead were created in addition to the capped total of just over one billion allowances. Given the high degree of uncertainty around the actual emission pathways and the climate impact these additional 600 million allowances will have on the carbon budget, a few years of operation should be observed before any adjustments are made to the systems' flexibility mechanism.

Due to the uncertainty around the level of emissions reductions in ETS2 sectors and how well the new market will function, the system should be allowed to operate for several years before any changes are made to the LRF or MSR. Ambitious complementary policies are outlined below.

Complementary measures for a fair and effective ETS2

The current calibration of the ETS2 will deliver rapid and ambitious emissions reductions in buildings and road transport with a 43% reduction in CO₂ in the first three years of its operation compared to 2005 levels.

The ETS2 cap reaches zero five years after the ETS1 (when excluding aviation and maritime emissions) in 2044. Similar to the ETS1 no scenario projects that emissions will reach zero by 2044, as a certain amount will be residual. As outlined in Figure 2, the PAC 2.0 scenario estimates the deepest emission reduction, emissions only rise above the cap after they have already declined substantially to 62 Mt CO₂ in 2043.

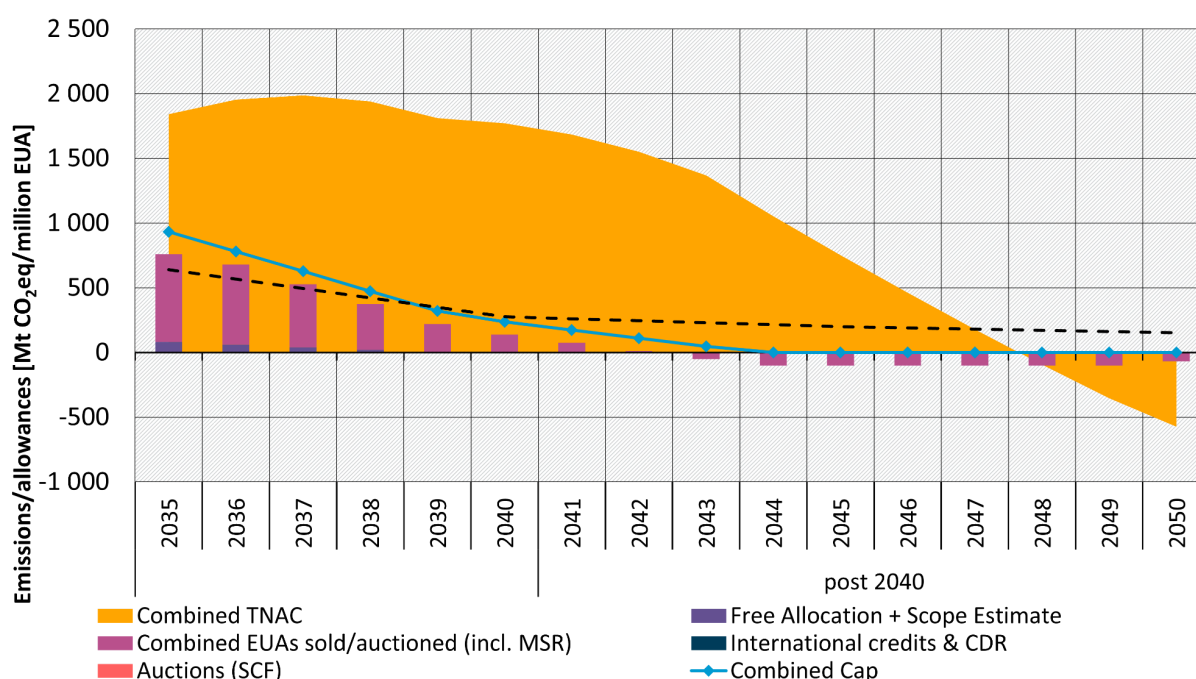
With the start of the ETS2 approaching in 2027, concerns around high ETS2 prices are growing. The most effective way to ensure socially acceptable ETS2 price levels while maintaining its ability to drive emissions reductions is through a reduction in the demand for allowances through complementary measures.

Weakening the MSR or CO₂ emission standards for vehicles and buildings will result in higher emissions, higher ETS2 prices and jeopardise realising climate neutrality by 2050. In the ETS2, the emissions reductions and the price level will largely depend on the uptake of electric vehicles and heat pumps as well as the implementation of complementary measures such as the Energy Performance of Buildings Directive and the internal combustion engine (ICE) phase out. Therefore national governments need to work actively to reduce the ETS2 price by implementing complementary regulations, support schemes and raising awareness. This is particularly important in the five member states responsible for 70% of the ETS2 emissions, which will effectively set the price across the union: France, Germany, Italy, Poland and Spain.

Merging ETS1 and ETS2 presents considerable risks

The existing ETS directive calls for the European Commission to consider the risks and benefits of merging ETS1 and ETS2 in 2031. As depicted in Figure 6, merging the systems in 2035 (considering the time necessary for the negotiation of an ETS review) could increase the time it takes for a deficit to appear in ETS1 by seven years in the PAC 2.0 scenario.

Figure 6. Combined ETS1 and ETS2 under the PAC 2.0 scenario.



In theory, merging the systems should improve the efficiency of the market as it allows the cheapest mitigation options to be realised first. However, in practice the merger represents several major risks and fundamental changes to how both systems operate. For example a joint LRF, a combination of both the upstream and downstream systems, the price containment mechanisms under ETS2 and the differences in the MSR1 and 2 would need to be addressed. Fundamentally the elasticity of demand for allowances in both systems is different with actors in ETS2 showing a higher willingness to pay which may also increase the carbon costs for industrial actors.

Any abatement benefits of merging the markets depends on the ability of actors to prioritise the cheapest mitigation options. However, as described above, the entities regulated under the ETS1 and ETS2 differ significantly in their ability and willingness to pay.

This heterogeneity could result in sectors with high decarbonisation potential, like the transport sector, opting to pay for their emissions instead of reducing them, because they can afford to. If that were the case merging these two systems might even have adverse impacts and delay urgently needed climate action.

Merging the systems also means that the effect of complementary measures for ETS2 sectors may have a diluted impact on reducing the ETS2 price, of particular importance considering the social implications of rising energy costs for households.

Policymakers should fully understand the consequences of combining the ETS1 and ETS2 before merging them. Experiences with the ETS1 have shown that it takes time to establish a functioning system. Since the EU ETS2 will only start operating in 2027, a merge should not be considered before the system is established and better understood.

Maintain and extend national targets

It is important to note that while the ETS is essential to meeting the EU's climate targets. It does not work in isolation. The Effort Sharing regulation (2021–2030) sets out national targets and an important differentiation of the demands and responsibilities for each member state to contribute to emissions reductions based on feasibility and historic responsibility. The ESR should be extended beyond 2030 to incentivise the complementary climate policies needed at local and national level as member states must design instruments to meet their specific needs and push for ambition outside of the ETS framework.

Policy recommendations

1. Excluding international carbon offsets (Article 6 credits) from the ETS is necessary to retain a functional and credible EU carbon market.
2. Separating emission reductions and carbon removal (split between permanent removals and sequestration in the land sector) targets within the overarching 2040 climate target is the most appropriate method of incentivising the growth of carbon removal technologies. Inclusion of CDR in the ETS would undermine incentives to reduce emissions, as evidenced by the [recommendations of the ESABCC](#).
3. As there is no misalignment in the supply and demand of allowances until 2035 the Linear Reduction Factor and Market Stability Reserve of ETS1 should remain untouched until this point to drive cost effective emissions reductions and maintain revenue streams for member states to fund decarbonisation efforts.
4. The demand for emission allowances beyond 2035 will depend on the effectiveness of complementary emission reduction policies. Additional supply of allowances could be facilitated by changes to the LRF or the MSR. However, a weakening of either represents the permitting of increased pollution under the ETS and will have to be compensated by increased ambition in other sectors, mainly agriculture in order to remain within the EU carbon budget.
5. Due to the uncertainty around the level of emissions reductions in ETS2 sectors and the functioning of the new market for transport and building sector emissions, the system should be allowed to function for several years before any changes are made to the LRF or MSR. Weakening the MSR or CO₂ emission standards for vehicles and buildings will result in higher emissions, higher ETS2 prices and jeopardise realising climate neutrality by 2050.
6. The safeguards in place to prevent unreasonably high ETS2 prices must be accompanied by strong social climate plans, the dedication of all ETS2 revenue to socially targeted investments to lower emissions in buildings and road transport and income support to assist households in the transition.
7. Merging ETS1 and ETS2 represents many risks as regulated entities differ significantly in their ability and willingness to pay while the markets differ on key design elements. Policymakers should fully understand the consequences of combining the ETS1 and ETS2 before merging them.
8. The ETS does not work in isolation. National emissions targets (e.g. under the ESR) should be extended beyond 2030 to incentivise the complementary climate policies needed at local and national level as member states must design instruments to meet their specific needs and push for ambition outside of the ETS framework.

Author / contact:

Eleanor Scott, Expert on EU Carbon Markets, Carbon Market Watch
eleanor.scott@carbonmarketwatch.org

Editors:

Khaled Diab, Communications Director, Carbon Market Watch
Gavin Mair, Communications Specialist, Carbon Market Watch

Report layout:

Noemi Rodrigo Sabio, Communications Specialist, Carbon Market Watch

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