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Out of balance

Assessing the 2026 Commission proposal for the EU ETS 1

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This policy brief provides a quantitative assessment of the proposal by the EU Commission for the reform of the EU ETS 1.

Key messages

- **Significant oversupply in 2031–2040:** The lower LRF, additional allowances for the Investment Booster and CDR, and the carry-over of market surplus and MSR holdings from previous periods would result in allowance supply substantially exceeding projected demand. This would weaken the carbon-price signal and risk undermining the EU's 2040 target. The LRF should remain at 4.4% until 2035 at the least.
- The indirect inclusion of **international credits and CDR** increases emissions inside the ETS but commensurate emission reductions outside the ETS are not guaranteed. Especially for CDR it seems unlikely that the funding will be sufficient.
- **MSR reforms have mixed implications:** Dynamic thresholds, the lower buffer and the updated TNAC definition—including historic net aviation demand—would improve the MSR's responsiveness and smooth allowance releases. However, the lower intake rate and the removal of invalidation would weaken its ability to absorb and permanently remove surplus allowances.
- **Free allocation increases substantially:** The proposal would significantly increase the volume and value of free allocation to industry, while introducing broader decarbonisation investment conditionalities from 2031.
- **Higher auction volumes and revenues entail a trade-off:** Additional auctioning due to a higher cap would raise revenues, but also increase supply and risk weakening the carbon-price signal reinforcing carbon lock-in.
- **Scope extension for aviation** is a balanced compromise between responsibility and political realities. The extension of carbon price to more **shipping activities and waste** incineration further strengthens the ETS.

Introduction

The European Commission published its proposal to amend the EU ETS Directive and the Market Stability Reserve (MSR) Decision on 17 July 2026.[1] The proposal sets out the EU ETS framework for the fifth trading period, 2031–2040, as well as some adjustments that would already come into force before 2030. It introduces amendments affecting the cap trajectory and linear reduction factor (LRF), the integration of carbon removals and international credits, the MSR, free allocation and benchmarks, auction revenues, and EU-level funding instruments. It also includes targeted changes to the scope and rules applicable to aviation, maritime transport and waste incineration.

This policy brief examines some of the implications of the proposed amendments for the EU ETS and its role within the wider EU climate-policy architecture. It assesses the supply and demand balance, with particular attention to the revised cap trajectory, additional sources of allowance supply and the amended MSR rules. It also considers the implications for free allocation, the integration of permanent carbon removals, the potential use of international credits, and the interaction of these elements with the EU's 2040 and 2050 climate objectives. It builds upon our policy brief from May 2026 where we warned about a potential oversupply of allowances in the period until 2040.[2]

The central question is whether the proposed design maintains a sufficiently robust and predictable scarcity signal to support the EU's 2040 and 2050 climate objectives and advance investment in industrial decarbonisation, or whether it responds too strongly to short-term concerns at the expense of these objectives.

1 Main elements of the proposed ETS 1 reform

In this chapter, we provide a brief overview of the main elements of the Commission's proposal which will be assessed in the following chapters.

Linear reduction factor (LRF) and cap development

The European Commission proposes to amend Article 9 of the ETS Directive to align the EU ETS with the Union's 2040 climate target. The current LRF of 4.4% would be replaced by a two-step LRF, set at **3.7% for 2031-2035** and **1.7% from 2036 onwards**, allowing a slower annual decline and continued allowance issuance into the 2040s. This would imply an 85% domestic emission reduction in ETS sectors by 2040. In case sufficient high-integrity, high-quality credits are not available, a **fallback mechanism** applies by which the LRF would be set at **2.7% from 2036 onwards** instead of 1.7%, reverting to a cap trajectory aligned with 90% domestic emission reductions.

[1] https://ec.europa.eu/commission/presscorner/detail/en/ip_26_1596
[2] https://www.oeko.de/publikation/getting-the-balance-right/

International credits under Article 6 of the Paris agreement

The proposal takes the purchase of international credits into account, reducing domestic action to a pathway reaching -85% by 2040 compared to 1990 levels. This is translated into a reduced LRF from 2036 onwards, avoiding the direct use of Article 6 credits by regulated entities in the EU ETS. In total, a purchase of up to **260 million international credits** is planned. The auctioning revenues of the additional allowances thus available to ETS 1 operators shall be earmarked to finance the purchase of these international credits.

Market Stability Reserve (MSR)

The Commission proposes a set of amendments to the MSR framework. First, the definition of the total number of allowances in circulation (TNAC) would be revised to take into account the cumulative net demand from aviation over the period 2012-2023, **reducing the TNAC by 173 million allowances**.

Second, the **intake rate** would revert to the original 12% **from 2028 onwards**, replacing the current 24% rate. In addition, the proposal would make the thresholds and release rate dynamic over time. From 2029 onwards, **the upper threshold** (currently 833 million EUA), **the lower threshold** (currently 400 million EUA) and the **release amount** (currently 100 million EUA) would **each be reduced by 4% annually.**

Third, the proposal would introduce **a lower buffer of 300 million EUA** for releases from the reserve. Where the TNAC is between 400 million and 300 million EUA, the release volume would equal the difference between the TNAC and the threshold, rather than a fixed 100 million EUA. Below 300 million EUA, 100 million EUA would be released. From 2029 onwards, the lower threshold, the lower buffer and the release amount would each be reduced by 4% annually.

Already in April 2026, the Commission had proposed to **remove the invalidation mechanism** in the MSR.[3] As a result, allowances held in the reserve in excess of 400 million EUA would no longer be automatically invalidated.

Extended scope for international transport

For **aviation**, it is proposed to extend the geographical scope to all departing flights to non-EU airports within 5 000 km from the approximate centre of the EU (i.e. Frankfurt, DE) from 2029 onwards. A full extension to departing flights (continuing the “stop the clock”) is dependent on a review clause that assesses CORSIA in 2032. The aviation scope is further extended to business flights (i.e. private jets / non-commercial flights). Emission from flights between an outermost region (OMR) of a Member State and that Member State continue to be exempted until end of 2035.

For **maritime transport**, the scope is extended to the most emitting ships between 400 GT and 5 000 from 2027 or 2031 onwards. Existing derogations (e.g. for OMRs) will continue until 2035 instead of ending in 2030.

[3] COM(2026) 153 final; Procedure 2026/0085/COD, Proposal for a Decision of the European Parliament and the Council amending Decision (EU) 2015/1814 as regards ceasing the invalidation of allowances in the market stability reserve.

Inclusion of negative emissions

Carbon Dioxide Removals (CDR) will be included indirectly in the EU ETS via a mechanism that raises revenues through the ETS and uses them to purchase CDR. 250 million allowances in addition to the cap will be auctioned until 2040. Revenues will be used by the Commission to purchase an equivalent amount of domestic permanent carbon removals generated by CRCF certified BioCCS and DACCS activities. Operators can deploy BioCCS in covered installations to compensate their own emissions; this quantity would be deducted from the 250 million total.

Waste

From 2031 on, emissions from municipal waste incineration will be gradually included until 2034 to cover all non-hazardous waste incineration and co-incineration activities above a minimum threshold. The quantity of allowances will be increased in parallel and the list of eligible uses of auction revenues will be extended. This scope extension is not further assessed in this policy brief.

Free allocation

The Commission proposal would affect free allocation to stationary installations through several changes. The revised LRF would increase the overall cap and, consequently, the volume of allowances available for free allocation. In addition, the proposal would **increase the buffer** available to mitigate the application of the cross-sectoral correction factor (CSCF) **from 3% to 4% of the cap**.

For CBAM sectors, the proposal would **slow the phase-out of free allocation**, delaying full CBAM phase-in until 2038. For non-CBAM sectors, free allocation would continue during the 2031–2040 period, with no phase-out foreseen under the proposal. From 2031 onwards, free allocation would be subject to **updated investment conditionality**: installations would receive 80% of their free allocation upon submission and approval of a decarbonisation investment plan, while the remaining 20% would be allocated following implementation and verification.

The proposal would retain the **benchmark methodology based on the 10% most efficient installations**, while revising the update-rate corridor to 0.3–2.0% per year for 2031–2040. The existing heat and fuel fallback benchmarks have already been revised for the 2026–2030 allocation period.

Use of auctioning revenues and EU funding instruments

The proposal also revises the framework governing the **use of ETS revenues** and the main EU ETS funding instruments. It introduces the principle that revenues should flow back to ETS-paying sectors, with Member States required to allocate at least **50% of ETS revenues to priority investments supporting the decarbonisation of ETS sectors**. The proposal also increases transparency and reporting requirements on the use of ETS revenues.

In addition, the **Innovation Fund** would continue after 2030 and would receive 200 million allowances. The **Modernisation Fund** would be continued and revised to broaden the eligible investment areas to include electrification and industrial decarbonisation, including CCS/CCU. From **2031 onwards, support for fossil fuel-based energy generation and fossil fuel transport infrastructure would be excluded**.

Additional allowances would also be channelled to support lower-income Member States, including through links with the Industrial Decarbonisation Bank.

The proposal establishes the **Industrial Decarbonisation Bank (IDB)** in two phases. Its first phase, the **Investment Booster**, would operate from 2028 to 2030 and be funded with 400 million allowances, allocated on a first-come, first-served basis. From 2031, a second phase would provide a further 400 million allowances through competitive bidding.

An '**ETS as a service**' mechanism is proposed to support global climate action and facilitate the pricing of GHG emissions in non-EU countries. The mechanism allows non-EU countries to benefit from ETS revenues if emissions from aviation and maritime transport are priced which are currently not priced under the EU ETS 1 (i.e. aviation emissions from flights between EU and third country, remaining 50% of maritime emissions between EU and third country).

2 Implications for achieving the EU's climate targets

The ETS 1 will be one part of the underlying framework to achieve the EU climate target of 2040. The design of the other parts is expected to be proposed by the Commission in Q4/2026. The 90 % reduction of net domestic emissions compared to 1990 is the mandatory climate target under the ECL. In the following, the proposed changes to the ETS are placed into the picture of the overall emission and removal situation on EU 27 level. Therefore, the ETS cap, as displayed in the chapters before, is reduced by the contributions of Iceland, Liechtenstein, Norway and Northern Ireland.

The use of international credits

260 million international credits under Article 6 of the Paris agreement shall be used to increase the amount of ETS allowances in the years 2036-2040 through a reduced LRF. This corresponds to about 2% of net domestic emissions in 1990. The ECL limits the total quantity of international credits to 5% of these emissions. In absolute terms, the maximum quantity of international credits is 705 million[4], the ETS can use a share of 37%. This share is higher than the ETS cap compared to gross emissions in 2040 which is only 29 %, i.e. a higher share is reserved for the ETS than in a proportional assignment. The remaining quantity would be available for compliance of Member States under national targets. We have argued that a share of the Article 6 budget will need to be used as a safety reserve for LULUCF due to declining national removals, climate impacts and overall uncertainties in the sector.[5] According to the ECL a shortfall in natural removals should not be at the expense of other sectors, i.e. would not lead to higher emission reduction obligations elsewhere. Without such a safety reserve, this would again endanger achieving the EU's climate target. Against the need for such a safety reserve, Member States' interests in using international credits for their national targets and the likely oversupply of allowances in the ETS (see below) we believe assigning a disproportionate share of Article 6 to the ETS 1 is not justified.

[4] Calculated as 5 % of net emissions 1990 in target scope (4 699 Mt CO_2e) in 2040 with a linear increase from 2035 on.

[5] https://www.oeko.de/publikation/using-international-carbon-credits-towards-the-eu-2040-climate-target/

If more funds are generated than needed – i.e. if the ETS price is higher than the costs for international credits – remaining revenues will be allocated to the Industrial Decarbonisation Bank (Art. 9b).

A very positive element is the fallback-mechanism: In the event that international credits meeting the quality criteria are not available, the LRF shall be aligned with EU domestic ambition of -90 % by 2040 and increased to 2.7% from 2036 onwards (Article 9c). The Commission has to publish a report in January 2033 which will form the basis for keeping/increasing the LRF.

The role of CDR

Investments in carbon dioxide removals (CDR) technologies are needed to ensure net negative emissions in the future as laid down in the ECL. With this proposal, CDR technologies are financed and partially included under the EU ETS through certified CRCF removals from DACCS and BioCCS. These are permanent removals and can be monitored, reported and verified with high quality and show a low risk of carbon leakage. These properties ensure comparability between additional emissions and removals. Yet there are indirect risks: BioCCS installations increase the pressure on biomass supply or shift use-cases from material use to energy use.

Similar to the inclusion of international credits, the ETS functions as a financing instrument without direct integration of CDR except for compensation operators own emissions. The main difference is that the 250 million additional EU allowances come on top of the ETS cap.[6] It seems unlikely that this mechanism will function in practice: The modelling assumptions for CDR prices (Table 6, Annex 8 of the impact assessment) show that prices are ranging from 518 to 251 EUR/t CO_2 for DACCS between 2030 and 2040 and from 171 to 148 EUR/t CO_2 for BECCS. The ETS-price – even with the 10 million top-up mechanism – will not be sufficient to finance DACCS-removals and most likely will also be too low for BioCCS as well. The approach proposed by the Commission therefore endangers the EU's climate target: while the additional 250 million allowances in the ETS are certain, it is unclear if the corresponding permanent removals can be achieved. Additional funding will likely be needed to deliver the contribution of removals to the target as planned.

The climate target framework

The following table shows the overall situation of GHG emissions across the main elements for the EU-27 climate framework, giving the context in which the ETS is located. The 2030 situation is based on the current target setting, an emission reduction of 56 % compared to net domestic emissions in 1990. The next block on the right shows the situation in the year 2035, the year for which a Nationally Determined Contribution (NDC)[7] target has been reported to the UNFCCC. The last column shows the year 2040, for which a 90 % reduction is set as EU wide target in the ECL.

In 2040, the ETS cap sums up to 302 Mt CO_2e or 29 % of gross emissions. Based on the scenarios included in the 2040 Impact Assessment, 740 Mt CO_2e would be the available emission space for sectors currently covered under a ESR under a domestic target of 85%. To achieve the target in 2040, another 148 million international credits

[6] An additional 10 million EUA can be auctioned to increase financing, this quantity is part of the cap and does not increase supply.

[7] https://unfccc.int/sites/default/files/2025-11/DK-2025-11-05%20EU%20NDC.pdf

would be needed to be purchased in addition to the 87 million for the ETS to achieve the 90 % reduction target.

The EU NDC as submitted to the UNFCCC for the year 2035 sets a range of net domestic emissions reductions of 66% to 72.5% of 1990 net domestic emissions. The ETS cap for 2035 should ensure an adequate contribution to this NDC target. Following the logic which was used to determine the NDC range, the ETS 1 cap in 2035 should be between 491 and 634 Mt CO_2e. The Commission proposal leads to a cap for the EU of 471 Mt CO_2e, somewhat below the more ambitious end of the range. This reflects that the ETS 1 is expected to continue to decrease emissions faster in the early years after 2030 due to remaining coal power plants leaving the market.

Table 1: The ETS in the climate target framework of the EU

GHG emissions (EU 27) in Mt CO_2e	2030	2035		2040
		NDC linear 2030-2050	NDC linear 2030-2040	85% Scenario
Net domestic	**2072**	**1586**	**1292**	**705**
ETS 1 cap	826	471		302
stationary	754	402		240
aviation	17	28		24
maritime	54	42		38
International credits	0	0		-87
BioCCS & DACCS	0	-22		-48
LULUCF (current scope)	-215	-310		-289
ESR (current scope)	1461	1447	1153	740
Gross emissions	**2287**	**1918**	**1625**	**1041**
International credits to be used outside of ETS	0	0		-148
Net accounted	**2072**	**1586**	**1292**	**470**
Net accounted vs. 1990	-56%	-66%	-73%	-90%

Source: Own calculation

The EU is at risk of failing its climate targets

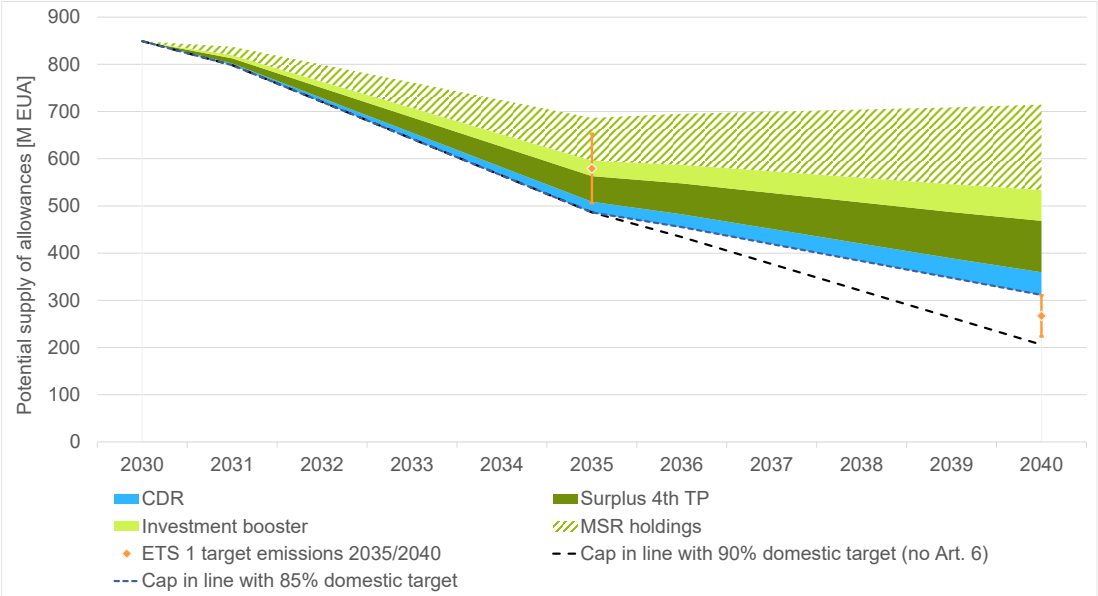
Figure 1 compares the proposed cap and potential further emissions due to additional allowances with the expected contribution of the ETS towards the EU's targets for 2035 and 2040.

- In 2035, the cap is somewhat more ambitious than the required contribution if the NDC follows a linear path between the targets in 2030 and 2040. This is possible due to the still ongoing phase-out of coal power during that phase.
- In 2040, the two cap-pathways with and without international credits are well aligned with the remaining ETS emissions for a domestic target of 85% to 90% below 1990.
- Actual ETS emissions might be much higher due to additional supply of ETS allowances outside of the cap. This includes the 250 million EUA for CDR, a surplus in the market from the period until 2030, the investment booster and potentially the remaining allowances in the MSR (see next chapter for details on these elements). If these allowances – without those in the MSR – gradually enter the market, ETS emissions could be twice as high as the cap in 2040 and in the higher half of the NDC target range in 2035.

In addition to these further allowances in the ETS, EUAs issued for the CDR financing mechanism might not be backed by removals which would increase EU-wide emissions. This could happen if industrial CDR is much more expensive than expected or deployment is delayed.

So far, sectors covered by the ETS has always been more effective in reducing emissions/increasing removals than those covered by the ESR or the LULUCF Regulation. This is exacerbated with the limitations for compensating any shortfalls in the LULUCF sector. Overall, the sum elements which increase supply in the EU ETS 1 in the Commission proposal is so large, that it puts the EU's 2040 target and subsequently climate neutrality by 2050 at risk.

Figure 1: Potential emissions in the ETS 1 under the reform proposal



Notes: The two cap lines follow the Commission proposal with (LRF of 3.7%/1.7%) and without (LRF of 3.7%/2.7%) Article 6. In 2035, the orange line shows the range of the required ETS emissions in 2035 due to the range in the NDC target. In 2040, the orange line reflects the share of Article 6 used for the ETS. For an explanation of the green and blue areas see the following the chapter.
Source: Own calculation

3 Supply and demand in the ETS 1

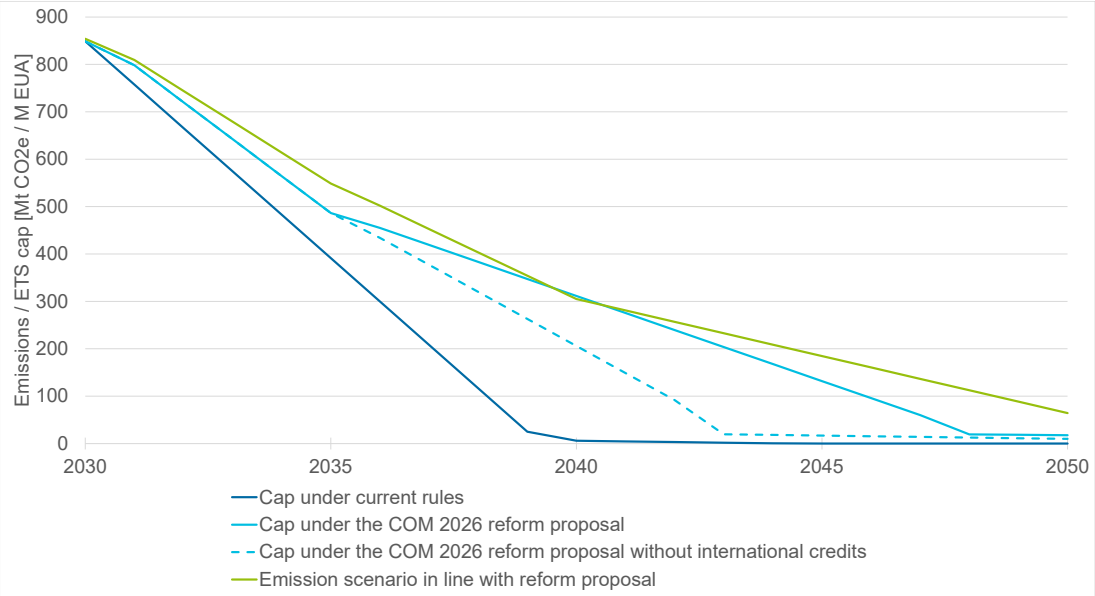
The following analysis assesses the implications of the proposed ETS amendments for allowance supply during the fifth trading period, 2031-2040. All calculations and assessments assume the Commission proposal is implemented in full, except for the proposed extension of ETS 1 to waste incineration, which is not reflected in this preliminary analysis owing to time constraints. For the removal of the MSR invalidation mechanism, the analysis assumes that invalidation ends on 1 January 2027.

The balance 2031 to 2040

The current and proposed cap developments are shown in Figure 2. Under the Commission's proposal, the cap would reach near zero by 2048. This would be achieved five years earlier under the fallback-option in case of insufficient supply of high-quality credits under Article 6. Under current rules, the cap would achieve almost zero around already in 2039.

The figure also shows the emission development used in this policy brief for our assessments. It assumes that emissions follow a pathway in line with a 90% domestic target until 2035 and then continue towards an 85% domestic compatible 2040 target. The emission pathways are based on the 2040 target impact assessment by the Commission.[8] The emissions – as well as the cap – include the extended scope for aviation and shipping. The emission scenario lies above the cap in all years except 2040, i.e. demand from covered entities is higher than the new supply.

Figure 2: Cap development under current rules and the 2026 reform proposal



Source: Own calculation

Figure 3 compares the overall balance between allowance supply and demand under the Commission proposal for the fifth trading period, 2031–2040. Under current rules, the cumulative cap over this period would amount to around 3,500 million EUAs. The proposed reduction of the LRF from 4.4% to 3.7% in 2031-2040 and 1.7% from 2036 onwards would increase the cap by 1,600 million EUAs (45%).[9] A further 250 million EUAs for carbon removals would be added on top of the cap, representing an additional 7% relative to current legislation.

Additional supply would also be carried over from earlier trading periods. By the end of 2030, the cumulative surplus—the difference between all EUAs entering the market since 2008 and total demand—would amount to 600 million EUAs (17% of the current cap for the fifth trading period). Allowances remaining in the MSR under the proposed rules of an updated TNAC definition and changes to the thresholds, intake and release parameters would add around 1,000 million EUAs (28%)[10]. In addition, the 400 million

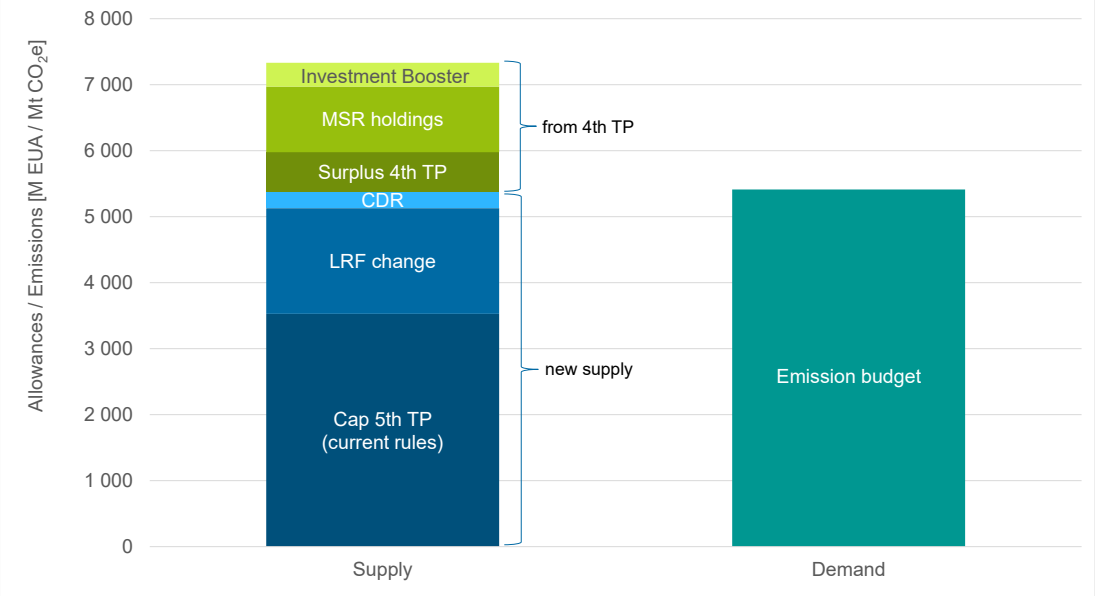
[8] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52024SC0063

[9] Under the fallback LRF of 2.7%, the additional supply would still be around 950 million EUAs or 17%.

[10] This value includes 200 million EUA from the New Entrants Reserve which originally came from the MSR. Under the COM proposal, these EUA remain in the NER and are not returned to the MSR. For our assessment, we assume that the NER is not used until 2040. Any release from the NER would increase supply in the ETS even further.

EUAs reserved for the Investment Booster are assumed to be auctioned during 2030–2039[11], increasing supply by a further 10% compared to the current fifth period cap.

Figure 3: Balance of supply and demand in the ETS 2031-2040



Source: Own calculation

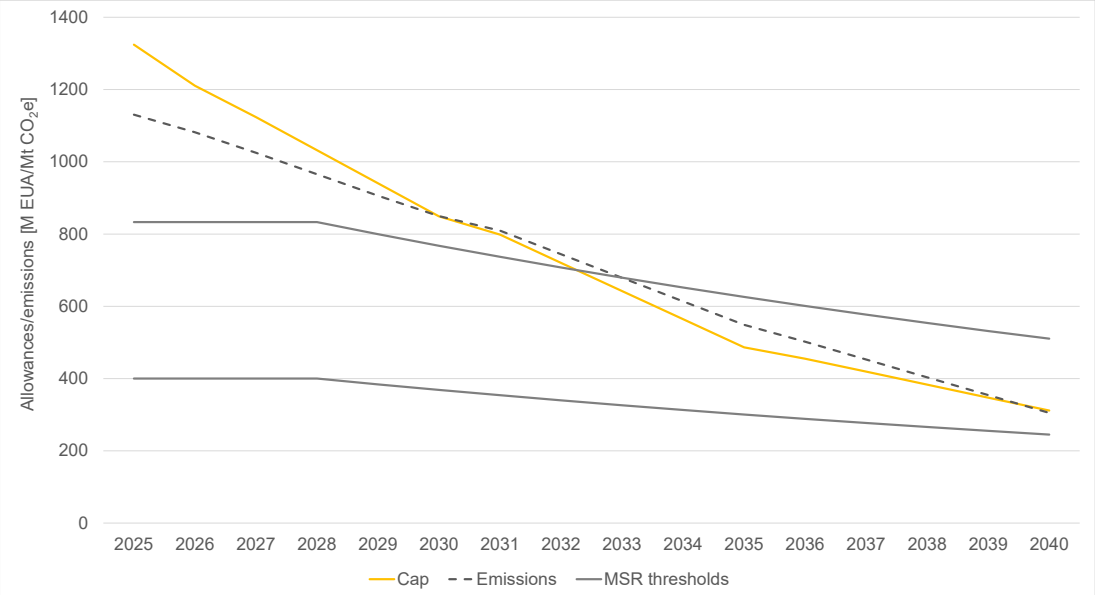
Overall, this results in a theoretical allowance supply of around 7,300 million EUAs during the fifth trading period. By comparison, cumulative emissions in the target scenario amount to only around 5,400 $MtCO_2e$. Supply would therefore exceed demand consistent with reaching the 2040 target by 35%, creating a significant risk of low carbon prices and higher emissions. This could jeopardise the EU's ability to meet its 2040 target under the European Climate Law and its NDC.

Changes to the MSR

Figure 4 illustrates the proposed evolution of the main MSR parameters relative to the ETS 1 cap as proposed by the Commission, as well as the 2040 target compatible emissions trajectory. The Commission proposes that, from 2029, the MSR thresholds and the maximum release amount decrease by 4% annually, reflecting the expected contraction of the market. This approach is intended to preserve the relationship between the size of the market, hedging needs and market liquidity. However, the cap and projected emissions decline more rapidly than the MSR thresholds. At the start of the MSR in 2019, the cap was around 125% above the upper threshold; by 2030, it would be only around 10% above the already declining upper threshold. By 2040, the cap would be around 40% below the upper threshold. This raises questions about whether the proposed dynamic adjustment is sufficient to maintain a meaningful relationship between the MSR parameters and the size of the market over time and depends strongly on expected hedging needs and conditions for market liquidity.

[11] It is assumed that revenues from these auctions would be frontloaded to finance the Investment Booster in 2028–2030 (in a similar fashion as the ETS 2 Frontloading Facility).

Figure 4: MSR thresholds, the cap and the emission scenario



Source: Own calculation

The introduction of a lower buffer between 300 million and 400 million EUA would smooth releases when the TNAC approaches the lower threshold. Replacing the current fixed release of 100 million EUA with a volume corresponding to the gap between the TNAC and the threshold would reduce abrupt effects and improve predictability.

By contrast, reducing the intake rate to 12% weakens the MSR's capacity to absorb large surpluses and limits its response to renewed oversupply (see next section).

The proposal also revises the definition of the total number of allowances in circulation (TNAC). The current calculation does not fully reflect cumulative net aviation demand before 2024 or Member States' use of EUAs for compliance under the Effort Sharing Regulation. Including net aviation demand for 2012–2023, as proposed by the Commission, reduces the calculated TNAC by 173 million allowances from 2028, narrowing the gap between the market-relevant TNAC and the TNAC used for MSR operation. This enables an earlier MSR response to a tighter market. It should be assessed whether demand linked to Effort Sharing Regulation compliance should also be included in the updated TNAC definition.

Availability of allowances in the market

The preceding assessment is based on the theoretical volume of allowance supply. In practice, however, not all allowances held in the MSR would return to the market, as the reserve adjusts allowance supply in response to market conditions.

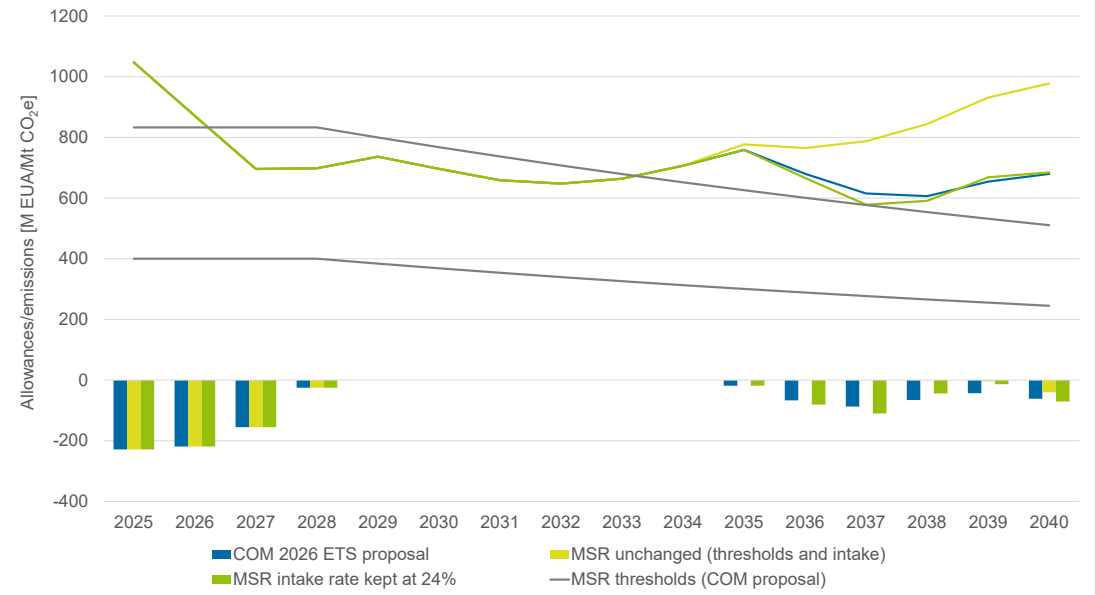
Figure 5 presents the development of the official TNAC value. This is about 80 million higher than the market-relevant TNAC, i.e. the total number of allowances in circulation visible to the market including net demand from ESR flexibility (see previous section). We show the development of the TNAC under the Commission proposal (blue line), alongside the effect of individual reform elements (light and dark green lines) and annual MSR intakes (bars).

Under the Commission proposal, the TNAC remains above 600 million EUA throughout the fifth trading period to 2040. While it remains broadly stable in absolute terms, it is above the upper threshold from 2033 onwards and increases substantially relative to the declining cap and projected emissions, reaching around 120% of the cap in 2040.

The modelled MSR rule changes have different effects. Leaving the intake rate at 24% (dark green line) has little impact compared to the Commission's proposal, because the TNAC is largely within the upper buffer zone, where the full surplus above the upper threshold is withdrawn irrespective of the maximum intake rate.

By contrast, retaining the current, fixed MSR thresholds of 833 million and 400 million EUA, together with a 24% intake rate (light green line), would have a more noticeable effect,

Figure 5 TNAC development 2031 to 2040



Source: Own calculation

Under the reform proposal, the MSR would continue to play an important role in containing the surplus arising from the higher cap due to the lower LRF, additional auctions for the Investment Booster, CDR-related supply, and allowances entering the fifth trading period from earlier periods through both the MSR and the accumulated market surplus. However, its capacity to do so would be limited by the lower intake rate and the removal of the invalidation mechanism. A lower-than-projected emissions trajectory, as observed in previous trading periods, could result in a renewed and potentially self-reinforcing build-up of surplus.

Carbon Dioxide Removal technologies

The 250 million allowances for CDR financing come on top of the cap (see above). They should enter the market gradually aiming at 48 million additional EUA in 2040. To raise sufficient revenues early on, auctioning under this provision can be front-loaded which would be compensated by backloading other auctions achieving a net

gradual introduction. In our assessment, we assume a linear introduction of the additional supply.

Operators can apply BioCCS in ETS installations. Any removals would be deduced from the surrender obligation, but no additional allowances or certificates would be created. In effect that means that an installation can become climate neutral under the ETS but not net negative. Any CDR quantities used in this way will be deducted from the central 250 million, i.e. the sum of operator CDR and additional allowances/CDR by the Commission remains constant. The mechanism is only emission neutral if sufficient CDR can be purchased; in that case, the additional emissions in the ETS would be compensated by additional CDR outside the ETS.

4 International transport

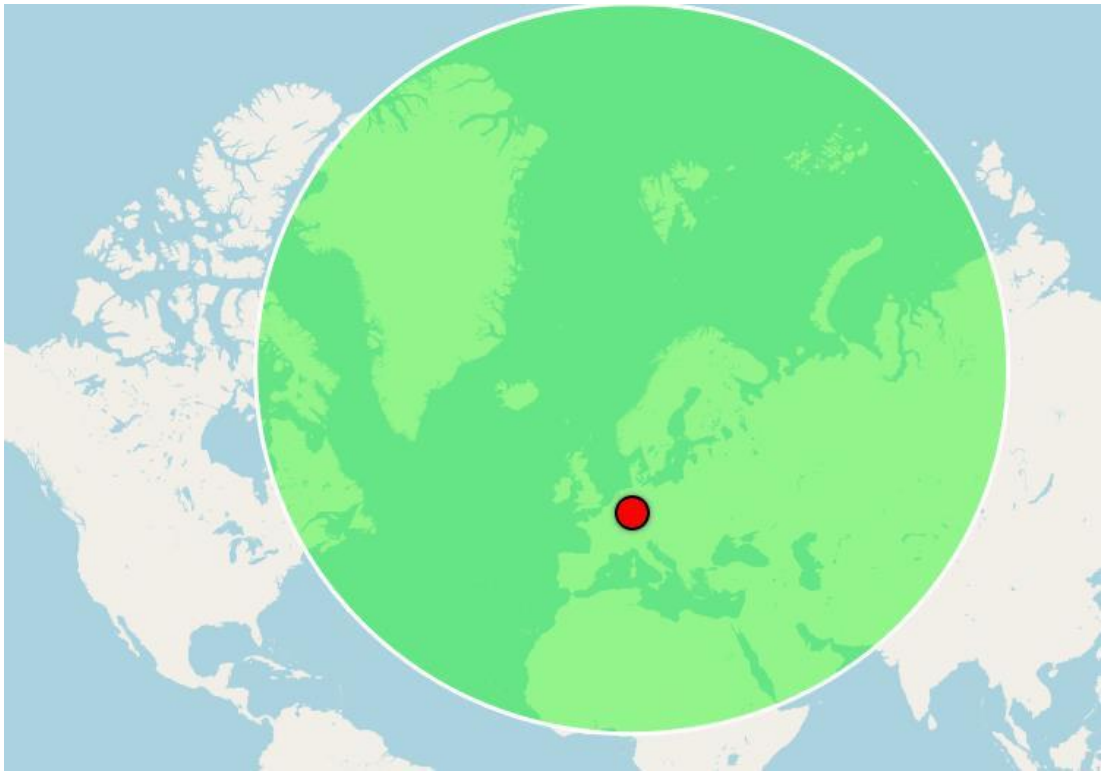
Extending the aviation ETS to non-EU airports within 5 000 km

The proposal to extend the geographical scope of the aviation ETS to outgoing flights to selected non-EU airports falls behind the original full ETS scope before the "stop the clock" decision as fewer CO_2 emissions are covered. However, in light of continued insufficient progress to reduce emissions under CORSIA more action on emissions from international flights is needed. The reduced ETS extension to flights to certain non-EU airports acknowledges a share of the EU's responsibility for emissions from international flight. The decision on whether CORSIA's environmental integrity is sufficient to argue against a further ETS expansion is postponed until a review in 2032.

The advantage of the proposed scope extension is clearly the inclusion of important non-EU hubs (like Istanbul and the middle east) while still excluding flights to North America (Figure 6). T&E estimates that the new scope would be 33% higher than the current intra-EEA scope.[12] The additional revenues raised through the extension and the expansion of the FEETS mechanism up to 2040 are important for the decarbonization of the sector. The new incentive to receive EUAs through FEETS for implementing contrail avoidance measures is a good next step after introducing the MRV to address non-CO_2 effects of aviation – which represent about two thirds of the total aviation climate impact. Although smaller private jets only represent a small share of total European aviation emissions, these flights are typically short distance and thus easier to avoid (modal shift) and passengers taking these flights have typically a low elasticity of demand and high willingness-to-pay. Including these flights into the ETS makes this segment contribute their fair share of reducing aviation emissions.

[12] https://www.transportenvironment.org/articles/eu-takes-half-hearted-step-towards-taxing-international-flights

Figure 6: Indicative new scope of the aviation ETS (outgoing flights)



Source: https://www.freemaptools.com/radius-around-point.htm

The limited ETS extension to flights to non-EU airports within 5 000 km can address carbon leakage risks related to hub switching as typical hubs like Istanbul and Qatar would be included. Further, the extension of the FEETS support mechanism in volume and to all departing flights might also alleviate carbon leakage and competitiveness concerns as it aligns better with the scope of ReFuelEU Aviation and as SAF costs are major component in cost differences between competing routes. The advantage of this ETS extension is that all extra-EEA departing flights are treated the same and all air carriers are treated the same without disadvantaging direct long-haul flights. It increases the level playing field between EEA and non-EEA hubs compared to the current ETS scope.

The proposal moves the aviation ETS into the right direction by further extending the scope and taking more responsibility for the EU's international aviation emissions, and by relying on recycling revenues into the sector and rewarding SAF uptake instead of using free allocation to address potential competitiveness and carbon leakage concerns.

Changes to the Maritime ETS

The ETS scope extension to smaller ships is a reasonable next step after their inclusion in the MRV for maritime transport. These ship types have more mitigation options at hand than large deep-sea ships as these smaller ships can, for example, easier switch to battery-electric propulsion. The continued derogations represent a much smaller amount of emissions which will stay outside the ETS until 2035. The introduction of a new SMAP (Sustainable Maritime Alternative Propulsion) support mechanism with 110 million allowances for the period 2028 to 2040 with a focus on

alternative fuels made in Europe is very important for the decarbonization of the sector. There is currently a lack of alternative fuel production in Europe and a considerable price gap between renewable and fossil fuels. The technology neutral approach of SMAP acknowledges that propulsion switches (such as batteries and wind-assisted propulsion) can contribute significantly to mitigation although a clearer focus on RFNBOs could have steered the fuel market towards this truly scalable fuel option for maritime transport.

The existing ETS transhipment clause is already a good tool to address evasive actions within maritime transport. The proposed refinement by lowering the thresholds for neighbouring transhipment ports and the continuous monitoring of evasive behaviour are hence an adequate step to react to potential future change in maritime transport patterns before other new measure are considered.

Maritime transport was included in the EU ETS 1 in 2024, and the current revision further improves the maritime ETS while holding on to smaller avoidable derogations.

5 Free allocation and auctioning revenues

The Commission proposal has significant implications for the level of emission allowances allocated free of charge during the fifth trading period, 2031-2040. The overall volume of free allocation is primarily determined by two factors:

- The LRF change (Art. 1 (9) of the Commission proposal) increases the total supply of allowances on the market (cap) and, consequently, the number of allowances available for free allocation which is defined as a share of the total cap. As a result, the adjustments to the effective allocation triggered by the Cross-sectoral Correction Factor (CSCF) would be less restrictive. In addition, an increased allocation buffer of up to 4% of the cap (Recital 53 of the Commission proposal), can be expected to be fully utilised from 2031 onwards.
- The reduction in the phase-out of free allocation under the CBAM factor (Art. 1 (15) of the Commission Proposal) - 7 percentage points in 2030, 13 percentage points in 2033, and 15 percentage points from 2034 to 2037 - results in higher free allocation for installations manufacturing CBAM-covered products.

Table 2 indicates the level of free allocation for each 5-year allocation period between 2026 and 2050 according to the Commission proposal and compared to current rules. Overall, the number of allowances allocated for free increases by 21% in the period up to 2050. The estimates further indicate that, under the Commission proposal, free allocation to non-CBAM installations would increase by 26%, compared with an increase of 13% for CBAM installations, relative to the current legal framework.

Table 2: Free allocation to stationary installations

	Projections			
Cap	Current (LRF 4.4%)	COM proposal (LRF 3.7% 2031-2035, 1.7% from 2036)	Current (LRF 4.4%)	COM proposal (LRF 3.7% 2031-2035, 1.7% from 2036)
Benchmarks	Current	Current	Current	Current
CBAM	Current	COM proposal	Current	COM proposal
	million EUA		billion EUR	
Non-CBAM installations				
2026-2030	1 392	1 392	132	132
2031-2035	588	690	71	79
2036-2040	112	369	17	50
2041-2045	-	165	-	22
2046-2050	-	10	-	1
CBAM installations				
2026-2030	1 093	1 120	104	106
2031-2035	95	201	12	23
2036-2040	-	25	-	3
2041-2045	-	-	-	-
2046-2050	-	-	-	-
Total				
2026-2030	2 486	2 512	236	239
2031-2035	683	890	83	102
2036-2040	112	394	17	53
2041-2045	-	165	-	22
2046-2050	-	10	-	1

Notes: Assumptions for the trend in EUA prices: 2026–2030 €95; 2031–2035 €115; 2036 and beyond €135; annual price reduction of 1 percentage point for the COM proposal compared to the actual legislation (i.e. 10% between 2036-2040 and 2026-2030 etc.)

Source: Oeko-Institut

The proposed changes to the benchmark system for free allocation from 2031 onwards are expected to have no impact on the overall level of free allocation, as the preliminary allocation on this basis is adjusted by the CSCF. Changes to the benchmark system therefore have exclusively distributional effects among the installations that receive free allowances. However, the proposal to continue the updating of benchmarks on the basis of the best 10% installations in the EU, combined with a corridor for the minimum and maximum reductions in the benchmarks (Recital 51 and Art. 1 (15) of the Commission proposal), will, given the growing role of zero-carbon technologies amongst the top 10% of installations, lead to increased uncertainty for (all) operators regarding the expected level of free allocation. This growing uncertainty also constitutes a significant challenge for the bankability of decarbonisation projects. A uniform adjustment of the benchmarks by, for example, an annual rate of -0.3% may have presented a more appropriate approach, given the safeguards put in place by the CSCF.

Table 2 also provides an indicative estimate of the value of additional free allocation. Such estimates depend strongly on the assumed EUA price trajectory, which in turn is determined by the interaction between the EU ETS 1 and accompanying policies. Such policies affect the marginal cost of abatement that sets the EUA price. Historically, this has primarily reflected the coal-to-gas switch in the power sector; from the mid-2030s onwards, the EUA price is likely to depend increasingly on the availability and cost of CCS options. The EUA price assumptions used are set out in the notes to Table 1 but remain subject to substantial uncertainty. The different time horizons for

the impact of the different levers of free allocation (CSCF, CBAM-Factor) lead to results that differ slightly from those for the allowances. Compared current rules, the total value of allowances allocated for free rises by an estimated 80 billion Euro or 24%, despite lower assumed allowance prices in the Commission proposal scenario. The value of free allocation to CBAM installations increases by 15%, while increasing by 29% for non-CBAM installations.

Table 3: Auctions (stationary installations only) and auctioning revenues

	Projections			
Cap	Current (LRF 4.4%)	COM proposal (LRF 3.7% 2031-2035, 1.7% from 2036)	Current (LRF 4.4%)	COM proposal (LRF 3.7% 2031-2035, 1.7% from 2036)
Benchmarks	Current	Current	Current	Current
CBAM	Current	COM proposal	Current	COM proposal
	million EUA		billion EUR	
2026-2030	2 244	2 218	213	211
2031-2035	1 898	1 897	230	218
2036-2040	405	1 172	61	158
2041-2045	-	569	-	77
2046-2050	-	51	-	7

Notes: Assumptions for the trend in EUA prices: 2026–2030 €95; 2031–2035 €115; 2036 and beyond €135; annual price reduction of 1 percentage point for the COM proposal compared to the actual legislation (i.e. 10% between 2036-2040 and 2026-2030 etc.)

Source: Oeko-Institut

Table 3 provides an overview of the remaining level of allowances available for auctioning, which is calculated as the difference between the cap and the total level of free allocation (in this case, both for stationary installations). Given the cap increase, the number of allowances to be placed on the market via auctions for stationary installations will increase by around 1.4 billion EUA or 30% compared to current rules. The estimated auction revenue related to this will rise by approx. 170 billion Euro or 33% by 2050. Based on our estimates, the increase in auction revenues due to Commission proposals for the aviation and maritime sectors amounts to an additional approx. 100 billion Euro by 2050, representing a 100% increase compared to auction revenues related to these sectors under current rules. It should be stressed that this estimate is subject to extremely high uncertainties regarding the effects of the Commission proposal on allowance prices.

Under the Commission proposal, the continuation and, in some cases, expansion of free allocation will be accompanied by a comprehensive obligation to invest in decarbonisation technologies that are compatible with achieving the 2050 climate neutrality target (Art. 1 (15) of the Commission proposal). All operators of installations receiving free allowances must submit and publish an ‘Invest in EU decarbonisation plan’ every five years. They will be required to invest the equivalent value of their free allocation for the respective five-year periods. In this context, initially only 80% of the allocated allowances will be issued, with the remaining 20% to be issued once the decarbonisation measures laid down in the ‘Invest in EU decarbonisation plan’ have been successfully implemented. In the event of relocation of production to sites outside the EU, there is a provision for a repayment obligation amounting to the equivalent value of the allowances issued for free. To ensure that these regulations are as streamlined

as possible and allow for appropriate flexibility between the relatively rigid five-year accounting periods, further comprehensive and in-depth discussions will be needed.

Finally, EU Member States shall use at least 50% of the auctioning revenues (after deducting the funds used to offset indirect CO_2 costs) to support the decarbonisation of the sectors covered by the EU ETS-1 (Art. 1 (14) of the Commission proposal). The effective enforcement of this obligation should be seen as a key success factor for the effectiveness of the EU ETS-1 from a holistic perspective.

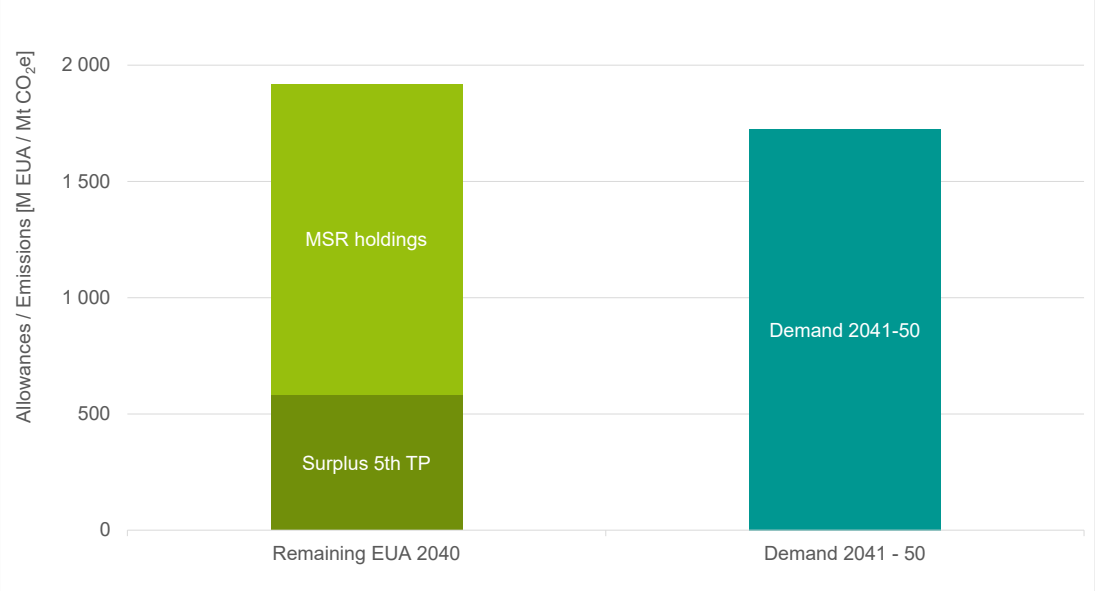
6 No endgame in sight - looking beyond 2040

Figure 7 looks beyond 2040 towards the sixth trading period. The current reform proposal will significantly impact the ETS the period until 2050: In the emission scenario used for this briefing, overall demand 2041 to 2050 is about 1 700 Mt CO_2e. Compared to that demand, the remaining quantity of allowances being transferred from 2040 to 2041 is already 11% higher: There is a surplus of about 600 M EUA in market, i.e. with operators, traders and other private entities. In addition, the MSR would have holdings of about 1 300 M EUA.

Any cap beyond 2041 would increase supply even further. If the LRF remains at 1.7%, the additional cap would be about 1 200 M EUA and total supply would be approx. twice as high as demand. The so-called end-game of the ETS, the moment when there is no supply anymore and minimal demand, would be delayed well beyond the year 2050 in which the EU has to achieve climate neutrality.

The ETS will most likely undergo (several) reforms until 2041 and these comparisons will change, but it reinforces our point that the proposed ETS reform by the EU Commission increases supply beyond what is needed and possible to achieve the EU's 2040 and 2050 climate target.

Figure 7: Comparing the surplus of EUAs in 2040 with cumulated emissions 2041-50



Source: Own calculations

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