sandbag
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Technical brief

EU ETS Reform:

Let’s not invalidate climate policy!

JUNE 2026

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A response to proposed reforms to the EU Emissions Trading System

June 2026

On 1 April 2026, the European Commission published data on the number of free emission allowances in its emissions trading system (EU ETS) and proposed to change its key stabilising mechanism, the market stability reserve (MSR). The European Commission also released preliminary emissions data which shows that stationary installation emissions fell by 1.3% in 2025 from the previous year, and in late May updated supply and demand figures as part of its TNAC[1] communication.

In March this year, ahead of the last Council meeting, the French Environment Minister called for "smoothing the line, so allowances don't end in 2040 but in 2050".[2] This was backed by Poland, asking for an annual reduction "from 4.3% towards 2-3%",[3] and later by Germany, calling for a reduction of the LRF from 2036 onwards,[4] referring to the linear reduction factor which sets the emissions cap of the ETS. On various occasions, the European Commission has floated the idea of letting carbon removals and/or international credits into the system, including through "raising the cap".[5] In early June, EU ETS rapporteur MEP Peter Liese was reported as asking for an LRF at 3.4%.[6]

Based on our updated EU ETS simulator, this technical brief models the impact of the above proposals on the market's supply/demand balance under the European Commission's impact assessment emission scenarios:

- Emission scenario S1: 75% reduction in EU-wide emissions by 2040 (ETS sectors: -83%)
- Emission scenario S2: 85% reduction in EU-wide emissions by 2040 (ETS sectors: -89%)
- Emission scenario S3: 95% reduction in EU-wide emissions by 2040 (ETS sectors: -93%)

The Impact Assessment provides emission breakdowns between power, industry, aviation, and shipping sectors. We translated these into forecasts for the sectors covered by the EU ETS, drawing linear trajectories from 2025 values to 2040 in the relevant sectors.

Table 1: Implications of different ETS design options on emissions levels, and surplus EUAs, and the MSR.

	ETS 2040 Emissions	Surplus EUA	MSR
Current design	> -93% (S3)	312m	-
No invalidation	> -93% (S3)	330m	638m
LRF reduced to 3.4%	> -89% (S2)	491m	100m
+ No invalidation	= -83% (S1)	63m	372m
+ 3% offsets/removals	> -83% (S1)	408m	372m
Aviation limits	> -93% (S3)	437m	-

[1] Total number of allowances in circulation.
[2] 20 minutes, *La France veut « assouplir » le marché du carbone européen et prolonger les quotas gratuits*.
[3] Carbon Pulse, *Poland floats slower annual EU ETS emission cuts, targets zero allowances by 2050*.
[4] Contexte, *Non Paper: Den ETS 1 zukunftsfest machen und die Wettbewerbsfähigkeit stärken*.
[5] Carbon Pulse, *Brussels eyes raising EU ETS cap to make room for carbon removals*.
[6] Contexte, *ETS veteran Peter Liese rejects far-right alliance for upcoming revision*.

Having updated our ETS Simulator with the latest (preliminary) data, we find that the EU ETS ended 2025 with a **total surplus of 2,190 million EUAs** (two years' worth of emissions), split between allowances in circulation (892m)[7], the New Entrants Reserve (486m), unallocated allowances carried over from previous years (117m), the Greece fund (25m), and the MSR (670m). On 1 January 2026, 270m allowances from the MSR were invalidated, to bring the 670m in the MSR down to 400m.

We calculated **excess EUAs** as the sum of allowances in circulation and the New Entrants Reserve, as it is likely that unallocated NER amounts will eventually reach the market, for example through the Investment Booster proposed by the European Commission.

Current design

Our first simulation is with the ETS's current design. Under the current rules, the MSR invalidates allowances when its total exceeds 400m, and the LRF reduces the annual cap by 4.4%, driving it to virtually zero by 2039.

Figure 1 shows the **S3** pathway, in which ETS **emissions decrease by 93%**, with a **surplus in the overall market balance of 312m EUAs** (in circulation or in the NER, see blue line). The number of allowances in the MSR reaches zero in 2040.

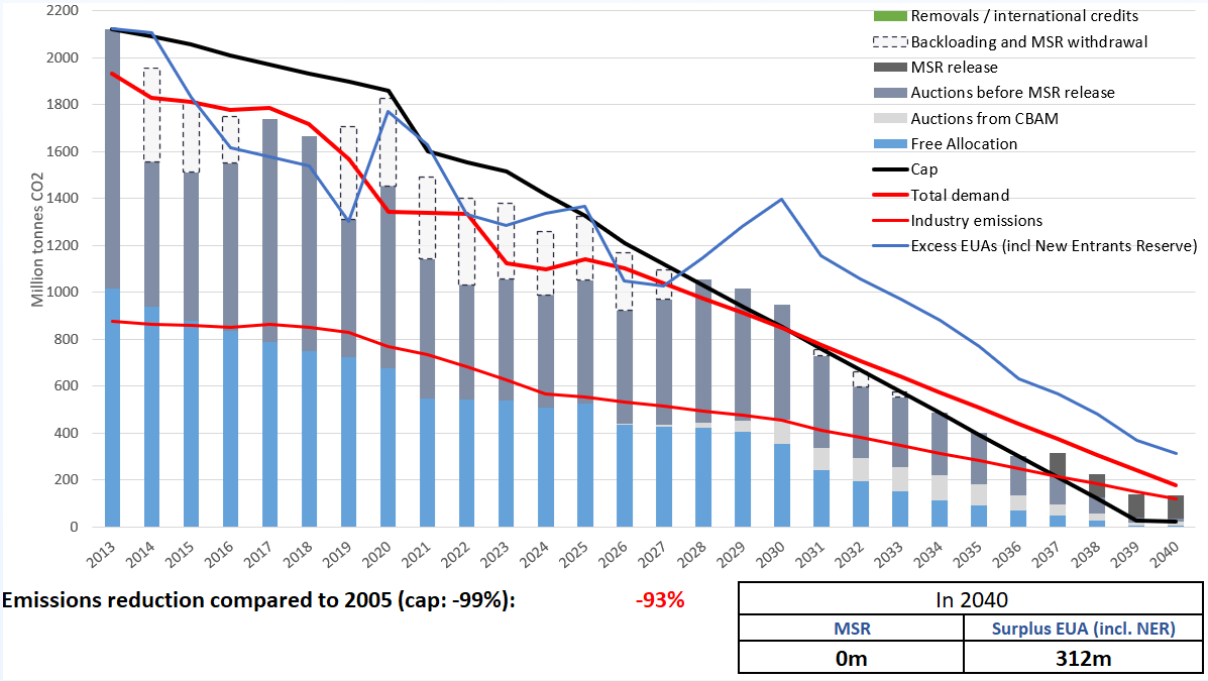
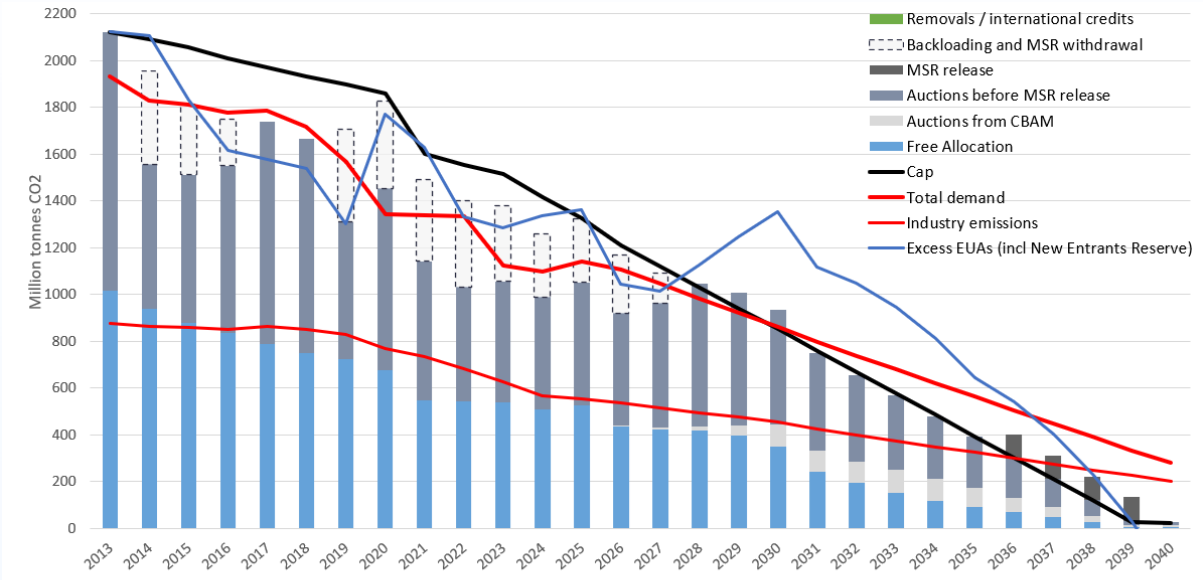


Figure 1: Scenario S3 under the current design of the EU ETS

Under the **S2** pathway, ETS **emissions decrease by only 89%**, and the EU as a whole would miss its 90% emissions reduction target. In this scenario, the market has a **deficit of -232m EUAs**. The market would therefore likely push EUA prices to levels high enough to bring emissions back down and balance the market. The current design effectively drives emissions between scenarios S2 and S3, which is in line the EU's ambition of climate neutrality by 2050.

[7] This is less than the TNAC published yearly, which included net aviation demand before 2024.



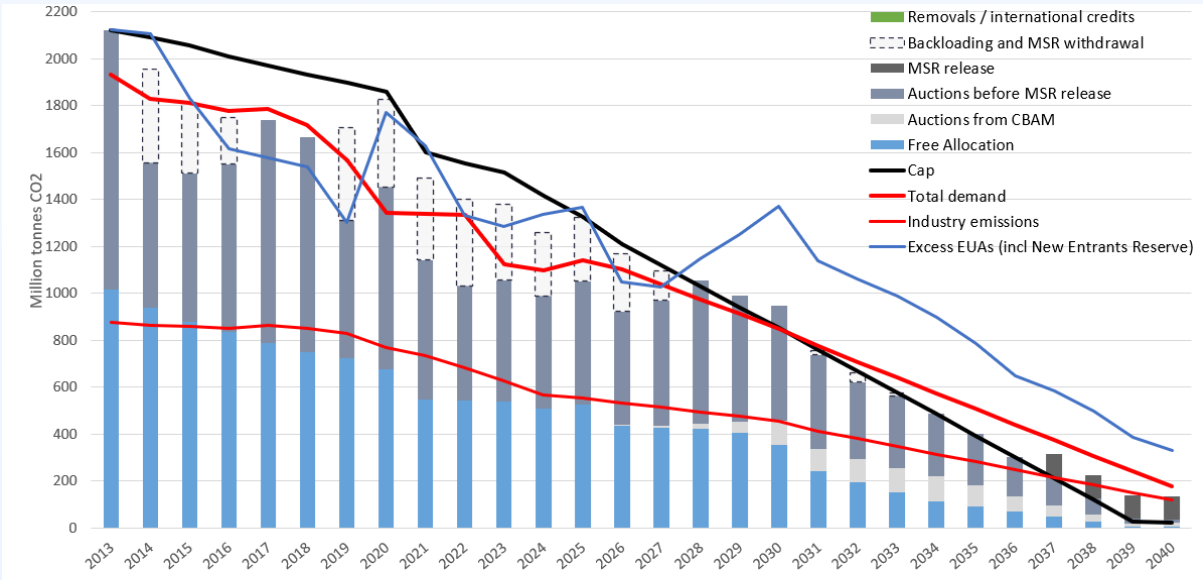
Emissions reduction compared to 2005 (cap: -99%): -89%

In 2040	
MSR	Surplus EUA (incl. NER)
0m	-232m

Figure 2: Scenario S2 under the current design of the EU ETS

No invalidation of MSR allowances

Our modelling shows that the European Commission's proposal to stop the invalidation of EUAs in excess of 400m in the MSR from 2031 onwards would have a **limited near-term impact on the market balance, but significant structural implications**.



Emissions reduction compared to 2005 (cap: -99%): -93%

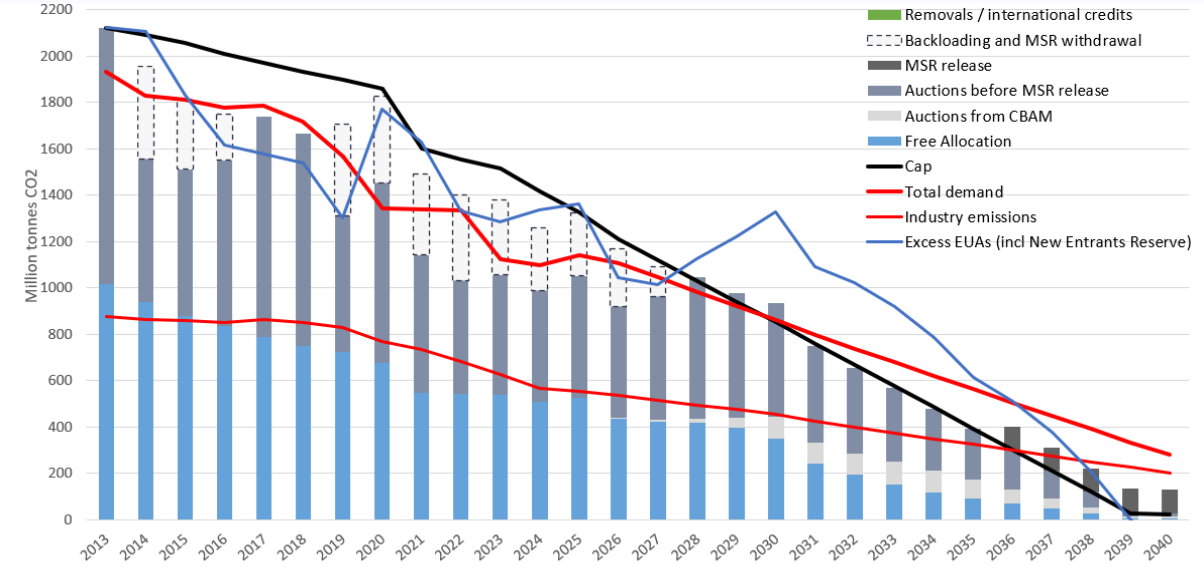
In 2040	
MSR	Surplus EUA (incl. NER)
638m	330m

Figure 3: No MSR invalidation in scenario S3

Under **S3**, stopping the invalidation of EUAs in excess of 400m would not materially change the number of excess EUAs (330m). This is because under that pathway, the reserve only starts releasing 100m

allowances every year from 2037 so it cannot release more than it already does until 2040 (400m). However, under scenario S3, the size of the **MSR would grow to 638m allowances**.

Under **S2**, there would still be a **deficit of 159m allowances, but the MSR would grow to 472m**. Despite the small impact on the market balance, an MSR of this size could create political pressure to release allowances outside the authorised 100m annual release rate, for instance to meet various demands from stakeholders, as the market value of its assets make it a tempting instrument for the Commission to raise quick funding. This would create **uncertainty and instability** on the market balance and prices.



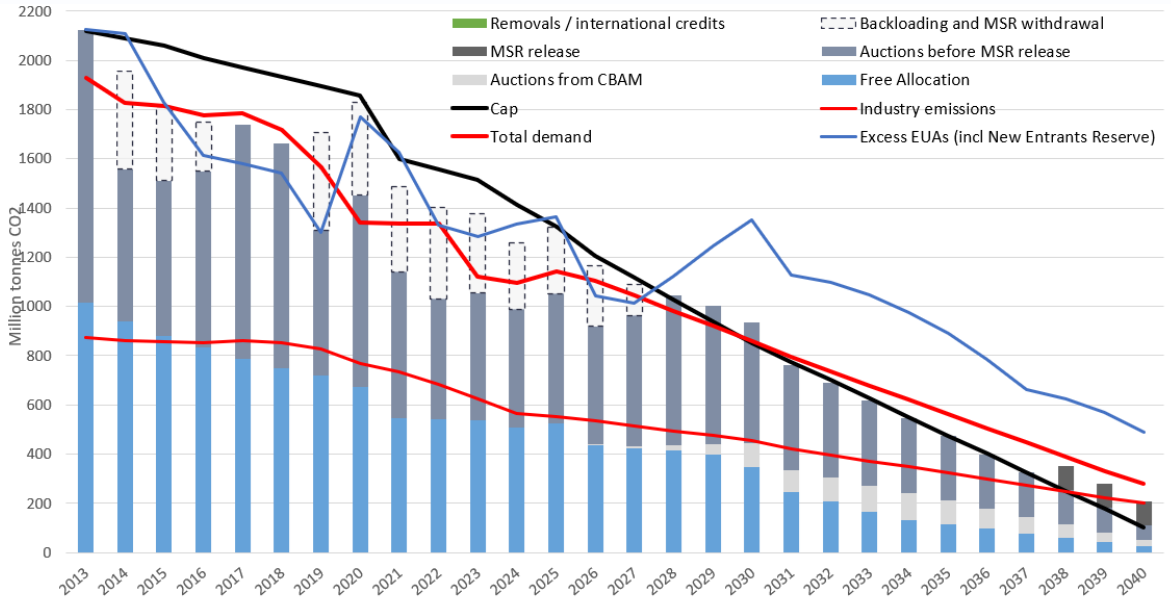
Emissions reduction compared to 2005 (cap: -99%): -89%

In 2040	
MSR	Surplus EUA (incl. NER)
472m	**-159m**

Figure 4: No MSR invalidation in scenario S2

LRF reduced to 3.4%

We created a simulation in which the LRF is reduced from 4.4% currently to 3.4% between 2030 and 2040, which corresponds to Peter Liese's proposal. This proposal is somewhere between the current design and France's proposal. Under the **S2** pathway, the market would reach 2040 with **491m surplus allowances** (over a year's worth of emissions) and **100m in the MSR**.

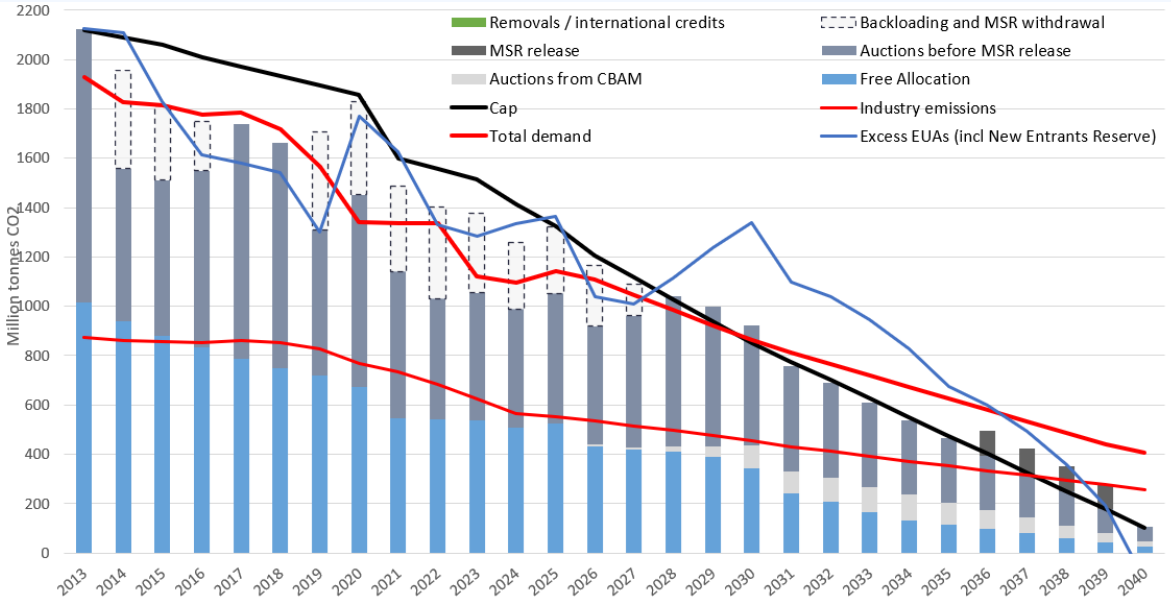


Emissions reduction compared to 2005 (cap: -95%): -89%

In 2040	
MSR	Surplus EUA (incl. NER)
100m	491m

Figure 5: An LRF reduced to 3.4% in scenario S2

This design would, however, prevent the **S1** pathway (the least ambitious pathway, with only an 83% reduction by 2040 for ETS sectors) from happening, as the market would then turn to **a deficit of 110m allowances. The S2 pathway would be most likely scenario.**

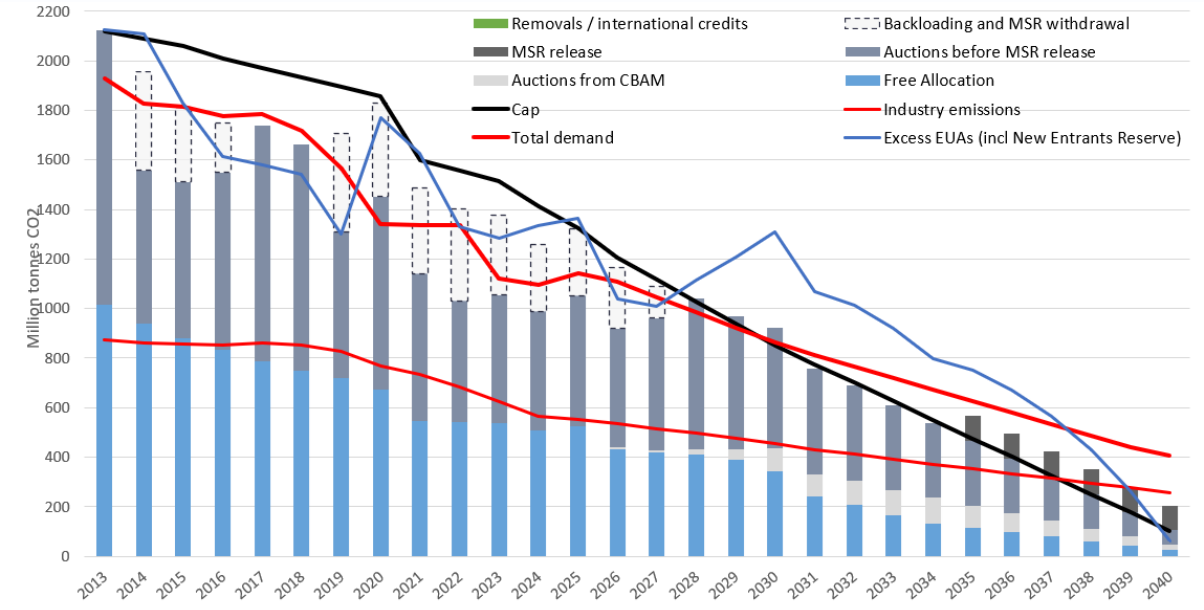


Emissions reduction compared to 2005 (cap: -95%): -83%

In 2040	
MSR	Surplus EUA (incl. NER)
0m	-110m

Figure 6: An LRF reduced to 3.4% in scenario S1

Combining the proposal to reduce the LRF to 3.4% with the Commission's "no invalidation" proposal would make the **S1** pathway much more likely, as the deficit would turn into a surplus and the **MSR would grow to 372m EUAs**.



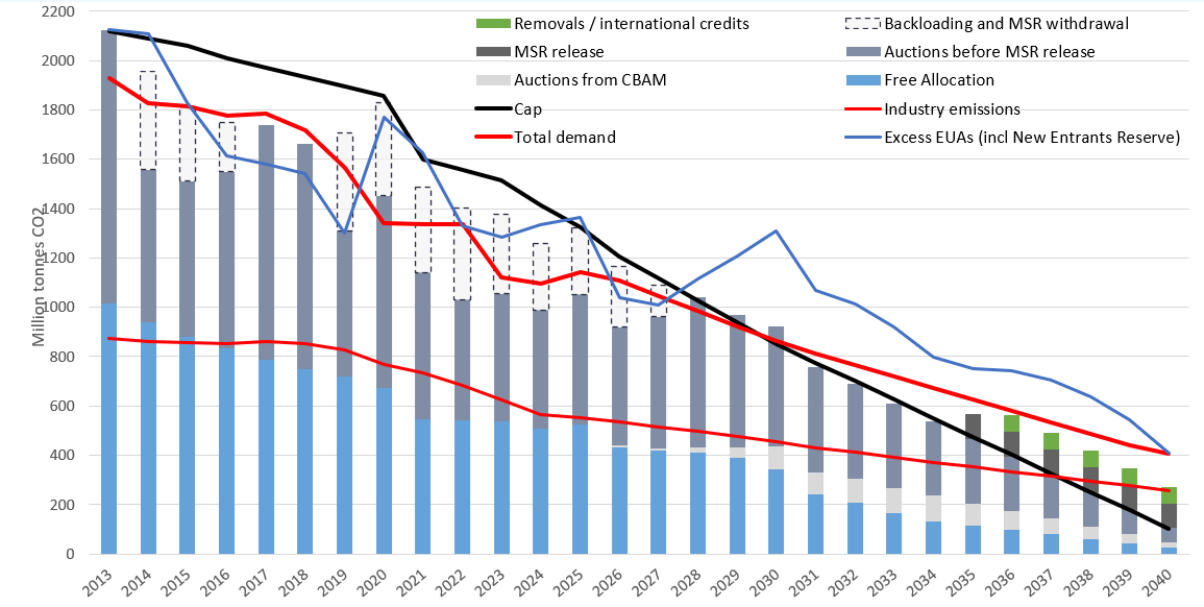
Emissions reduction compared to 2005 (cap: -95%): -83%

In 2040	
MSR	Surplus EUA (incl. NER)
372m	63m

Figure 7 An LRF reduced to 3.4% and no MSR invalidation in scenario S1

3% Removals or offsets

In a simulation introducing an additional 3% of 2005 emissions permits in the form of carbon removals or offset credits, the **S1** scenario would create a large **surplus of 408m allowances**, with **372m in the MSR. Scenarios S3 and S2 would become unachievable**, and even the high-emissions S1 pathway might not even be achieved as the incentives created by the carbon price would be too weak.



Emissions reduction compared to 2005 (cap: -95%): -83%

In 2040	
MSR	Surplus EUA (incl. NER)
372m	408m

Figure 8: 3% Removals or offsets in scenario S1

Sandbag's recommendation: phase out aviation's access to stationary allowances

An important feature of the EU ETS is its **imbalance between the aviation sector** (which has consistently emitted more than its cap) **and the stationary sectors** (which have emitted less than their cap) while sharing the same emission allowances. This situation procures aviation with a relatively cheap compliance instrument, as buying surplus stationary allowances is much cheaper than curbing aviation emissions. In contrast, for the other sectors, this creates more demand and pushes up prices.

We believe that **access by aviation to stationary allowances should be restricted**. The sector's current unlimited access to stationary allowances acts like an abatement deterrent, **making decarbonisation the least economical option**. This is because decarbonisation options for aviation are generally more expensive than for other sectors. This is particularly relevant, considering that the aviation industry will likely miss its net-zero emissions goal for 2050.[8]

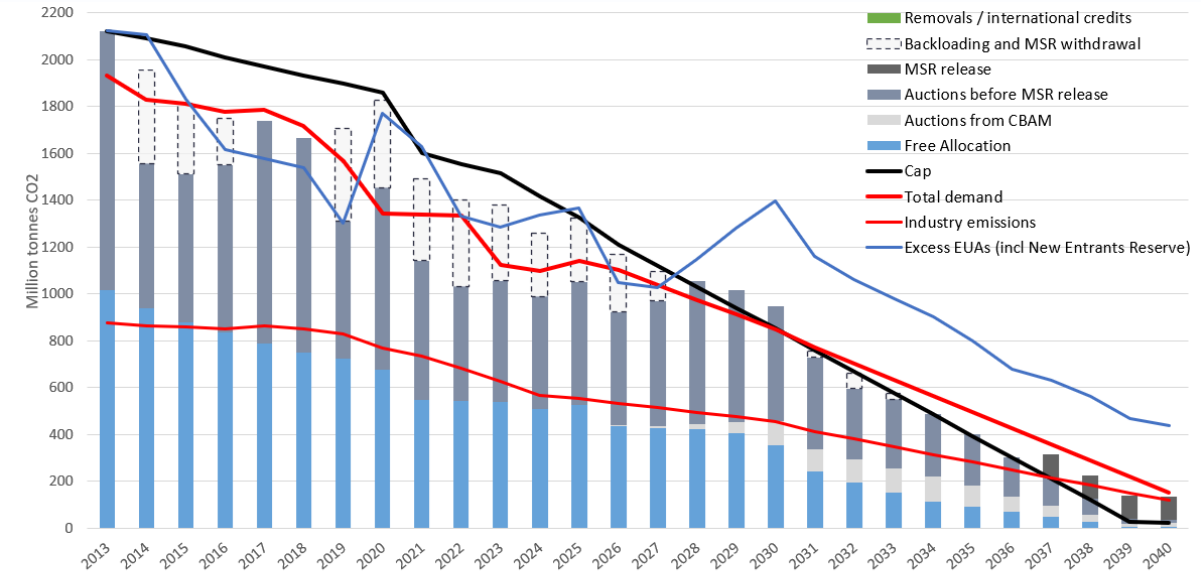
By purchasing emission allowances from stationary installations, airlines essentially **offload the decarbonisation burden onto industry sectors**. However, intra-EU air transport (and to a large extent international flights departing from the EU)[9] is not exposed to international competition, so it could pay more for emission allowances without risking carbon leakage.

In the S3 scenario, intra-EU aviation emissions decrease **from 57m tCO_2 in 2025 to 28m tCO2** in 2040, but the aviation cap decreases to about 5m allowances. If aviation demand was counted (as is the case in the "current design" option), the difference would add significant demand, at the expense of other sectors. This pressure on other sectors would worsen if international flights were added to the scope of the EU ETS.

Restricting access by airlines to stationary allowances can be done in a number of ways. One way would be to allow airlines to resume the issuance of EU Aviation Allowances (EUAAs) for aviation and allow airlines to meet their compliance using **EUAAs plus a limited percentage of EUAs**. Such a limitation would make EUAAs more valuable and allow Member States to raise more funds, for example to develop rail transport infrastructure.

We created a design option where this extra demand from airlines for stationary allowances linearly reduces to zero in 2040. Under this design, in the **S3 scenario**, a **surplus of 437m remains in 2040**, with an **empty MSR**.

[8] The Guardian, *Airline industry chiefs say 2050 net zero goal now unlikely*.
[9] Transport & Environment (2023), '*Flying via Istanbul: escaping climate measures?*



Emissions reduction compared to 2005 (cap: -99%): -93%

In 2040	
MSR	Surplus EUA (incl. NER)
0m	437m

Figure 9 Design option in which demand from airlines linearly reduces to zero in 20240 under scenario S3

The EU ETS is fit for purpose

The current design of the EU ETS is structurally capable of driving sufficient decarbonisation to reach an emissions reduction between 89-93% by 2040. Despite ending 2025 with a surplus of 2,022 million EUAs, the combination of the MSR invalidation and the current LRF of 4.4% keep the system on track to reach the EU's climate goals.

Our modelling shows that any of the three reform proposals – suspending the MSR invalidation, reducing the LRF, or introducing removal or offset credits – make this trajectory unattainable. Combining them would be disastrous, driving the carbon price down to levels that would not drive any meaningful decarbonisation.

The EU ETS provides enough allowances to reach the right emission levels by 2040, so **the current design is fit for purpose. Weakening it – even a little bit – would have significant negative consequences.** To contain prices for industry and raise more funds for alternatives to air transport, we propose to gradually limit the access of airlines to stationary emission allowances.

Methodological notes

Emissions scenarios S1, S2 and S3 are derived from the Commission's impact assessment (IA) from 6 February 2024, *Securing our Future - Europe's 2040 climate target and path to climate neutrality by 2050 building a sustainable, just and prosperous society*. The forecasts used for the EU ETS scope are the IA's figures for "industry", "energy supply", "intra-EU aviation", "intra-EU navigation" and "50% extra-EU maritime MRV".

This study assumes that the EU ETS will keep its current scope, so the impact of any extension to more aviation or shipping lines or waste incinerators would be neutral, i.e. the emission reduction effort combined with the increased cap would have the same overall effect.

The numbers and charts are taken from Sandbag's ETS Simulator, which is currently available as beta version. These numbers and charts may change slightly in the final version, but those changes will mainly affect breakdowns between free and auctioned allowances.

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