T&E analysis of the European Commission proposal for the revision of the car CO2 regulation

Summary:

On December 16 2025, the European Commission published the proposal for the revision of the EU's car CO2 emission regulation. T&E has analysed the impact of the proposed policy changes in terms of battery electric vehicle (BEV) sales and CO2 emissions:

- The weakening of the 2035 CO2 reduction target from 100% to 90% is expected to reduce the share of BEVs by 15%, down to 85% instead of 100%. However, the proposal also introduces high uncertainty as BEV sales would fall between 50% and 95%, depending on the powertrain mix strategy adopted.
- The 2030 target would be weakened by a 3 year averaging (2030-2032) of the target with super-credits given to small BEVs made in Europe. This implies a 10 percentage point reduction in BEV share in 2030: from 57% to 47%.
- Based on the proposal, cars would emit an additional 720 million tons of CO2 ($MtCO_2e$) between 2025 and 2050 — 10% more than under the current regulatory scenario.

Recommendations: see T&E's position paper on the revision of the car CO2 regulation.

The fuel crediting system and the 3-year averaging are the most damaging flexibilities and should be cancelled. T&E recommends improving the design of the low-carbon steel credits and super-credits system to reward actual progress towards low-carbon steel and allocate bonus to the most affordable models.

1. Introduction

On 16 December 2025, the European Commission published the review of car CO_2 regulation. This followed pressure from the car industry to amend the targets and consider options such as biofuels and hybrids after 2035.

This historic decision by the European Commission will have far-reaching consequences. The EU's CO_2 regulation for cars forms the basis of Europe's automotive climate and industrial policy, driving the supply of zero-emission vehicles.

Earlier this year, the Commission already granted two concessions to the car industry. Firstly, as part of the Automotive Plan in March 2025, it was announced that carmakers would have an extra two years to comply with the 2025 CO_2 target. This means that compliance will be averaged over 2025–2027 before fines are calculated. Secondly, at the third Automotive Strategic Dialogue in September, the Commission brought forward the legislative proposal from Q2 2026 to December 2025, thereby drastically accelerating the timetable for the revision and shortening the period available for impact assessments and consultation.

In this briefing, we analyse the impact of the European Commission's review proposal on future electric car sales and CO_2 emissions. We also provide a detailed analysis of each flexibility option.

2. The Commission's proposal would slow down the BEV transition and increase CO2 emissions

2.1. The proposal would cut BEV sales by 15% in 2035

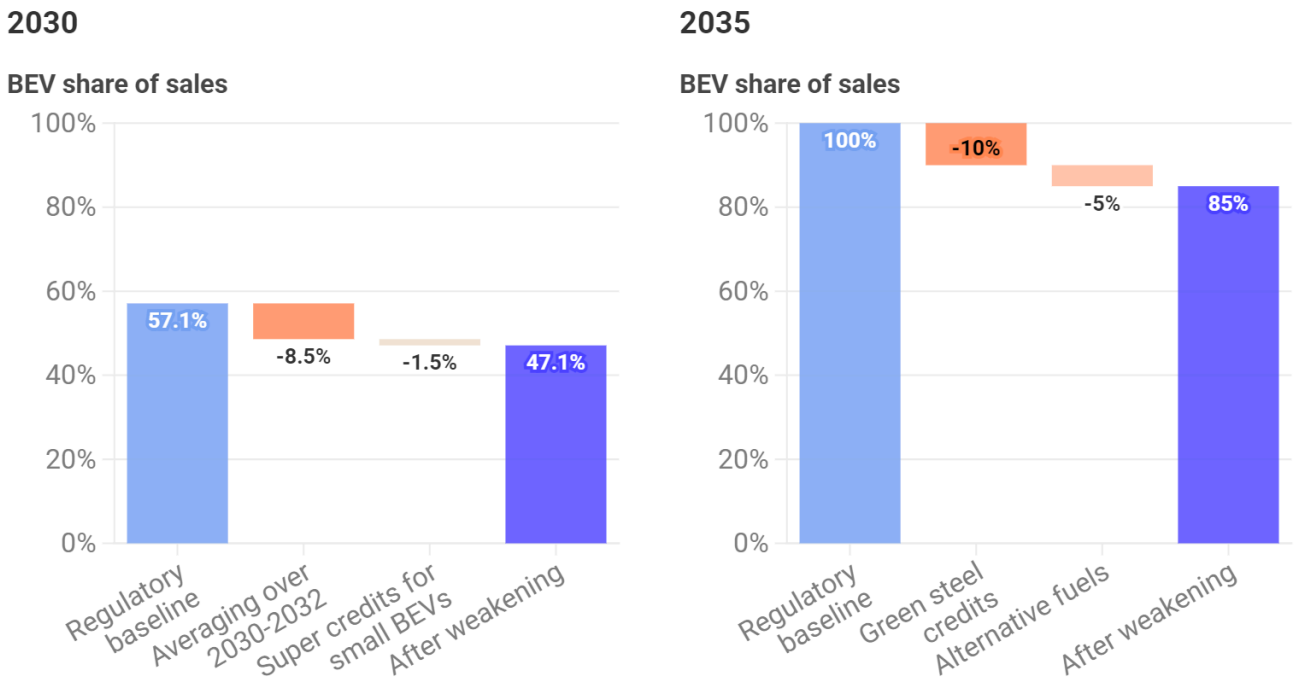
The Commission proposed weakening the 2035 target by setting a 90% emissions reduction target compared to 2021, rather than a 100% reduction. The remaining 10% emission has to be 'compensated' by alternative fuels (up to 3%) and low-carbon steel (up to 7%) which allows carmakers to sell any powertrain after 2035, including combustion and hybrid.

In the analysis, we make the assumption that the full potential of each flexibility is reached in 2035. The 3% weakening is granted to all carmakers provided enough sustainable renewable fuels are placed on the EU market to compensate for the emissions (see Section 3.1) while carmakers can each earn low-carbon steel CO2 credits for using low-carbon steel in their cars (with a maximum of 7%, see Section 3.4).

As a result, T&E estimates that these options would result in battery electric vehicle (BEV) sales of 85% in 2035 instead of 100% under the current regulation.

EU Commission proposal would cut BEV sales by 15% in 2035

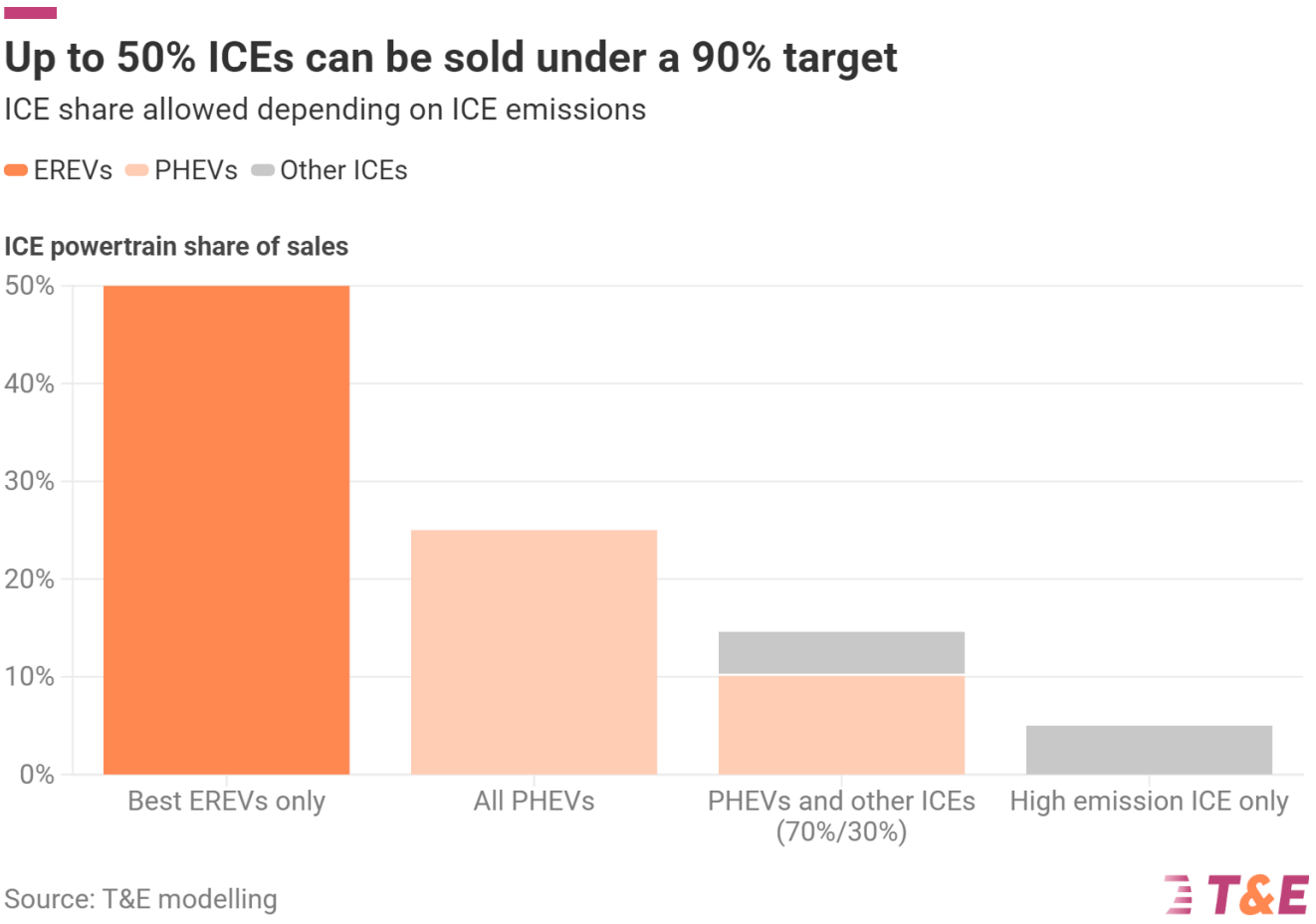
The proposal would also cut the sales share of BEVs by 10 percentage points in 2030



Source: T&E analysis

In 2030, the Commission proposal would leave BEV sales at just 47%, instead of the 57% required under the current regulation. This would cause BEV uptake to decelerate during the most critical phase of market transition. The most significant weakening for 2030 would come from the target averaging over three years, cutting BEV uptake by 8.5 percentage points (%p). Instead of being calculated for a single year, emissions will be averaged over the period from 2030 to 2032, which is equivalent to delaying the implementation of the full target. Small BEV super-credits would reduce by 1.5%p.

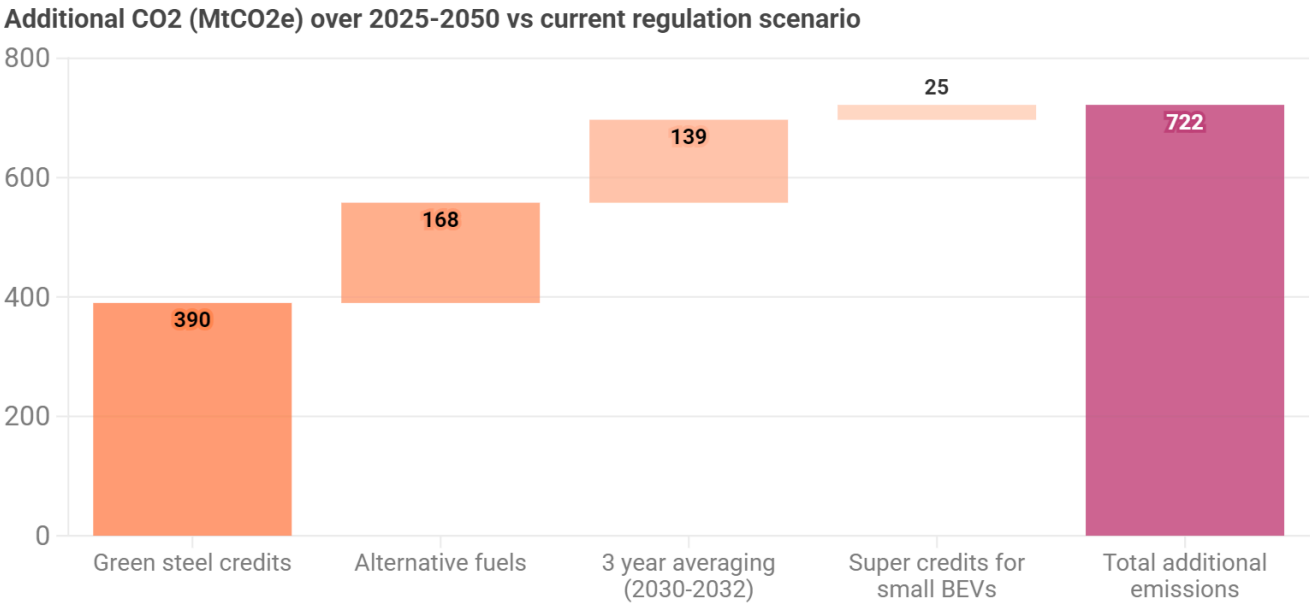
The precise BEVs share in 2035 will vary depending on the combustion car mix of each carmaker. The 90% CO_2 reduction target means that, on average, carmakers' fleet emissions would have to stay below 11 gCO_2/km in 2035. After 2035, this would allow carmakers to sell any type of powertrain, including petrol, diesel, hybrids, plug-in hybrids and range extenders. Depending on the sales mix, carmakers could sell anywhere between 5% and 50% non-BEVs after 2035, including plug-in hybrid vehicles (PHEVs), other hybrids and conventional combustion vehicles. The share of these combustion cars will depend on their average CO2 emission. With more efficient extended-range plug-in hybrid vehicles (EREVs), at 22 g/km, the share would reach 50%; however, this figure would decrease to 25% if PHEVs, which emit 45 g/km, were sold instead. In our central scenario, we have assumed that 10% of vehicles sold will be PHEVs and about 5% will be ICE vehicles. Finally, if a carmaker sells only high emission ICE, the share would be 5%.



2.2. Car emissions would increase by 10%

If all proposed changes considered by the European Commission were introduced, cars would emit an additional 720 $MtCO_2e$ between 2025 and 2050. This is equivalent to an increase of emission by 10% compared to the emissions from the regulatory baseline (annual emission trends are presented in Annex B). This is also equivalent to eight years of emissions from the German car fleet, based on 2023 emissions. The greatest rise would stem from the low-carbon steel credits, adding 390 $MtCO_2e$. The fuel credits would release further 168 $MtCO_2e$. In addition, the averaging of the 2030 target over 2030-2032 would add a further 139 $MtCO_2e$. The emissions from the low-carbon steel credit and the fuels credit are considered additional given their emissions are already covered in other EU sectorial legislation such as the emissions trading system (ETS1 and ETS2), the effort sharing regulation (ESR) and the renewable energy directive (RED). In the heavy duty vehicle regulation impact assessment, the Commission stated that applying a mechanism to reflect the carbon intensity and share of low-carbon fuels would lead to these fuels' contribution being counted twice under the RED and the CO_2 emission standards.

Flexibilities in the car CO2 regulation could result in an additional 720 MtCO2e being emitted



Source: T&E modelling

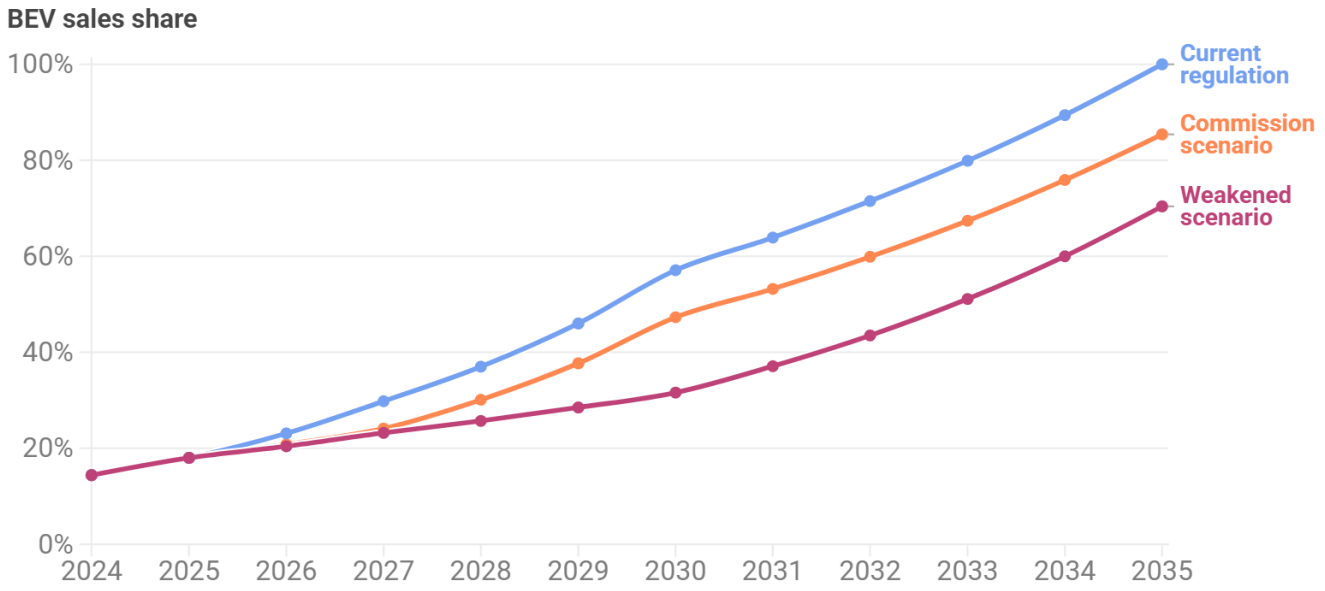
2.3. Next steps: risks of further weakening

In the first half of 2026, the European Parliament and the Council will discuss and define their position on the Commission proposal, including potential amendments to further change the regulation.

In this sub-section we explore the impact of further weakening the ambition (in line with the demands from the automotive industry). This scenario of further weakening assumes an 80% CO2 reduction target in 2035, a five year average period for the 2030 target and a broadening of the scope of super-credits.

This weakened scenario would further slow down BEV sales, resulting in BEV sales of only 32% in 2030 instead of 57% under the current regulation, and 70% in 2035 instead of 100%. This would result in an additional 1.4 billion tons of CO2 (GtCO2e) being emitted by cars compared to current regulation.

Further weakening of the EC proposal leads to 70% BEV share in 2035



Source: T&E modelling

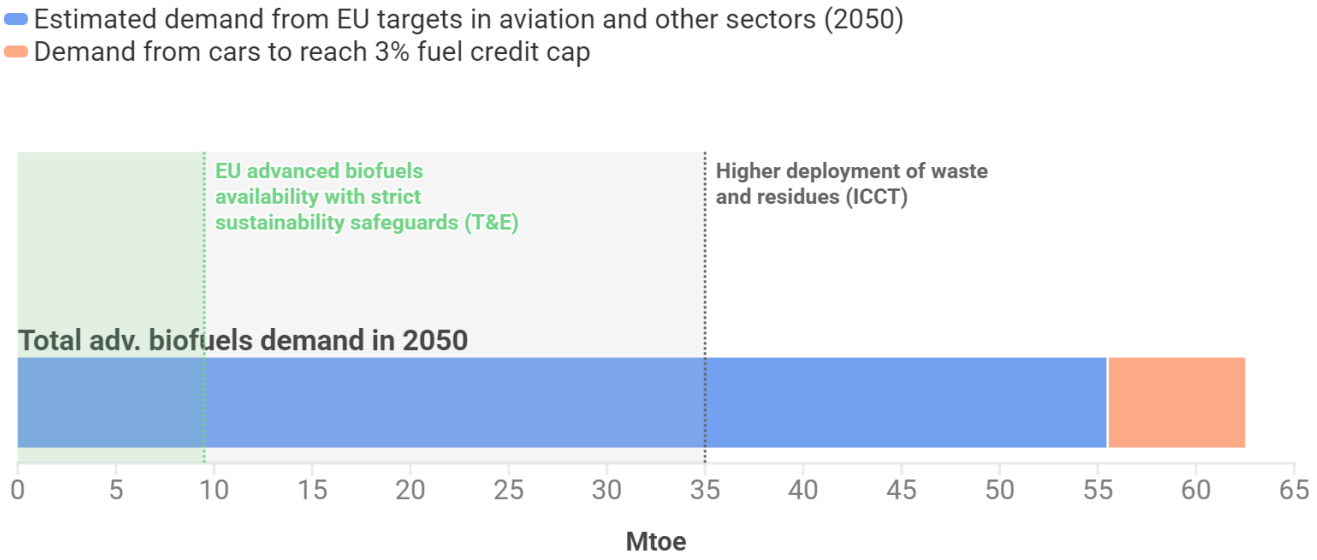
3. The good, the bad and the ugly, deep dive into flexibilities

3.1. Fuel credits jeopardize the EV transition

The 2035 target is reduced by up to 3% when alternative fuels are placed on the EU market. Total CO_2 savings from alternative fuels are attributed to cars and divided by the lifetime mileage of new cars registered in the same year. This produces a fleet-average credit, which is capped at 3.3 gCO_2 per km and applies equally to all car manufacturers, regardless of whether the cars actually use these fuels. Advanced biofuels (made from waste and residues) and e-fuels are included, but first-generation crop-based biofuels are excluded. Biofuel categories included in Part B of the RED Annex IX, such as animal fats and used cooking oil, are capped at 1%.

Road transport diverts scarce advanced biofuels away from other sectors. The 3% cap equates to 7 million tons of oil equivalent (Mtoe) of alternative fuel being made available on the market in 2050. However, our forecast indicates that the aviation and other transport sectors alone will require around 55 Mtoe of advanced biofuels in 2050 to meet European fuel targets. The EU can only produce less than 10 Mtoe based on the availability of biofuel feedstocks that meet strict sustainability criteria, so potential demand for advanced biofuels from aviation and other sectors could exceed feedstock availability. This suggests that the demand driven by the fuel credit for cars will divert advanced biofuel volumes from other sectors.

Using advanced biofuels in road would divert sustainable feedstocks from other sectors



Source: T&E analysis, ICCT (2025)

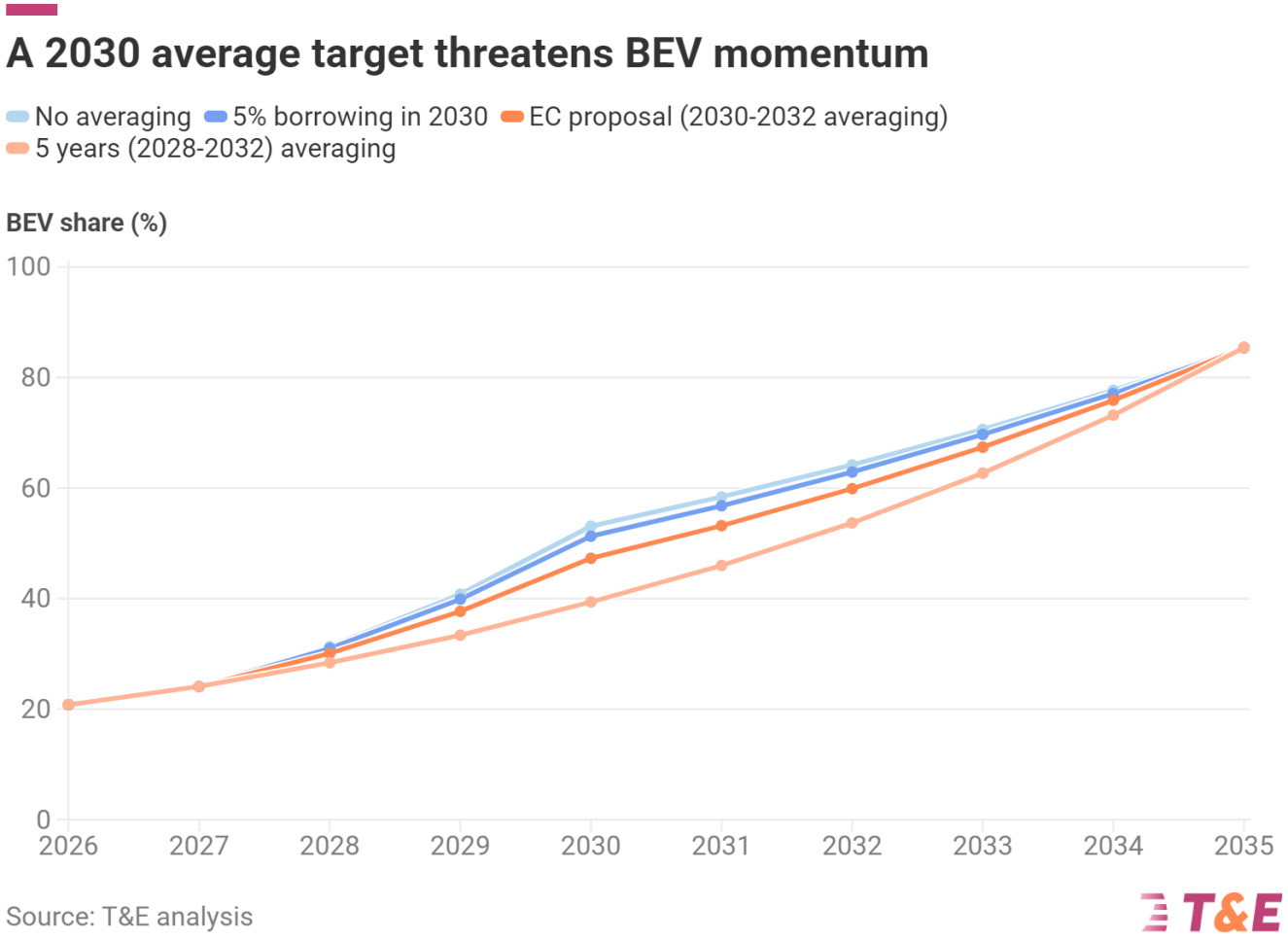
Allowing advanced biofuels in new cars would increase the EU's reliance on unsustainable and imported biomass which is prone to fraudulent practices. Demand would exceed the availability of sustainable feedstock, creating incentives for fraud. Combined with weak sustainability safeguards this would lead to deforestation, biodiversity loss, soil degradation, and indirect emissions, including from unsustainable forestry inputs such as stemwood. Growing evidence of waste oil and palm oil mill effluent (POME) fraud, combined with weak paper-based certification and limited supply-chain checks, undermines the credibility of claimed emissions savings. At the same time, meeting higher demand would require complex and uncertain technologies, while advanced biofuels are expected to remain costly even at full maturity.

Recommendation: remove the fuel credits mechanism

Allowing credits from advanced biofuels would encourage fake solutions like biofuels at a time when Europe needs to accelerate on electrification. Carmakers should not be rewarded for emissions reduction achieved under EU fuel regulations and regulators should not divert the limited volume of sustainable fuels away from other sectors that depend on them to decarbonise. Therefore, this loophole cannot be considered as 'compensation' for the additional sales of combustion vehicles and should be removed from the regulatory proposal.

3.2. The 2030 averaging over 3 years has the most significant impact in 2030

As was done for the 2025 target, the Commission has proposed averaging the 2030 target over the period 2030–2032. This means that car makers can miss the target in 2030 as long as they compensate in 2031-2032. T&E analysis estimates this results in a BEV share of 47% in 2030, allowing carmakers to compensate for a 8 gCO_2/km undercompliance in 2030 through over-compliance in 2032 (60% BEV share). The automotive industry's demand for a five-year average from 2028 would have a greater impact. This would limit the BEV share to 39% instead of 57% under the current regulation and lead to an additional 170 $MtCO_2e$ over the period 2025–2050, on top of the additional emissions from the Commission proposal.



Source: T&E analysis

Recommendation: remove the averaging in 2030

The 3 year average slows down the BEV transition at the most critical phase of acceleration and therefore sends a harmful signal to the industry.

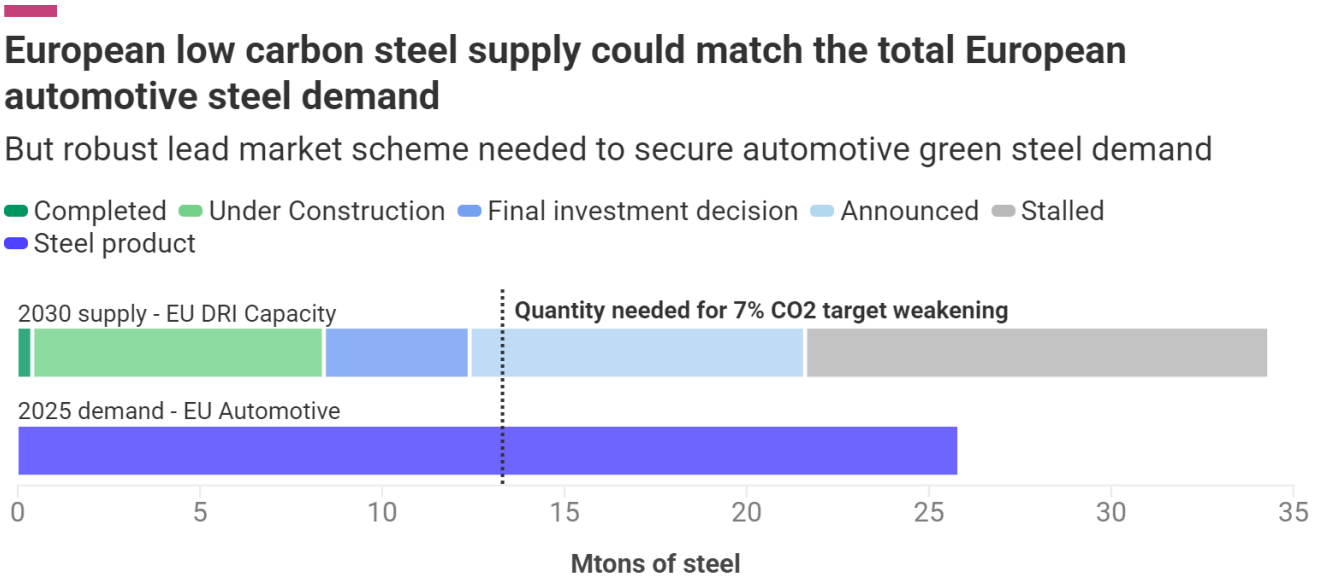
Cancelling the three-year averaging would increase BEV sales to 53% in 2030 (from 47%), provided that other flexibilities remain unchanged.

In case of a two-year averaging (2030–2031), BEV sales would increase to 50% in 2030 (from 47%). Another option to limit the impact of the averaging is to set a 5% threshold on the borrowing, which would result in BEV sales of 51% in 2030.

3.4. Steel credits should be strictly defined and limited

The 2035 target can be weakened by 7% if car manufacturers 'compensate' for additional emissions by using low-carbon steel in their vehicles. The total CO_2 savings from low-carbon steel are calculated against a baseline (in tCO_2). These savings are then spread over all cars sold by the manufacturer and divided by the lifetime mileage of new cars registered in that year to produce a fleet-average credit.

There will be sufficient green steel produced in the EU. The total potential for primary green steel in Europe in 2030 is 34 Mt which is higher than the total European steel demand in the automotive sector of 26 Mt in 2025. More than 12 Mt have already reached the final investment decision stage, while a further 22 Mt are expected from announced projects by 2030. This is sufficient to meet the quantity of credits needed to weaken the 2035 target by 7%, for which around 13 Mt of green steel is required. Using green steel in cars can be done at limited additional cost since the additional cost of green steel in cars in 2035 will be less than €100, representing a price increase of less than 1%, which is much lower than the monetary value of the green steel credit, estimated at €700.



Sources: Agora Industry (2025), Eurofer (2025)

However, emissions credits for low-carbon steel do not represent additional emission savings because they double-count emissions savings from the industrial sector (covered under the ETS).

Recommendation: Low-carbon steel credits should be strictly defined and limited

If designed correctly, the steel credits could establish a lead market for green steel. This flexibility should reward progress and improvement towards green steel by focusing on technologies requiring heavy investment but currently lacking demand, i.e. primary green steel production in the EU.

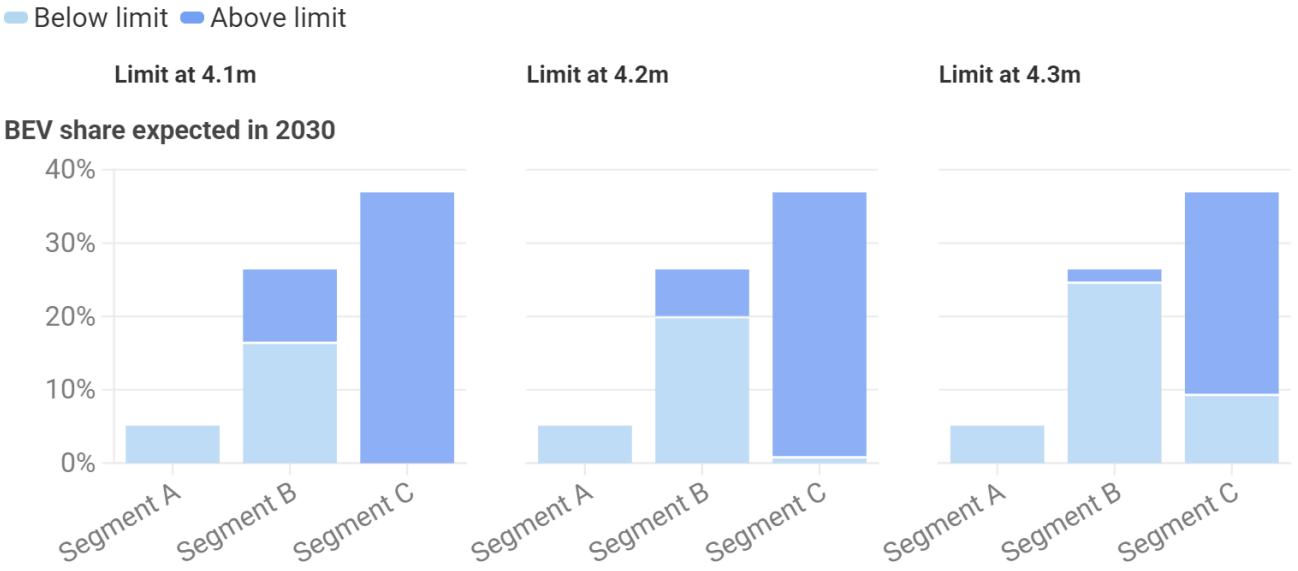
3.5. Super-credits for small BEVs made in Europe: risk of windfall credits

Carmakers count each small made-in-EU BEV (up to 4.2m long) as 1.3 cars when calculating their CO_2 compliance for the years 2030-2034. This 'supercredit' flexibility is designed to support the production of smaller, more affordable BEVs in Europe but effectively allows carmakers to sell fewer EVs overall while still meeting the overall target. Past experience has shown that supercredits often reward carmakers for what they already plan, meaning it does not guarantee that the number of small electric car sales increases. Instead it allows them to sell less electric cars overall to achieve the same CO2 emissions performance on paper since the ones that earn supercredits are counted more than one.

We calculate that BEV sales would be reduced by 1.5%p in 2030 as a result of this flexibility. A quarter of BEVs sold in the EU in 2030 are expected to be below 4.2m (all A-segment BEVs, 75% of B-segment sales and 2% of C-segment). Assuming that a two third of small BEVs meet the made-in-EU criteria, this would lead to 17% of the BEV sold in 2030 to earn supercredits. BEV shorter than 4.2m includes top selling models such as Renault 5, Peugeot's 208e, Fiat 500e and Opel Corsa-e, as well as the upcoming VW ID.Polo and Renault Twingo. The full list of models is available in Annex C.

Increasing the threshold to 4.3m with a larger multiplier of 1.5 could make this flexibility even more damaging, weakening BEV sales by 2.4%p in 2030. In that case, about 25% of the medium car segment would be eligible for super-credits, which would contradict the purpose of boosting sales of the most affordable models. Some best-selling medium models, such as the ID.3, are only a few cm longer than 4.2m.

A quarter of BEVs sold would be less than 4.2 m long in 2030



Source: T&E forecast • Scope: passenger cars sold in the EU and Norway

Recommendation: the supercredit limits and caps should be strengthened to limit windfall credits

To protect the regulation from further weakening, the length limit of 4.2m should not be increased as that would cover medium sized cars. T&E suggested a limit of 4.1 m to reward the most affordable models, limiting the expected small BEV share to 20% in 2030. The multiplier should also not be increased further than the current 1.3, and should be reduced to 1.2. Reducing both the length limit and the multiplier would minimise the weakening of the 2030 target to just 0.9%p.

As in 2020, the multiplier could also decrease annually and be capped at 3 years with a limited CO_2 bonus. We suggest a total cumulative CO_2 bonus of 3 g/km over three years (2030–2032).

The definition of a locally produced BEV should be strictly limited to BEVs fully produced in Europe with batteries produced in Europe, combined with an increasing number of made-in-EU components (see T&E position paper).

4. Conclusion: the Commission Impact Assessment confirms the case for maintaining strong 2035 CO_2 standards

Weakening the 2035 EV target to allow combustion cars sends a harmful signal that will divert investment away from electrification at a time when Europe needs to catch up with Chinese EV manufacturers. Furthermore, although the Impact Assessment (IA) does not directly model the final proposal, it clearly demonstrates that weakening CO_2 standards would have negative consequences for macroeconomic trends and social costs.

Even with 100% zero-emission vehicle (ZEV) sales by 2035, the IA baseline shows that only 83% of the car fleet would be zero-emission by 2050, which falls short of full decarbonisation. T&E previous analysis suggests that this figure could be even lower, at 73%. The IA indicates that permitting 10% ICE sales post-2035 would result in approximately 23 million additional ICEs on EU roads by 2050, confirming that any weakening of CO_2 targets would jeopardise the EU's climate objectives.

The IA also shows that more ICEs would increase system costs and energy demand. ICEs lead to higher fuel spending due to lower efficiency, resulting in a higher total cost of ownership, particularly for second-hand buyers. As operating costs rise, this has a greater impact on lower-income households, for whom the same absolute cost changes represent a larger proportion of income. While electricity demand would be slightly reduced, this would be offset by higher demand for liquid fuels, since ICE vehicles are around three times less efficient than BEVs. The Commission assumes rising oil prices and sharply falling battery costs, confirming that BEVs are the lowest-cost option across segments, even under scenarios with higher electricity and battery prices.

The IA's assumption of limited CO_2 impacts relies on optimistic expectations about the availability of alternative fuels. In reality, alternative fuel availability for cars is likely to be much lower due to strong competition from harder-to-electrify sectors, i.e aviation and maritime. This would lead to higher emissions, as the remaining combustion car fleet would be powered by fossil fuels unless alternative fuels were diverted from the aviation and shipping sectors.

The IA's findings suggest that strong CO_2 standards are critical to driving economies of scale and innovation in the long term. In contrast, the IA indicates that regulatory flexibility weakens ZEV investment signals, erodes EU competitiveness — particularly in relation to China — and results in slight GDP losses. The battery sector is particularly affected, as weaker EU demand undermines economies of scale and learning effects.

Therefore, by slowing electrification, regulatory flexibilities risk worsening affordability, increasing energy demand and fuel import exposure, and undermining Europe's industrial competitiveness at a time when global competition in clean technologies is intensifying.

Further information

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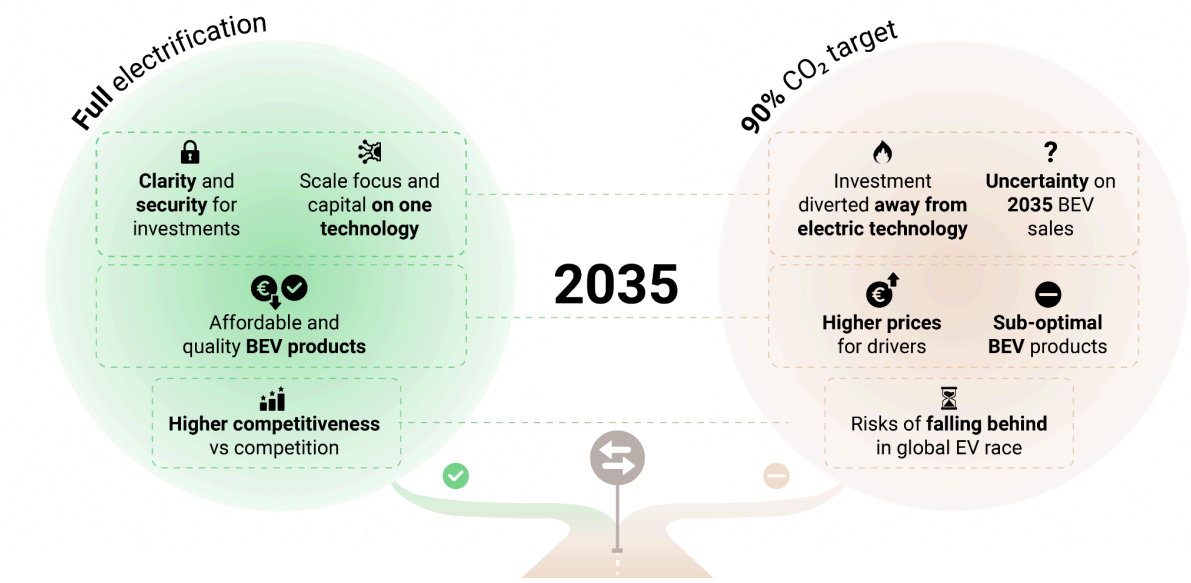
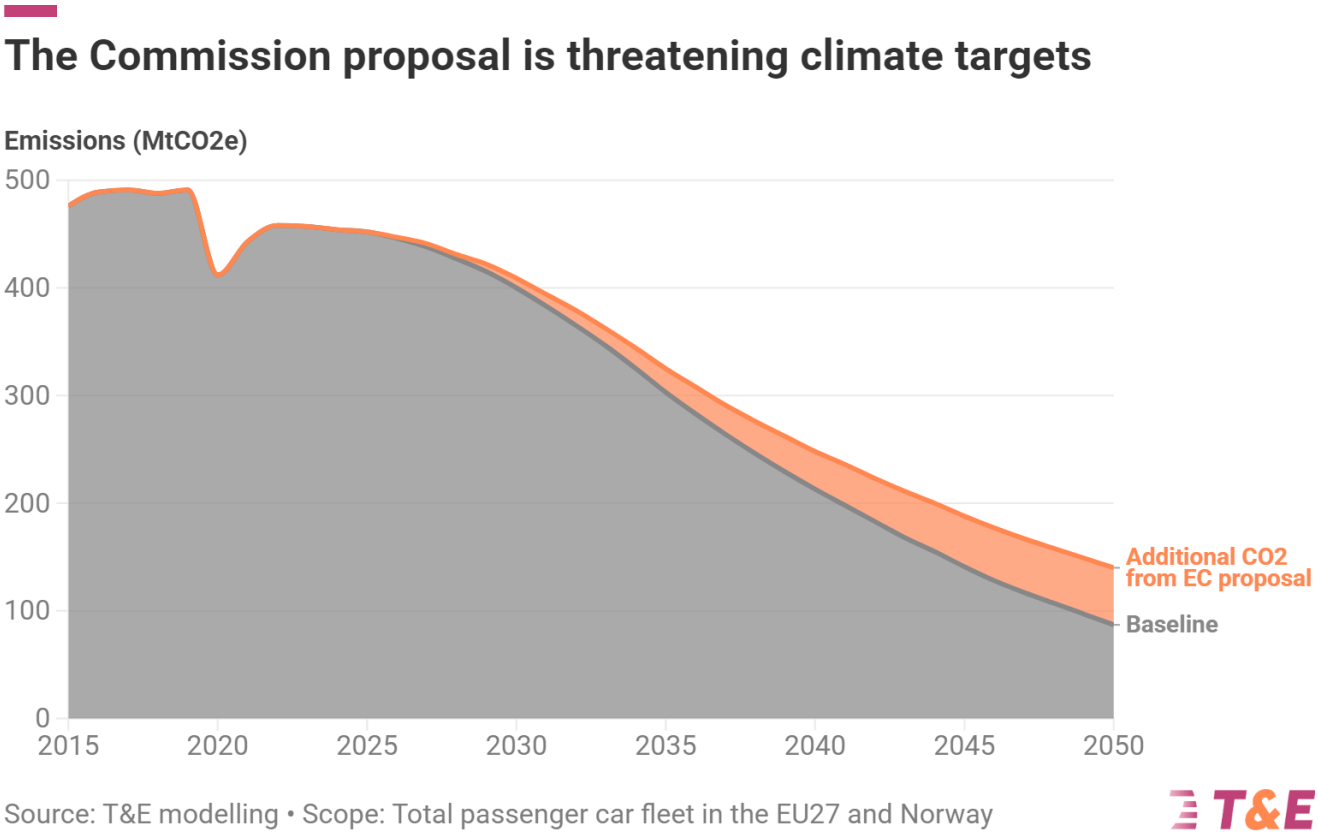
Annexes

A. Europe's EV transition at a crossroad



B. Annual CO_2 emissions of the car fleet



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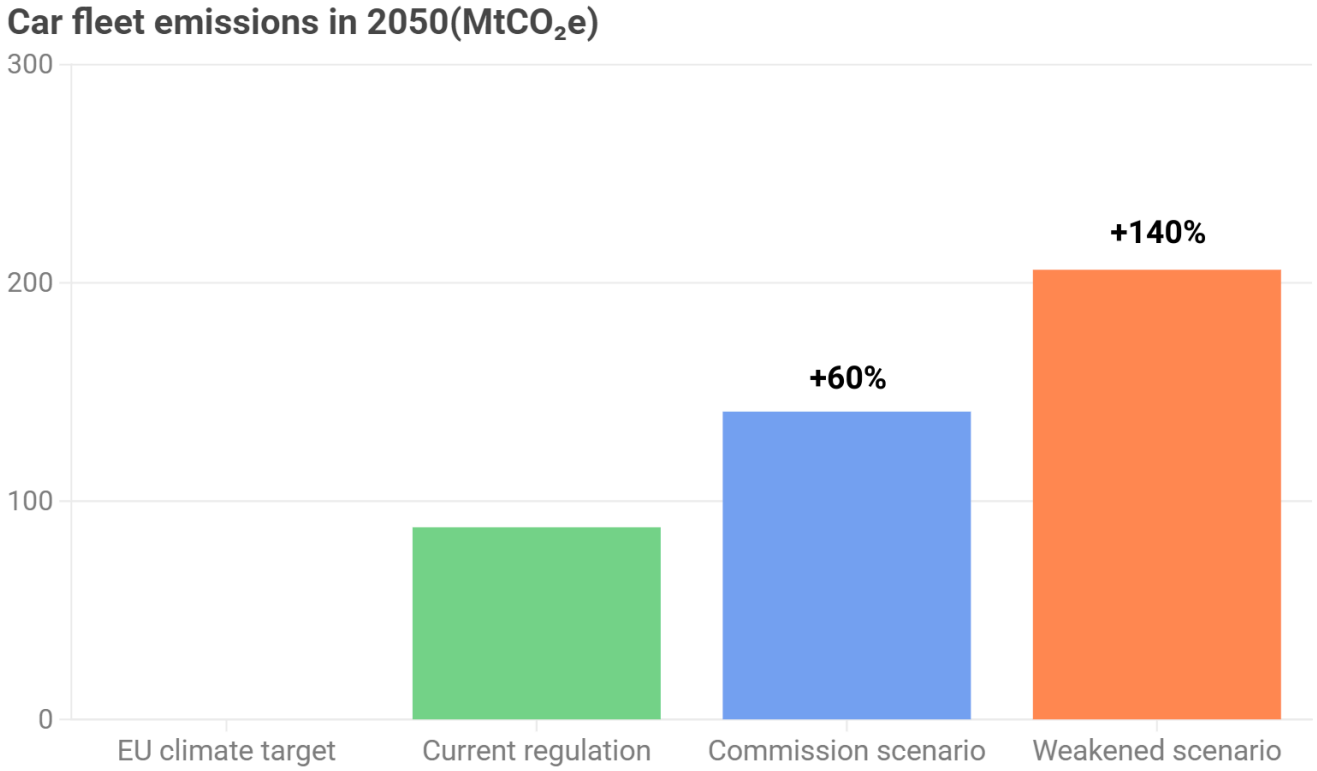
Industry proposals are threatening the EU climate target



Source: T&E modelling

C. Small BEV models

Model	Length	Segment	Production location	Base price	Registrations (H1 2025)
Leapmotor T03	3.62 m	A	China	18,900 €	5,400
Fiat 500e	3.62 m	A	Italy	32,000 €; 36,300 €	8,400
Dacia Spring	3.72 m	A	China	20,500 €	15,800
Hyundai Inster	3.83 m	B	South Korea	24,900 €; 28,000 €	12,300
MINI One/Cooper	3.85 m	B	China	29,000 €; 38,300 €	31,000
Renault 5	3.94 m	B	France	24,900 €; 29,700 €; 34,400 €	30,600

Alpine A290	3.99 m	B	France	42,600 €	3,400
BYD Dolphin Surf	3.99 m	B	China	27,000 €	2,200
Fiat Grande Panda	4.00 m	B	Serbia	28,700 €	3,600
Citroen C3	4.02 m	B	Slovakia	25,800 €	3,634
Peugeot 208	4.06 m	B	Spain	37,000 €; 39,300 €	97,500
Opel Corsa	4.06 m	B	Spain	32,500 €; 32,900 €	71,000
Lancia Ypsilon	4.08 m	B	Spain	34,900 €	6,500
MINI Aceman	4.08 m	B	China	31,500 €; 36,500 €	6,800
Renault Twingo	3.75 m	A	Slovenia	20,000 €	Launch 2026
VW ID.1	3.88 m	A	Portugal	20,000 €	Launch 2027
VW ID.2	4.05 m	B	Spain	25,000 €	Launch 2026
Cupra Raval	?	B	Spain	24,500 €	Launch 2026

D. Methodology

The analysis models (1) the development of the BEV share in new car sales and (2) the additional CO_2 emissions released by weakening the current EU car CO_2 regulation. The modelling period covers 2025 to 2050 and uses historical data to calibrate trends.

(1) BEV share modelling

T&E modelling determines the BEV share required for carmakers to comply with CO_2 targets under each scenario.

- In 2027, 2030 and 2035, the BEV share is set at the level required to meet the applicable target.
- Transition years between targets are smoothed using a constant compound annual growth rate to ensure realistic uptake trajectories.

Assumptions taken to model the European Commission's proposal

- **Target design**: A three-year averaging (2030-2032) of the 2030 target and a weakened 2035 target set at 90% CO_2 reduction vs 2021 based fuel and low-carbon steel credits.

- **Steel and fuel credits**: Carmakers are assumed to exploit the credit systems at the maximum to reach a 7% weakening of the target from low-carbon steel credits and 3% from fuel credits.
- **Super-credit for small BEVs** is set as 1.3. A 4.2m length threshold would allow all A-segment BEVs, 71% of B-segment sales and 1% of C-segment to be counted in the small BEV category. We assume that two third of small BEVs would meet the made-in-EU criteria.
- **PHEVs**: PHEV emissions are calculated using official utility factors, including the planned corrections in 2025-26 and 2027-28. We expect PHEV emissions to decrease to 50 gCO_2/km in 2035 with the 2028 utility factor, as the electric range is expected to reach 190 km in our intermediate scenario. Real-world emissions would be 96 gCO_2/km when the observed real-world utility factor of 36% for models with an electric range of over 75 km is considered. T&E assesses real-world data using on-board fuel consumption meter (OBFCM) data collected by the European Environment Agency for cars registered between 2021 and 2023. Our modelling is based on a broadly constant PHEV sales share of 10% between 2025 and 2035.
- **ICE emissions**: The emissions of other ICE powertrains (HEVs and conventional ICEs) are expected to decrease by an average of 1% annually between 2025-2034. By 2035, we expect car manufacturers to continue selling high-margin combustion models while reducing sales of mainstream models. This will result in a 10% increase in both hybrid electric vehicle (HEV) and internal combustion engine (ICE) emissions.
- **No overcompliance** for the 2025-27 target is assumed as the 2030 target weakening leads to a slow-down of the whole BEV market.

Regulatory baseline

- To meet the current targets of the car CO_2 regulation, BEV sales are expected to reach 31% in 2027, 56% in 2030 and 100% in 2035.
- Sales of combustion vehicles (PHEVs, HEVs, conventional ICEs) are aligned with a market forecast obtained from a data analytics company (forecast released in Q2 2025).
- Based on T&E's EV progress report, we assume carmakers will overcomply with the 2025-27 target by 5 gCO_2/km.

(2) CO_2 emissions modelling

Using a new forecasting tool, we have calculated the additional CO_2 emissions of the car fleet between 2030 and 2050 for scenarios involving the sale of additional ICEs in a weakened scenario. The model is based on the average European car driving around 240,000 km over a 20-year lifetime, as used in the Commission's impact assessment, with decreasing annual mileage assumed over the mileage. CO_2 emissions were calculated using real-world emission values for all powertrains. We assume that no additional advanced biofuels are used in cars compared to 2024, given that this amount is sufficient to meet the 3% fuel credit cap.

Flexibility waterfall charts

The waterfall charts in Section 2.1 and 2.2 compare the combined impact of each flexibility. However, they do not display the absolute, independent impact of each flexibility in isolation. Some flexibilities, such as super-credits, can have different impacts depending on the target and other flexibilities that are applied at the same time. Furthermore, most flexibilities incentivise increased PHEV sales compared to the baseline, given that a larger PHEV share allows carmakers to reduce their BEV sales, as explained in Section 2.1. Consequently, the reduction in the BEV share achieved by adding all the flexibilities together may be smaller than the sum of their individual contributions if they were added independently.

To provide a comparison of the relative impacts of flexibilities when combined, we applied the following steps:

1. We modelled the regulatory baseline, as presented above.
2. We modelled the European Commission's proposal with all flexibilities applied.
3. For each flexibility, we modelled a sub-scenario of the Commission proposal in which this flexibility was not applied, while all the other flexibilities remained applicable.
4. We calculated the difference in BEV share and CO_2 output between the Commission proposal and the baseline scenario.
5. We calculated the difference in BEV share and CO_2 output between the Commission proposal and each sub-scenario from step 3. We then summed these individual differences. This sum is generally larger than the absolute impact calculated in step 4.
6. We calculated the relative impact of each flexibility compared to the sum of all individual flexibilities' impacts.
7. Finally, we multiplied these percentage impacts calculated in the previous step by the absolute impact of all flexibilities combined (calculated in step 4) to determine each flexibility's contribution to the total weakening. These contributions are then presented in the waterfall chart.