

POSITION PAPER

CO₂ emission standards for heavy-duty vehicles

Advancing tech diversity for a stronger Europe



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Background

The European Union took a significant step in June 2019 by implementing their initial set of CO₂ emission performance standards for heavy-duty vehicles (HDV). These standards mandated manufacturers to achieve a 15% reduction in the average CO₂ emissions of newly registered HDVs starting from 2025 and by 30% from 2030 onwards, compared to a baseline set in 2019/2020. In addition to the EU's 'Fit for 55' package of energy and climate legislation, the Commission presented a legislative proposal for revised HDV CO₂ emission performance standards on 14 February 2023. The proposal includes expanding the scope to cover additional vehicle groups, setting a more ambitious CO₂ reduction target for 2030, and introducing new targets for 2035 and 2040.

Executive summary

CLEPA, the European Association of Automotive Suppliers, supports the introduction of CO₂ emission standards for HDVs as part of the EU's objectives to reach climate neutrality by 2050. The proposal is a step in the right direction towards achieving this objective but could be enhanced through consideration of the following:

- ⚙️ Grant operators the freedom to choose the preferred clean technology for specific use-cases to facilitate a competitive and efficient transport sector
 - ◆ Battery-electric vehicles (BEVs), fuel-cell electric vehicles (FCEVs), H₂-engine vehicles and electrified trailers should all be classified as zero-emission vehicles (ZEVs) and treated as equally viable options for meeting future CO₂ fleet standards.
 - ◆ Standards should incorporate a method to account for CO₂ savings achieved through the use of low-carbon and carbon-neutral fuels to enable the adoption of all valid technologies and maximise overall emission reduction.
- ⚙️ Implement ambitious enabling conditions that are equally ambitious as the CO₂ targets
 - ◆ The necessary investments for low and zero-emission vehicles must be supported by robust measures at both the EU and Member State level, particularly in terms of establishing adequate charging and refuelling infrastructure.
- ⚙️ Ensure regular assessment of enabling conditions and the periodic evaluation of the legislation's effectiveness.



- ⚙️ Include new vehicle groups to the proposal to ensure:
 - ◆ Rapid adoption of type-approval for electrified trailers in Regulation (EU) 2018/858
 - ◆ Swift incorporation of all energy-efficient options for trailers into VECTO
 - ◆ Adequate lead time and established annual reduction rate for newly included vehicle groups
- ⚙️ Establish a comprehensive set of measures at both the EU and Member State level to foster the transition towards a carbon-neutral road transport sector.
 - ◆ Ensure a cohesive increase of ambition for CO₂ for HDVs and associated policy measures to maximise the CO₂ reduction potential of HDVs.
 - ◆ Secure a successful and just transition with targeted funding and support programs from the EU and Member States. Any financial assistance and support should be technology-neutral, benefiting the industry, employees, and consumers in their collective efforts to achieve climate neutrality.



Assessment and recommendations

1. Ensuring a competitive and efficient transport sector requires transport operators to be able to choose the preferred clean technology for specific use-cases

- Secure a successful and just transition with targeted funding and support the HDV sector places great importance on cost-effectiveness. Hauliers and transport operators make vehicle investments based on profitability, relying on the availability of all viable technologies to choose the most suitable option for their specific needs. Healthy competition among different technologies enables continuous optimisation of transportation operations.
- Market penetration of zero-emission technologies is a precondition to achieve increasingly ambitious CO₂ reduction targets. Depending on the use case, either battery-electric vehicles (BEVs), fuel-cell electric vehicles (FCEVs), or hydrogen engine-powered vehicles will be the most appropriate zero-emission option.
- Additionally, highly efficient and optimised internal combustion engines running on hydrocarbon fuels will continue to serve a long-term role in heavy-duty applications that are challenging to electrify (e.g., vehicles intended for operation in difficult conditions). Thus, the life-cycle decarbonisation of all energy carriers, including hydrocarbon fuels, electricity, and hydrogen, is crucial for a successful transition towards climate neutrality.

Recommendations:

- ⚙ BEVs, FCEVs, H₂-engine vehicles and electrified trailers should all be classified as zero-emission vehicles (ZEVs) and treated as equally viable options for meeting future CO₂ fleet standards. The proposed legislative text would establish the ZEV designation for these technologies.
- ⚙ The standards should include a method to account for the CO₂-savings of low carbon and carbon neutral fuels, to enable all valid technologies and maximise overall emission reduction.



2. Achieving ambitious CO₂ targets requires equally ambitious enabling conditions.

- The proposed CO₂ standards represent one of the most rigorous targets for HDVs globally. Manufacturers and suppliers are already making significant investments in alternative power-train technologies to expedite their market availability. However, the feasibility of these targets largely depends on key enabling conditions, which are largely beyond the control of manufacturers and suppliers.
- In particular, there is a lack of suitable charging and refuelling stations for HDVs, as well as the absence of effective carbon pricing measures. The recently agreed-upon targets for electric recharging, and particularly hydrogen refuelling stations outlined in the Alternative Fuels Infrastructure Regulation (AFIR), fall short of what is necessary to achieve the CO₂ reduction target. Overall, the lack of sufficient enabling conditions means that even the existing target (30% reduction by 2030) will be difficult to achieve. To meet the proposed CO₂ targets for 2030 (45%), 2035 (65%) and 2040 (90%), substantial additional investments are required to realise the necessary enabling conditions

Recommendations:

- ⚙️ **The investments required for low, and zero emission vehicles must be supported by ambitious measures at both EU and member state level, particularly in terms of establishing a suitable charging and refuelling infrastructure.**



3. Regular assessment of the enabling conditions and review of the effectiveness of the legislation is necessary

- The proposed CO₂ standards represent one of the most rigorous targets for HDVs globally. Manufacturers and suppliers are already making significant investments in alternative power-train technologies to expedite their market availability. However, the feasibility of these targets largely depends on key enabling conditions, which are largely beyond the control of manufacturers and suppliers.
- The proposed review scheduled for 2028 would be too late if adjustments to the 2030 target are deemed necessary based on key enabling conditions. Moreover, a minor delay could risk prolonging a legislative revision into the European election process in 2029, causing further delays. Therefore, it is recommended that the first review be completed by 2027. Subsequently, reviews should take place at least every two years.
- The review process should rely on specific performance indicators that gauge progress in essential enabling conditions and cost parity. These indicators encompass the following aspects:
 - ◆ The existence of an adequate public charging and hydrogen refuelling infrastructure.
 - ◆ Effective carbon pricing measures, including a robust emission trading system for road transport (ETS-2) and CO₂-based road charges.
 - ◆ Advancements in reducing the cost of zero and low-emission vehicle technologies, particularly batteries, fuel cells, and hydrogen storage.
 - ◆ The availability of green electricity, green hydrogen, renewable fuels and critical raw materials.
 - ◆ Other measures that contribute to reducing the total cost of ownership for vehicle and fleet operators.
- Should the review indicate a misalignment between the enabling conditions and the CO₂ fleet targets, it should trigger one or more of the following actions:
 - ◆ implementation of additional measures to address the enabling conditions,
 - ◆ temporary suspension of sanctions for manufacturers, or
 - ◆ legislative proposal to revise the CO₂ fleet targets.



4. The inclusion of new groups of vehicles is welcome

- CLEPA supports the inclusion of new vehicle groups, resulting in additional CO₂ savings by encompassing approximately 96% of the heavy-duty traffic in the EU.
- We appreciate the proposed definition of an emission-free trailer as stated in Article 3, paragraph 11 (c). In particular, we endorse the inclusion of flexibility, which permits transfers of vehicles between non-connected manufacturers for calculating their average specific CO₂ emissions, to enhance compliance.
- e-Trailers cannot be type-approved today because the framework Regulation (EU) 2018/858 does not allow for that, moreover e-Trailers are not yet included in VECTO.
- The inclusion of distinct CO₂ targets for trailers is a step in the right direction. However, VECTO is not capable now to calculate the CO₂ saving potential of some emission reduction technologies that are essential for trailers to achieve the fleet-based CO₂ reduction targets of 7.5% and 15%.
- Setting a 2030 CO₂ reduction target based on a 2025 baseline for the additional vehicle classes significantly increases the stringency of the targets for those classes compared to existing classes.

Recommendations:

- ⚙️ **Type approval for electrified trailers in Regulation (EU) 2018/858 should be adopted rapidly.**
- ⚙️ **Inclusion of all energy-efficiency options for trailers into VECTO should also be adopted swiftly**
- ⚙️ **The regulation should allow for sufficient lead time and either establish the same annual reduction rate for newly included vehicle groups as already regulated groups or utilize a 2019 baseline for all groups.**



5. It is imperative for the EU and its Member States to establish a cohesive set of regulations and measures to incentivise the transition towards a carbon-neutral road transport sector

- The effectiveness of CO₂ standards for HDV greatly relies on the coherence of other regulations, such as AFIR, the Emissions Trading System for road transport fuels (ETS-2) and CO₂-based road tolls. Outside the CO₂ targets, a significant contribution from Renewable Energy Directive (RED III) is also essential. Unfortunately, progress on these regulations has not been sufficient. For instance, the proposed targets for hydrogen refuelling stations in the AFIR have been delayed and weakened during the trilogue negotiations. Legislators should consider these factors when establishing CO₂ targets. At the same time, a future review of the AFIR should make sure that CO₂ emission targets and infrastructure targets are well-aligned.
 - ◆ Legislation alone is insufficient for driving transformation. Industry, transport operators and consumers require economic incentives to lessen the risk of investing in new technologies, including support for R&D, industrialisation and vehicle deployment.

Recommendations:

- ⚙️ **The EU should align the ambition level in associated policy measures, including AFIR, ETS, RED III and road tolling, to maximise the CO₂ reduction potential from HDVs.**
- ⚙️ **To ensure a successful and equitable transition, the EU and its Member States must support the industry through targeted funding and support programs. Any financial assistance and support should be technology-neutral, aiding industry, employees, and consumers in their journey towards achieving climate neutrality.**



Would you like to know more? You can contact:

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CLEPA, the European Association of Automotive Suppliers, represents over 3,000 companies supplying state-of-the-art components and innovative technologies for safe, smart, and sustainable mobility.

CLEPA brings together over 120 global suppliers of car parts, systems, and modules and more than 20 national trade associations and European sector associations. CLEPA is the voice of the EU automotive supplier industry linking the sector to policy makers.

- The automotive sector accounts for **30% of R&D** in the EU, making it the number one investor.
- European automotive suppliers invest over **30 billion euros** yearly in research and development.
- Automotive suppliers register over **39,000 patents** each year.
- Automotive suppliers in Europe generate **1.7 million** direct jobs.

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