

POSITION PAPER

Revision of the CO2 standards for heavy-duty vehicles

CLECAT, the European Association for Forwarding, Transport, Logistics and Customs Services, welcomes the revision of the CO2 standards for heavy-duty vehicles (HDV) as a timely initiative to bring the emissions of road freight transport in line with the Paris Agreement and Europe's climate ambition.

CLECAT considers the revision of the current Regulation an important step towards improving the emissions performance and efficiency of the logistics system by standardising and increasing the uptake of technologies which reduce fuel consumption and emissions. CLECAT believes a flexible mechanism to incentivise low- and zero-emissions vehicles should drive innovation while avoiding measures which would damage competitiveness of the transport and logistics sector.

Whereas the sector, including operators and OEMs have started to implement decarbonisation strategies, there are outstanding challenges related to the effective supply and availability of electric and hydrogen-powered vehicles, and the sector's limited financial capacity to undertake the transition towards Zero and Low emission Vehicles (ZLEV). These challenges should be addressed in the forthcoming proposal.

Key messages

- CLECAT supports more ambitious CO2 standards for heavy-duty vehicles, provided that these are technologically and economically viable. The scope of the CO2 standards Regulation should be extended to medium lorries (7.5 tonnes to 16 tonnes) and strengthened to speed up the decarbonisation of the EU road freight transport sector.
- The revised Regulation should consider exceptional load transport performed by eco-trucks, also known as European Modal Systems (EMS) and other types of high-capacity vehicles (HCVs). As these vehicles contribute to a reduction of road freight emissions in their own right, EMS vehicles should have their own emission reduction pathway. Other HCVs should be exempted as they cannot shift to zero-emission technologies due to specific characteristics.
- The approach to decarbonising road freight transport should be technology neutral and embrace an overall well-to-wheel approach. The revised Regulation should mandate the Commission to introduce a common Union methodology for the assessment and the consistent data reporting of the full life cycle CO2 emissions of heavy-duty vehicles, and make sure the revision of the RED will help reducing upstream emissions.
- The Commission needs to consider other elements which are needed for the roll out of alternative fuel vehicles, in particular the investment and rapid development of alternative fuels infrastructure with a sufficient power grid and opportunities for hydrogen. The introduction of the Emissions Trading Scheme (ETS) and the rapid and comprehensive adoption of the Alternative Fuel

Infrastructure Regulation (AFIR) should support reducing the TCO gap with conventional vehicles and ensure a decent charging/alternative refuelling infrastructure across the EU.

- Improving the business case for zero emission trucks will be especially important for small and medium-sized enterprises (SMEs). Alongside ambitious HDV CO₂ standards and a comprehensive infrastructure roll out, the EU and Member States will need to consider innovative financing models to support smaller companies that will need to overcome the significantly higher upfront costs of zero and low-emission trucks.

CO₂ standards: a tool to set the pace for the ZEV transition

The freight forwarding sector is committed to ambitious European decarbonisation goals and is willing to actively contribute to the substantial reduction of GHG emissions from its transport and logistics operations. Many of CLECAT's member companies are seeking to assume greater responsibility for the environmental sustainability of their supply chains. This often results in undertaking various initiatives to reduce GHG emissions from their logistics operations, including voluntary targets and objectives, as well as industry standards. Given that freight forwarders and logistics service providers generally do not own transport assets, an emission reduction strategy is pursued to engage with many different subcontractors, including road transport operators¹.

[Regulation \(EU\) 2019/1242](#) introduced the first ever CO₂ emission performance standards for new-heavy-duty vehicles, with the objectives to reduce CO₂ emissions in road freight transport. It requires truck manufacturers to reduce the average CO₂ emissions of their fleet of new lorries (above 16 tonnes) by 15% as from 2025 and by 30% as from 2030, compared to 2019 levels. The Regulation also includes a technology-neutral mechanism to incentivise the uptake of zero- and low-emission vehicles. Today, a growing support for Zero and Low Emission Vehicles (ZLEVs) offers the potential to bolster the standards, which would give strong signals to the markets and incentivise the timely transition. In order to decarbonise the road freight sector by 2050, the rapid uptake of zero emission vehicles (ZEVs) is crucial. The HDV CO₂ standards Regulation is the single most important tool to drive this transformation: it will determine the level of supply of ZEVs as well as the speed of the associated price reductions of ZEV models. CLECAT considers that it remains however important to ensure that these ZEVs will meet the needs of the different use cases for operators in terms of productivity and TCO.

CLECAT has welcomed the public commitments by European truck manufacturers to lower emissions of their HDVs. With new technology in place, it is important to ensure that the total cost of ownership (TCO) parity of long-haul zero-emission HDVs against conventional trucks will be reached within the next few years. The revision of the European HDV CO₂ standards should build on these commitments and give the right market signals. This is particularly important as logistics companies wishing to decarbonise their truck fleet are facing a number of challenges, which must be addressed to realise a successful transition towards fossil-free logistics operations:

¹ Larger LSP's often have an own fleet of HDVs but this generally does not represent more than 20% of their road freight transport needs.

- Today, the number of ZEV models available on the market is too low for the uptake of zero-emission trucks: In 2021, battery-electric trucks accounted for only 0.5% of all new trucks registered across the European Union².
- The cost of zero-emission commercial vehicles is currently 3.5 to 5 times more expensive than comparable conventionally fuelled commercial vehicles, and this is unlikely to change without coordinated EU action. Such a cost impediment can prove prohibitive for SMEs without innovative financing models to offset the higher upfront costs. The ongoing energy crisis is further complicating this shift due to higher electricity prices, even if this challenge may only prove to be temporary. Additionally, the current limited range of ZEVs compared to conventional trucks is another impediment to an increased market uptake, especially in the medium truck category which is currently not in the scope of the Regulation.
- The charging infrastructure required for zero-emission commercial vehicles is currently insufficient to match the use cases of most heavy-duty vehicles. It is crucial that the level of ambition to deploy the required infrastructure at EU level needs to be significantly upgraded if the HDV sector is to be decarbonised in line with EU climate ambitions.

As we have been witnessing in the electric light-duty vehicles segment, economies of scale will not only reduce the unit costs per vehicle for operators, but also develop the infrastructure (electric charging stations, possibly green hydrogen refuelling stations). Early target definition and standards help manufacturers and users adjust their business planning and gives investment certainty, resulting in better availability of zero-emission vehicles and faster conversion to e-vehicles. Building on the experience of the Regulation on the CO₂ standards for light-duty vehicles, strengthening the emission reduction targets will therefore help increase the number of available models on the market.

Reviewing the targets for CO₂ emission reduction of HDVs

CLECAT supports more ambitious CO₂ targets, provided that these are technologically and economically viable in the given timeframe. Subject to the impact assessment of the European Commission, CLECAT would want to give its preliminary support for more ambitious targets. As such we consider that reaching 100% zero emission in 2035 for urban/regional deliveries is ambitious yet feasible and necessary to ensure we can decarbonise at the right speed. Hence, the Commission must include medium lorries (7.5t to 16t) in the scope of the CO₂ standards for HDVs, with an interim target set at 60% CO₂ emission reduction in 2027 which should be tightened at -65% in 2030 to finally reach 100% emission reduction by 2035.

Decarbonising long-haul transport will take longer than for short-haul transport, as the range of battery-electric trucks is currently not sufficient to match long-haul usage, and other technologies will be needed in the first place to decarbonise this segment (bio-CNG and bio-LNG for example). Therefore, CLECAT considers that the current 2030 target of 30% emission reduction for large lorries may be brought forward as an intermediate target to encourage manufacturers to accelerate the supply of zero-emission trucks. A new 2030 target could be set at 65% emission reduction, and all new long-haul trucks should be zero-emission by 2040.

² ACEA, 2021 fuel types of new trucks (March 2022), see [press release](#).

Ensuring specific trucks' characteristics are taken into account

CLECAT emphasises that trucks belonging to vehicle group 11 and above must remain excluded from the scope of the Regulation: Lorries with an 6x4 axle configuration (3 axles with 2 driving axles) and above (8x2, 8x4 etc) are built to carry very heavy payloads and concern a small share of the European road freight market, for very specific use-cases. Setting standards on these trucks would only bring a marginal benefit as the electrification potential of these heavy-duty vehicles is not sufficiently mature to decarbonise this type of vehicle with electric batteries or green hydrogen.

Reducing CO₂ emissions from road transport will also be possible thanks to a better efficiency of the supply chain. Allowing European Modular System (EMS) vehicles - 25.25 metres long and 44 tonnes or above - designed to carry more cargo than standard trucks, could thus provide a highly effective solution. This type of vehicle has the ability to drive in both standard (18.75m) and EMS configuration (25.25m) but will be fitted with a more powerful engine to carry higher payload in EMS configuration. As such, these vehicles consume less fuel and produce less emissions per unit of cargo transported, while reducing the number of trucks on EU roads.

To avoid hampering the production and use of EMS trucks in the near future, it is important that these vehicles should be regulated differently than standard trucks in the HDV CO₂ standards Regulation. As EMS vehicles require more powerful engine, they risk facing a competitive disadvantage to standard trucks fitted with smaller and more efficient engine. Therefore, the emission reduction pathway of EMS trucks could be extended compared to standard trucks in order to enhance their uptake while still mandating manufacturers to decarbonise this vehicle segment once zero-emission technologies are more mature.

Introducing a life-cycle analysis of emissions from heavy-duty vehicles to ensure a level-playing field

The tank-to-wheel approach on which the current HDV CO₂ standards are based is a noticeable weakness of the Regulation to date: by addressing only the tailpipe CO₂ emissions of regulated vehicle groups, this approach favours the battery-electric or hydrogen-powered trucks and undermine decarbonisation efforts by using sustainable biofuels, which are carbon neutral. In addition, as long as energy sources such as electricity and hydrogen have not been fully decarbonised, zero-emission trucks would still be responsible for indirect CO₂ emissions.

Therefore, it is important that the Commission introduces a common Union methodology for the assessment and the consistent data reporting of the full life cycle CO₂ emissions of heavy-duty vehicles, including an assessment of full life-cycle emissions of the fuels and energy consumed by such vehicles. This approach would help to embrace the technology-neutrality principle and would bring a level-playing field among the different technologies which aim to decarbonise heavy-duty road transport.

If the Commission retains the option to regulate tailpipe emissions in the upcoming proposal, it is highly crucial that upstream emissions are reduced to a minimum, which requires an alignment of other EU legislation: the current revision of the Renewable Energy Directive should therefore ensure, that the share of renewables in the EU electricity and hydrogen production is well increased, while setting out strong sustainability criteria for biofuels used in the EU.

Finally, ensuring enforcement of new targets is vital to reach the EU's climate ambitions. The Regulation should task the Commission to publish a report every 2 years assessing the efforts made by the industry in decarbonising the new trucks as well as the charging/refuelling infrastructure roll-out necessary to ensure the uptake of such vehicles.

Securing alignment with AFIR and ETS

In parallel to stricter CO₂ standards, CLECAT would also encourage Member States to secure sufficient funding to subsidy programs for transport operators to invest in decarbonised trucks. As most companies in the road freight transport sector operate with an extremely low operating margin (EBIT) of 2 - 3 %, it can be assumed that a substantial acquisition subsidy will be necessary at least until 2040, to secure the success of alternatively fuelled commercial vehicles.

The creation of a separate EU emission trading system for road transport as proposed by the Commission can also help reduce the TCO gap between conventional diesel trucks and zero-emission vehicles, provided that a part of the revenues generated by the auctioning of allowances is returned to the transport sector in the form of subsidies for investments in green vehicles and technology. The European Parliament and Council should also make sure the polluter-pays principle for all road users is applied to effectively decarbonise road transport. CLECAT emphasises that the objective remains to decarbonise the road transport sector through these initiatives and the lack of harmonisation between carbon tax schemes will put at risk the efforts that are being made by the sector. Higher taxation without sufficient funding for the industry will disincentivise the further uptake of new technologies coming into the market.

Finally, the accompanying charging and refuelling infrastructure needs to be sufficiently rolled out to support the uptake of zero-emission vehicles. CLECAT appreciates the provisions of the proposal for a Regulation on the deployment of alternative fuels infrastructure (AFIR) for the public charging/refuelling, as well as the recast of the Directive on the energy performance of buildings (EPBD), regulating private infrastructure. Nevertheless, it is of utmost importance to strengthen the HDV infrastructure targets in the AFIR proposal, which are currently not sufficient to ensure a dense network able to cover all trips for logistics service providers across Europe. Both regulations should be accompanied with proper incentives, for example through the Recovery and Resilience Facility according to the Recharge and Refuel flagship. It is therefore critical that EU and national funding instruments prioritise support towards projects developing alternative fuels infrastructure.

CLECAT remains at the disposal of interested parties for any further information.

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