Questions and Answers: Revision of the CO2 emission standards for Heavy-Duty Vehicles

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1. Why are stronger CO_2 standards for heavy-duty vehicles necessary?

The road transport sector represents one fifth of the EU's greenhouse gas (GHG) emissions and is a main cause of air pollution in cities. Citizens, cities, and consumers want to move to green mobility. Yet, transport is the only sector in the EU, where emissions have continued rising in recent years. Heavy-duty vehicles (HDVs), such as trucks, city buses and long-distance buses, are responsible for more than 25% of GHG emissions from road transport in the EU and account for over 6% of total EU GHG emissions. These emissions continue to increase, especially in freight transport. This upward curve is mainly driven by growing road transport demand, which is expected to keep increasing in the future.

Therefore, stronger CO_2 emission standards for heavy-duty vehicles are key to drive down CO_2 emissions in the sector and improve air quality. The Commission's proposal will strengthen the CO_2 standards from 2030 onwards and extend the scope to almost all vehicles with certified CO_2 emissions, to help reach the EU's commitment to reach climate neutrality by 2050.

2. On top of emission reductions, what are the other benefits of stronger CO_2 standards for heavy-duty vehicles?

Road transport is responsible for one third of all final energy consumed in the EU. The current EU HDV fleet is run almost entirely on internal combustion engines which are predominantly fuelled by imported fossil fuels, in turn contributing to the EU's energy dependency. With these new standards, the **demand for fossil fuels**, mostly oil products such as diesel is **expected to decrease by around 2 billion barrels** of oil over the period 2031 to 2050.

Moreover, stronger CO_2 standards will provide benefits for transport operators and users in the form of lower fuel costs and cost of ownership of the vehicles. The total cost of ownership for first users of a new heavy-duty vehicle will reduce significantly: with savings on average around 9,000 € for a vehicle purchased in 2030 and 41,000€ for a vehicle purchased in 2040.

Zero-emission and more energy-efficient vehicles will also have clear benefits for **air quality and the health of Europeans, and hence contribute to the Zero Pollution Action Plan**. The reduction of air pollution directly translates into health benefits for citizens, since the expanded scope also covers smaller trucks and buses and these vehicles are mostly driven in urban areas.

In addition, industrial development is changing the HDV sector rapidly. EU heavy-duty vehicle manufacturers are currently world-leading. The new standards will send a clear signal to EU industry to invest in innovative zero-emission technologies and the roll-out of recharging and refuelling infrastructure. This clear and common legal framework will be key to maintaining the EU's technological leadership in the future and supporting the employment of highly-skilled workers.

3. What is the scope of the proposal and the new target levels?

The proposal covers trucks (above 5 tonnes), city buses and long-distance buses (above 7.5 tonnes) as well as trailers (an unpowered vehicle towed by a motor vehicle). This is an important expansion of the scope of the regulation. The technology used in the engines of long-distance buses is the same as for heavy trucks and thus they can already benefit from technological developments in this market segment.

The Commission proposes new and more ambitious EU CO_2 emission targets for new heavy-duty vehicles from 2030 onwards to deliver on the above objectives. Under the proposal, CO_2 emissions

would reduce on average compared to 2019 levels by:

- 45% from 1 January 2030
- 65% from 1 January 2035
- 90% from 1 January 2040 onwards

New city buses in the EU will all have to be zero emissions (100% share of zero-emission vehicles) as of 2030.

It will be for manufacturers to decide which technologies they use to achieve these targets, e.g. electrification, hydrogen fuel cells or hydrogen in internal combustion vehicles.

An **exemption to the CO2 reduction targets** will apply to the following heavy-duty vehicles:

- small volume manufacturers
- vehicles used for mining, forestry and agricultural purposes
- vehicles designed and constructed for the use by armed forces and track-laying vehicles
- vehicles designed and constructed or adapted for use by civil protection, fire services and forces responsible for maintaining public order, or urgent medical care
- vocational vehicles, such as garbage trucks

These vehicles are not counted towards the average specific CO_2 emissions of manufacturers.

4. Will renewable and low-carbon fuels be allowed under the proposal?

The core objective of the EU policy on transport fuels is to reduce their greenhouse gas intensity in the most effective way possible across the transport sector.

A mechanism on renewable and low carbon fuels would create an incentive to redirect fuels needed to decarbonise sectors with fewer alternatives, like aviation and maritime, to road transport. Industry have already announced three technologies driving the shift to zero emission: battery electric, fuel cell and hydrogen combustion. These can increasingly cover most uses, from short distance and urban transport to long distance trucking. In addition, until 2040, the 90% emissions reduction target ensures that heavy-duty vehicles intended for driving in difficult conditions (e.g. very steep mountains) can still be non-zero emission vehicles.

In the Impact Assessment underpinning the proposal the Commission analysed possible mechanisms to account for renewable and low-carbon fuels, and concluded they are not the most effective tool. It would create an incoherent approach to the decarbonisation of fuels, while dedicated specific instruments are proposed for this purpose (Renewable Energy Directive, emission trading for road transport and buildings, Energy Taxation Directive, and specific initiatives on fuels in aviation and maritime – all part of the Fit for 55 package).

Furthermore, if fuel suppliers and vehicles manufacturers were to establish a fuel crediting system, the compliance costs for manufacturers would increase and impact the total cost of ownership for consumers. The mechanism would increase administrative burden and complexity, blurring the responsibilities between fuel suppliers and vehicle manufacturers.

5. What will be the impact on employment of this transformation of the automotive sector?

The transition to zero-emission mobility is already driving a transformation along the entire value chain of the heavy-duty vehicle sector. The strengthening of CO_2 emission standards is projected to bring net positive impacts on economy-wide employment. The automotive value chain will expand and new jobs will be created, in sectors such as battery production, electronics and the energy sector. This will require new skills among the workforce. Automotive suppliers will have to adapt their portfolio of products and services, and reskill and upskill their employees to secure a workforce fit for the zero-emission mobility era.

Several EU funding opportunities are available to help secure a skilled workforce ready for the green and digital transition, and leave no one behind in this transformation. This includes the Just Transition Fund (JTF), the European Social Fund Plus (ESF+), and more funding through the Recovery and Resilience Facility and the social investments and skills window of InvestEU. The 'Pact for Skills' will also help mobilise the private sector and other stakeholders to upskill and reskill Europe's workforce.

In addition, as announced in the 2020 Industrial Strategy, a transition pathway is being developed for the mobility ecosystem to accompany the transition of the automotive value chain. This is happening in partnership with industry, public authorities, social partners and other stakeholders, with a particular focus on SMEs in the automotive supply chain.

6. Why are you targeting zero-emission city buses already from 2030?

Electric buses already represent a considerable proportion of the new fleet in several Member States. These buses are being procured in significant volumes by local public authorities in the EU. City buses are especially suitable for a more rapid shift to zero-emission mobility due to the way they are used: they can recharge fully overnight and travel on well-defined and predictable short routes.

The demand from cities across Europe is high and growing. The EU Mission for climate-neutral and smart cities by 2030 was oversubscribed three times (377 applications for 100 spots) and local populations increasingly want clean public transport to help improve air quality. Several cities are planning to go to fully zero-emission public transport well before 2030 and some EU countries have already set an earlier target at national level. Finally, recent announcements from manufacturers are aligned with this ambition and it is important to ensure that European legislation supports this ongoing transition.

7. Why does the proposal introduce an exemption for small volume manufacturers and set specific targets for trailers?

The current CO2 emission standards, adopted in 2019, covered only heavy trucks, which are mostly produced by a small number of big manufacturers. However, the market of smaller trucks, city buses, long-distance buses and trailers is rather different. By expanding the scope, many more emissions will be covered.

The introduction of new technologies is more expensive for small volume manufacturers than for larger manufacturers, since they can take less advantage of economies of scale due to their production volumes. Therefore, exempting small volume manufacturers registering up to 100 vehicles from meeting regulatory requirements will help them to avoid negative impacts. The environmental and climate impact of such an exemption will be very limited, so the core policy objectives are not harmed.

Regarding trailers, improving their energy efficiency is a cost-efficient way to reduce CO_2 emissions from the road transport sector as most of the improvement comes from relatively inexpensive technologies, such as aerodynamic improvements. Expanding the scope to trailers will therefore bring additional savings in terms of CO_2 emissions and further reduces the total costs of ownership for transport operators. More efficient trailers will also help reduce the demand for fossil fuels, mostly diesel and other oil products, by about 23 Mtoe, or 170 million barrels of oil, over the period 2031 to 2050, as compared to the previous standards. When towed by a battery electric vehicle, a more efficient trailer will allow for a longer range or for a smaller battery, hence reducing the cost of an electric lorry.

For More Information

Press release

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