

FAQ - Proposal for post-2020 CO₂ targets for cars and vans

How does the proposal contribute to the EU and Member States achieving the 2030 emission reduction targets set under the Effort Sharing Regulation (ESR)?

The proposal on the [Effort Sharing Regulation](#) (ESR) sets out binding annual greenhouse gas emission targets for Member States for the period 2021–2030. These targets cover sectors of the economy that fall outside the scope of the EU Emissions Trading System, including road transport. No sectoral target is set under the Effort Sharing Regulation. The analytical work underpinning the ESR proposal shows a cost-effective emission reduction contribution of 25% for road transport by 2030 relative to 2005.

The impact assessment of the proposal for CO₂ emissions standards for cars and vans shows a significant gap between road transport emissions reductions in the analytical work underpinning the ESR proposal, and road transport emissions reduction with CO₂ emissions standards for cars and vans remaining at the 2020 levels. In this case, road transport emissions would only reduce by 17% between 2005 and 2030.

The CO₂ emission standards for cars and vans proposed for post-2020 reduce this gap to around 22%. However, further actions will be needed to completely close this gap, including for example through policies setting emissions performance standards for trucks.

How does the proposal help to close the gap between type approval and real world emissions of CO₂?

The new CO₂ emission targets will be based on the new emissions test procedure, the [Worldwide Harmonised Light Vehicle Test Procedure](#) (WLTP) , which has been introduced since 1 September 2017. The WLTP is expected to provide more realistic CO₂ and fuel consumption values.

However, it is essential that the WLTP remains representative over time, and the tools for ensuring and verifying this must therefore be put into place. This is why the proposed measure foresees that on-board fuel consumption measurement (FCM) devices – a simple, low-cost technology – are swiftly rolled-out fleet-wide in combination with a monitoring system to collect relevant data.

Such reporting will allow a robust, systematic and regular assessment of the WLTP representativeness. Moreover, by making the aggregated data from the fuel consumption measurement devices public, consumers will be provided with an additional tool for understanding the fuel consumption performance of their vehicles.

Why does the proposal not consider the development of real-driving emissions testing (RDE) using portable measurement equipment (PEMS) as it is done for pollutants and was recommended by the Scientific Advice Mechanism?

Based on the studies and evidence available, it cannot be concluded that on-road PEMS testing of CO₂ at type approval is a feasible or adequate way forward at this point in time.

The [opinion of the Scientific Advice Mechanism](#) (SAM) explicitly recommends complementary "ex-post" testing and monitoring of real-world CO₂ emissions, i.e. on vehicles already driven on the roads. The SAM opinion suggests that this testing and monitoring "could be based on measuring devices existing in the vehicle, e.g. fuel consumption meters, or on other technological options such as PEMS".

Why does the proposal include in-service conformity tests of CO₂ emissions?

Effective CO₂ emission standards for cars and vans require on the one hand that the CO₂ emission values determined at type approval are representative of real world driving conditions. On the other hand, the CO₂ emissions of vehicles in use must correspond to the values determined at type approval. Methods need therefore to be put in place to ensure both these objectives.

There is however not yet any systematic or harmonised approach in the EU for detecting and addressing deviations between the CO₂ emissions or fuel consumption values determined at type approval and those determined by testing vehicles on the road (in service).

It is therefore urgent to put such an essential market surveillance mechanism into place. The proposal requires the Commission to take into account deviations detected in the CO₂ emissions data when determining a manufacturer's compliance with the targets. If it is found through conformity testing that a manufacturer's vehicles when in use are systematically deviating from the CO₂ emissions determined at type approval, this should be reflected in the calculation of its average emissions that are used for checking target compliance.

What does the Commission consider a "zero- and low-emission" vehicle? Why does the definition not rely on the electric range instead of the CO₂ emissions measured during type approval?

A "zero- and low-emission vehicle" is a vehicle with tailpipe emissions between zero and 50 g CO₂/km. This definition is technologically neutral as it relates to the performance of the vehicles concerned and not to a particular vehicle technology.

The definition covers vehicles with zero tailpipe emissions, such as battery electric vehicles and fuel cell vehicles, but also other vehicles, with very low tailpipe emissions, such as plug-in hybrid vehicles with a sufficient zero-emission range.

Using CO₂ emissions per km as the metric for the definition of low emission vehicles also allows a direct link with the CO₂ targets, which are expressed in the same way. By setting the threshold at 50 g CO₂/km while accounting for the actual specific emissions of the vehicles concerned, it is ensured that zero-emission vehicles and low-emission vehicles with a longer zero-emission range are particularly incentivised.

How is the emission reduction effort (fleet target) distributed across manufacturers in a fair way? Why does the proposal maintain vehicle mass as the utility parameter?

The impact assessment underlying the proposal looked at different options for distributing the efforts in meeting the EU wide fleet CO₂ target. A key consideration was that the choice of the distribution mechanism should not affect the overall outcome in terms of greenhouse gas emission reduction. However, it could have an impact on the competitive position of different manufacturers depending on the type of vehicles produced.

The assessment showed that maintaining a mass based approach would be the simplest one, providing the highest certainty for manufacturers as regards their future efforts. Any benefits brought by switching to another approach (e.g. footprint) would not outweigh this. By using the test mass of the vehicle as the utility parameter instead of its mass in running order, a better correlation with the real mass of vehicles on the road can be established.

The slope of the limit value curve will be defined on the basis of a snapshot of the 2021 vehicle fleet, and adjusted according to the future target levels, thus ensuring that the transition to WLTP is taken into account and that an equal reduction effort will be required from all manufacturers. For vans, a variant is proposed, taking into account the different nature of smaller and large vehicles.

By providing for a more regular adjustment of the reference mass (so-called M0) to reflect the real average mass of the vehicle fleet, any incentive for increasing vehicle mass is avoided. Furthermore, the lower future slope as well as the higher share of electrified vehicles in the fleet will reduce the distributional effect of the utility limit value curve.

Why are well-to-tank emissions and embedded emissions not taken into account, e.g. through a life cycle assessment approach?

The impact assessment underlying the proposal considered different options regarding the metric for expressing the new CO₂ targets. The current "Tank-to-Wheel" (TTW) approach, by focusing on the tailpipe CO₂ emissions of the vehicles, is considered fully coherent with other policy instruments contributing to the EU's climate and energy policy, including the EU Emissions Trading System (ETS), the Effort Sharing Regulation and policy initiatives taken in the fuels and transport sector. The risk of double regulation will be minimised.

Shifting to a Well-to-Wheel (WTW) or life cycle assessment based approach would lead to double regulation, and could cause confusion in terms of responsibilities and liabilities, making vehicle manufacturers accountable for emissions occurring outside their sector. Such approaches also risk creating additional burden, in particular in terms of monitoring and reporting obligations.

Do electric vehicles really contribute to CO₂ emission reductions even if life-cycle emissions and national electricity mixes are taken into account?

The greenhouse gas emissions of the power sector are reducing at a faster rate than that of any other sector. With the newly proposed policies, in particular the revised ETS and the Renewable Energy Directive, more than 70% of electricity generated in the EU in 2030 will be carbon free. With the continuation of the linear reduction factor in the ETS beyond 2030, the greenhouse gas intensity of the power sector will be further reduced.

The impact assessment for the new proposal, based on work by the European Commission's Joint Research Centre (JRC), shows that emissions of battery and plug-in hybrid electric vehicles will be substantially lower than those of conventional vehicles, also when taking into account the emissions from the production of the fuel or electricity. In 2030, average EU “well to wheel” emissions from battery electric vehicles will be 70 to 75% lower than from diesel or petrol vehicles. Plug-in hybrids will have “well to wheel” emissions that are around 55% lower than diesel or petrol vehicles.

Why is the scope of the eco-innovations extended to cover air-conditioning systems?

Air-conditioning equipment is one of the most important energy consumers on-board vehicles, but is currently not included in the emissions test procedure. By allowing this technology to qualify as an eco-innovation, a strong incentive to the development of more efficient air-conditioning systems will be provided. This change should start to apply from 2025.

Why is the niche derogation removed after 2024?

Experience shows that niche manufacturers, i.e. those responsible for between 10,000 and 300,000 new car registrations, do not necessarily need a derogation from the general reduction targets. These manufacturers are often major global players and have the same potential as large volume manufacturers to invest in CO₂ reducing technologies. Removing this derogation will help levelling the playing field among manufacturers. Moreover, as the evaluation of the existing regulation showed, this type of derogation – contrary to that offered to small volume manufacturers – could have a negative impact on CO₂ reductions if all eligible manufacturers made use of it.