



Questions and Answers: Commission proposal on the new Euro 7 standards

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Why are the Euro 7 emission standards needed?

Road transport is a major contributor to air pollution, in particular in cities. Although air pollution from transport has decreased in the past few years following the introduction of Real Driving Emissions (RDE) tests and due to the shift to electric vehicles and the use of other clean technologies, too many people are still exposed to excessive air pollution. It is estimated that chronic exposure to air pollution from fine particulate matter and nitrogen oxides from road traffic was responsible for more than 70,000 premature deaths in the EU-27 in 2018, out of 300,000 such deaths from air pollution as a whole. People living in densely populated areas are especially affected.

The Euro 7 emission standards are needed to set more ambitious limits for air pollutants. Existing technologies can help achieve that. The new standards will also ensure that vehicles remain clean for a much longer part of their lifetime. Emissions will be monitored by on-board sensors, making the periodic technical controls and compliance checks easier and ensuring that emissions will not increase disproportionately over time, even when these vehicles are exported to third countries.

Co-legislators recently reached a political agreement that after 2035, all new cars and vans on the European market must have zero tailpipe CO₂ emissions. The shift to notably electric cars and vans will also produce benefits for air quality. However, cars and vans with internal combustion engines put in the market before that date will stay on European roads at least for another decade or more. More than 20% of cars and vans and more than 50% of the heavy-duty vehicles on our streets are expected to emit pollutants from the tailpipe up to 2050. Moreover, all vehicles - electric or not - need to emit less air pollutants, for example from brakes and tyres, which are on a pathway to become the major sources of particle emissions from vehicles. For lorries and buses powered by internal combustion engines, a further proposal for legislation to reduce CO₂ emissions is still in preparation. Similarly, as for cars and vans, we need to ensure that lorries and buses are as clean as possible, irrespective of the shift to notably new electric vehicles that may follow upcoming CO₂ norms.

How will the proposal for the Euro 7 standards improve air quality?

Motor vehicles are a significant source of air pollution in cities, with a major share of NO_x emissions and fine particles. Road transport was on average responsible for 39% of the harmful NO_x emissions in 2018 (47% of the NO_x emissions in urban areas), and 11% of total PM_{2.5} and PM₁₀ emissions in 2018.

In 2035, Euro 7 will lower NO_x emissions from cars and vans by 35% compared to Euro 6, and by 56% compared to Euro VI from buses and lorries. At the same time, particles from the tailpipe will be lowered by 13% from cars and vans, and 39% from buses and lorries, while particles from the brakes of cars will be lowered by 27%.

Every Euro 7 vehicle will have to comply with lower or new emission limits (including for pollutants previously not regulated), tests where the vehicles are driven on the road in more representative driving conditions and improved durability requirements. In addition, the Euro 7 standard rules will reduce emissions from brakes and tyres, which will soon be the major source of particle emissions from road transport. New digital methods, based on on-board sensors that measure emissions throughout the lifetime of a vehicle, will simplify checking compliance of the vehicles with the emission rules.

What will be the impact of the Euro 7 standards on industry?

Today's Euro 7 proposal takes due account of the agreed 2035 target for zero CO₂ emissions cars and vans. It focuses on cost-effective solutions, with a boost to increased investment in technology solutions to reduce emissions in real driving conditions, including typical daily commuting driving in

cities and, for the first time, covering emissions from brakes and tyres. In addition, the proposal deletes obsolete tests and replaces them with modern digital enforcement tools, such as the on-board monitoring of emissions. It will therefore result in a decrease in compliance costs and administrative burden for the automotive industry.

There will also be advantages for export markets, as several countries outside the EU, such as Australia, Brazil, China or India tend to base their rules on Euro emission rules.

Finally, the Commission is proposing sufficient lead time to allow industry to plan for the necessary adjustments before Euro 7 vehicles can enter the production stage. In the meantime, work has already started in order to have all the implementing rules required ready in time.

Which vehicles will have to comply with Euro 7 standards?

The Euro 7 rules will apply to both light-duty (cars and vans) and heavy-duty vehicles (lorries and buses) sold in the EU. The proposal merges the successor norms to Euro 6 (Regulation (EC) No 715/2007) and Euro VI (Regulation (EC) No 595/2009) into one single act.

The Euro 7 rules are technology- and fuel-neutral. This means that the same emission limits apply to all vehicles within the same category, regardless of the technology (for example, conventional internal combustion engine, hybrid or plug-in) or the fuel used (gasoline, diesel or others). They also apply to zero CO₂ emission vehicles (electric or fuel cell vehicles).

Will the Euro 7 standards be implemented at the same date for all vehicle categories?

According to the Commission's proposal, the date for the entry into force of the new Regulation is 1 July 2025 for new light-duty vehicles (cars and vans), and 1 July 2027 for new heavy-duty vehicles (lorries and buses). Limited exceptions apply to vehicles constructed by small volume manufacturers to take care of specific technology constraints.

What are the pollutants covered by the Euro 7 standards?

Currently, the following pollutants are regulated under Euro 6/Euro VI: nitrogen oxides (NO_x), carbon monoxide (CO), particles, hydrocarbons, methane and ammonia for lorries and buses.

In addition to the pollutants currently regulated, the proposal extends ammonia (a pollutant with a key role in the formation of urban smog) limits from lorries and buses also to cars and vans. The proposal also regulates formaldehyde, an irritant, carcinogenic gas, and nitrous oxide for lorries and buses. This pollutant is a potent greenhouse gas being regulated for the first time by Euro standards. Finally, Euro 7 will be the first standards worldwide to regulate the smallest of ultrafine particles (down to 10 nanometres), particles from brakes and battery durability.

How much lower are the Euro 7 limits?

Various possible emission limits were studied to find the right balance between emissions saved and the investment needed for new technologies, in a context where the sector is already in a fast pathway towards decarbonisation with accompanying benefits for air quality.

For cars and vans, the strictest of the existing Euro 6 limits were taken as a starting point and applied across all technologies. For example, NO_x used to have a limit of 60 mg/km for gasoline cars, and 80 mg/km for diesel. Under the Euro 7 standard rules, that limit will be 60 mg/km, regardless of the technology.

For lorries and buses, emission limits are set lower than they were in the previous Euro VI heavy-duty standards. This reflects the untapped potential of existing technologies and the need for further reductions of air pollutant emissions from these vehicles— especially in the freight transport sector, where combustion-powered vehicles are expected to continue being sold until 2035 and beyond.

However, it is not possible to determine the effect on air pollution on the basis of the quantitative limits alone. The impact on air quality must be assessed on the basis of the whole proposal, since we also expect large emission savings from the more representative driving conditions during testing of Euro 7 vehicles, as well from the extended durability requirements (see below).

How will the vehicle emissions be tested?

For light-duty vehicles, the Euro 7 standards will build upon the success of the Real-Driving Emissions (RDE) test of Euro 6, which have been instrumental in restoring confidence in the automotive sector following the diesel emissions scandal. The boundary conditions for testing (i.e. the driving and environmental conditions under which emissions tests are valid and can be performed by the authorities or third parties) have been broadened to ensure that emissions stay low in a broader range of conditions experienced by vehicles across the EU.

For heavy-duty vehicles, the testing methods will continue to reflect the specific characteristics of these vehicles, with a greater focus on whole vehicle testing instead of engine testing. The proposal also foresees modifications in the design of the limits to focus the attention on the reduction of cold-start emissions, which are especially important for urban driving.

How will the Euro 7 standards ensure that emissions stay low throughout the lifetime of the vehicles?

Currently, Euro 6 standard cars have to comply with the emission requirements only up to 100,000 kilometres or 5 years of use, while the average age of cars in Europe is close to 12 years. With the new rules, the Euro 7 limits need to be respected up to 200,000 kilometres and 10 years of use. This will better reflect the normal lifecycle of vehicles, including second-hand vehicles on our roads.

Both light- and heavy-duty vehicles will need to be equipped with on-board emissions monitoring systems (OBM). Using sensors to measure emissions performance, Euro 7 standard vehicles will be able to flag problems early and stay clean.

Are zero-emission vehicles exempted from Euro 7 limits?

Under the CO₂ standards, “zero-emission vehicles” are defined as vehicles with zero CO₂ tailpipe emissions. Therefore, this does not take into account the air pollutants, in particular particles from tyres and brakes, which all vehicles including electric ones still emit.

The Euro 7 standards are a future-proof rulebook that will apply to all motor vehicles, even those that do not have a combustion engine. With the Euro 7 standard, the EU will become the first region in the world to propose limits on non-exhaust emissions, starting by particle emissions from brakes in cars and vans.

As the Euro 7 standards are implemented, tests and limits will be set for other types of non-exhaust emissions. For example, particle emissions from heavy-duty vehicle brakes and microplastics from tyres are expected to also be limited before the application date of the Regulation. Besides having to comply with non-exhaust emission limits, Euro 7 electric cars and vans will have to comply with new battery durability requirements.

How will consumers notice the Euro 7 standards?

In designing the new rules, the Commission has thoroughly analysed the impact of the new Euro 7 standards on the affordability of mobility, especially given the currently rising inflation.

The expected cost increases in relation to the current situation represent only a small fraction of total vehicle purchase costs, i.e. between €90 and €150 for cars and vans and around €2700 for lorries and buses. The estimated environmental benefits in terms of avoided health impacts from air pollution significantly outweigh these costs to manufacturers, consumers and authorities, by a ratio of more than 5 to 1.

The Euro 7 standard is expected to have a positive impact on consumers, by making the emission control systems of combustion vehicles and the batteries of electric vehicles more durable. This will also have a positive effect on vehicle resale value.

Will the Euro 7 standard help against climate change?

The Euro 7 standards do not address CO₂ emissions from road vehicles. These are the subject of separate EU regulations for light- and heavy-duty vehicles.

However, just as CO₂ performance standards produce benefits for air quality with a shift to more electric mobility, Euro 7 standards conversely contribute to the fight against climate change by setting limits for methane and nitrous oxide for lorries and buses – two greenhouse gases that are emitted in relatively small quantities, but once in the atmosphere have a climate impact that is many times stronger than that of CO₂. Furthermore, by setting battery durability requirements, the Euro 7 standard will give confidence to consumers looking to purchase electric vehicles.

For More Information

[Proposal](#) for a Regulation on type-approval of motor vehicles with respect to their emissions and battery durability (Euro 7)

[Press Release](#)

[Factsheet](#)

[Emissions in the automotive sector](#)

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