

Euro 7

A missed opportunity and a gift to carmakers?

Context

70,000 people in Europe die every year due to air pollution from cars, vans, buses and trucks. This is despite tighter pollution standards introduced after the 2015 dieselgate scandal. Air quality in European towns and cities continues to be poor, exceeding World Health Organisation thresholds for safe air.

Despite the agreed phase out of internal combustion engine (ICE) cars in 2035 and the upcoming revision of truck CO2 standards (which should propose a zero emission truck sales mandate to align with EU climate goals), large numbers of highly polluting ICE cars and trucks will be sold in Europe prior to phase out. Almost 100 million ICE cars will be sold before 2035 and 3.6 million trucks before 2040. These vehicles will stay on our roads for decades to come, harming air quality across Europe. The only way to tackle their pollution is through ambitious new Euro 7 pollutant emissions standards.

What has the European Commission proposed?

The Commission's recently published Euro 7 proposal fails to deliver the ambition needed to tackle air pollution caused by road transport and meet newly revised EU Air Quality limits.

Weak pollution limits for cars set 15 years ago remain largely unchanged, despite leaps in technological progress. This is particularly problematic for highly toxic nitrogen oxides (NOx) and particles which cause the majority of air pollution deaths. Truck particle limits were also weakened at the last minute in direct contradiction with expert recommendations.

The proposal does increase the number of harmful pollutants regulated, the range of driving conditions and time for which limits have to be met, introduces particle pollution limits for brakes, and continuous monitoring of pollution through high-tech sensors.

Yet many of these provisions are weak and fall short of recommendations made by the Commission's own experts. Without increased ambition on key aspects, the proposal risks greenwashing today's polluting vehicles as 'clean' Euro 7, harming air quality and confusing consumers.

Summary:

- No improvement in pollution limits for cars beyond emission limits already set for petrol cars
- Weak limits for brake particles mean large cuts in pollution won't be made until 2035

- Limits apply only for a short period of time due to weak durability requirements

What's good? What's not?

Most problematic is the very weak proposal for cars which will do little to cut pollution, leaving a Euro 7 which is not much better than the Euro 6d standards in force today.

Despite a good initial level of ambition for cars which was based on scientific advice and would have reduced toxic NO_x limits by 50% for petrol and just over 60% for diesel, as well as the particle limit by over 80%, the Commission u-turned, maintaining limits at those already in place for petrol cars.

This is despite the low cost (around €300 per car) of meeting previously favored ambitious limits, with technology that is already available and can be easily fitted to the exhaust without changes to engine design.

The improved limits were assessed by the Commission as 'cost-efficient by bringing the highest health and environmental benefits for citizens at low regulatory costs for industry' while having 'the highest positive impacts in terms of access to international markets and innovation', delivering €25 billion net in health and environmental benefits.

While the introduction of brake particle limits for cars is welcome, the proposed limit up to 2035 (7 mg/km) is weak and delays the introduction of available technology that can cut pollution by 85% until 2035. For tyres no limits are proposed

yet, although the Commission gives itself the power to set these in the future.

The weakening in pollution standards for cars will do little to improve air quality or spur innovation as most cars sold today already meet these limit requirements. Little improvement in on road pollution will make it harder for towns and cities to deliver cuts in ambient air pollution required by the revision of the Ambient Air Quality Directive (AAQD). In the AAQD the Commission proposes allowable nitrogen dioxide pollution and particle pollution to be reduced by 50%. The modeling for these standards includes greater Euro 7 ambition than has been proposed by the Commission. Without a strengthening of Euro 7, towns and cities will be left on their own to meet AAQD requirements.

For trucks, the Commission has been relatively ambitious in setting standards, despite some still needed improvements. Yet truck particle limits were also weakened, now set 100% higher than recommended by the Commission's own experts based on an extensive assessment of new particle filter technologies.

Improvements in the period during which vehicles have to comply with pollution standards (known as durability) are also weak. The 10 years or 200,000km proposed for cars falls short of even the average age of cars on EU roads (12 years), let alone the average lifetime (19 years, 225,000km). This is also true for trucks. The biggest trucks will only have to comply for 875,000km or 15 years; whichever comes first. For long haul trucks the mileage requirement is equivalent to 11 years,

making the age requirement obsolete. This means that durability will once again fall short of even the average EU age of trucks (14 years). Without improvements, Euro 7 risks shifting small incremental costs for better durability during manufacture to large replacement costs for consumers when the technology fails.

The introduction of additional Euro 7 categories for vehicles is confusing for consumers and could lead to greenwashing. For example a car or truck that meets Euro 6d standards is labeled as a Euro 6d car or truck. In Euro 7, extra labels are added to vehicles, the most problematic being:

- Euro 7G: would apply to plug-in hybrids with geofencing technology i.e. technology which switches to zero emission driving in certain zones. This risks shifting pollution to outside of geo-fenced areas as data

shows that there is a large spike in pollution after a period of zero emission driving.

- Euro 7+: would apply to vehicles which have 20% lower pollution than the Euro 7 standard. Such a small reduction would have limited impact on air quality. Especially for cars, assigning a special environmentally friendly category risks greenwashing cars which barely perform better than Euro 6d as 'clean' Euro 7.

The Commission wants 4 additional categories, and multiple categories can be assigned to an individual vehicle. This is confusing for consumers with little benefit for air quality. For example, Euro 7 AG+ will mean little to the average buyer.

How should it be improved?

There are quite a few aspects which should be improved, however **the most important for air quality are tailpipe and brake pollution limits and the length of time that these apply for.**

Tailpipe Limits

Tailpipe pollution limits are a key tool to reducing pollution by ensuring that better emission control technology is fitted to cars. At the minimum these should align with the Commission's own expert recommendations to ensure that up to date emission control technology is fitted.

For cars this means discarding the old Euro 6 petrol limits, and setting more ambitious standards in particular for NO_x and particles; at the minimum:

- The NO_x limit should be reduced from that set for petrol cars over a decade ago (60 mg/km) to 30mg/km.
- The particle number limit should be reduced to 1×10^{11} /km from 6×10^{11} /km.
- The particle mass limit should be reduced from 4.5 mg/km to 2 mg/km.

For trucks this means re-strengthening the particle number limit which was doubled at the 11th hour against expert recommendations.

- The 'hot' particle number limit (2×10^{11} /km) should be reverted back to 1×10^{11} /km.
- The so-called short trip 'budget' particle limit (3×10^{11} / km) should be reverted back to 2×10^{11} /km.

Additionally, if the Commission intends the EU to be a leader in low pollution technology, then truck limits need to closely align with the most stringent regulation set globally. For trucks these are standards set by California.

- The 'cold' NO_x limit should be halved from 350 mg/kWh to 175 mg/km.

Setting strict 'cold' NO_x limits will drive pollution reductions when the engine is first started (known as cold start) as well as reducing truck pollution in towns and cities.

Durability

This is the period of time during which car and truck makers are responsible for ensuring that pollution limits are met and compliance can be checked. Without strict requirements, standards only have to be met for a fraction of a vehicles' lifetime. These should be increased to align with the Commission's own expert recommendations, ensuring whole lifetime compliance:

- For cars, durability should increase to 240,000km and 15 years (from 200,000 km and 10 years).
- For trucks smaller than 16 tonnes to 700,000 km and 15 years (from 375,000 km and 8 years).
- For trucks larger than 16 tonnes to 1.2 million km (from 875,000 km).

This will ensure that cars and trucks have to comply with limits throughout their lifetime, reducing the risk that second and third hand users will be saddled with large repair bills. This is particularly important for

Southern and Eastern Member States which have the oldest fleets.

Brake & tyre particle limits

For cars brake particle limits should be set at a level which requires the fitting of the best available technology right from the start. However, the brake particle limit of 7 mg/km is weak and delays the introduction of brake vacuums until 2035.

This is problematic as brake vacuums can reduce pollution by up to 85% and are already available and affordable. They cost only an extra €77 per car compared to improved brake pads which are the only technology required under the 7mg/km limit. These are not up to the task of reducing brake pollution, as at most they can achieve reductions of less than half of those achieved by brake vacuums.

- The brake particle limit should be set at 3mg /km instead of 7 mg/km to ensure that pollution from brakes is cut by 85%.

For tyres, for which a particle measurement method is still under development, the Commission needs to propose stringent limits for cars no later than in 2024 to ensure that this source of pollution is reduced from all cars as soon as possible.

For trucks, the Commission should propose brake and particle limits as soon as technically feasible to ensure that this source of pollution is also reduced from the heavy-duty segment.

Euro 7 additional categories

Euro 7 additional categories (such as for geo-fencing) equate to nothing more than a marketing strategy for car and truckmakers which the Commission plans to enshrine in legislation. To prevent greenwashing and confusing consumers, Euro 7 sub-categories should be removed from the regulation.

Don't forget...

At the last minute the Commission bowed to pressure from car and truck makers and reduced the ambition of Euro 7 standards at the expense of people's health and the environment.

This comes at a time when carmakers are making record profits, bigger than even pre-pandemic. BMW has a profit margin of 19% and has already made €20 billion profit this year, double of pre-covid 2019. Stellantis are also on track to be very profitable making a record breaking €8 billion in the 1st half of 2022 and are on track to make 10% profit. Last year VW made €20 billion, which is also higher than pre-covid.

Carmakers can afford to make cleaner cars and Euro 7 is the last opportunity to make them do so with technology that is already available and affordable. Without improvement by the Parliament and Council Euro 7 risks greenwashing today's polluting cars as 'clean' Euro 7. This will place 100 million more highly polluting cars on European roads, harming air quality and confusing consumers.

Trucks will stay on the road even longer. The Commission's proposal is a good starting point for cleaning up the pollution caused by the 3.6 million ICE trucks that will be

sold before 2040. With minor improvements for trucks the Commission can regain its regulatory credibility and set the EU on track for a zero emission future.

Further information

Anna Krajinska
Manager Vehicle Emissions and Air Quality
Transport & Environment
anna.krajinska@transportenvironment.org
Mobile: +44(0)7761536337

