Mobility Blog

Euro 7: a question of standards

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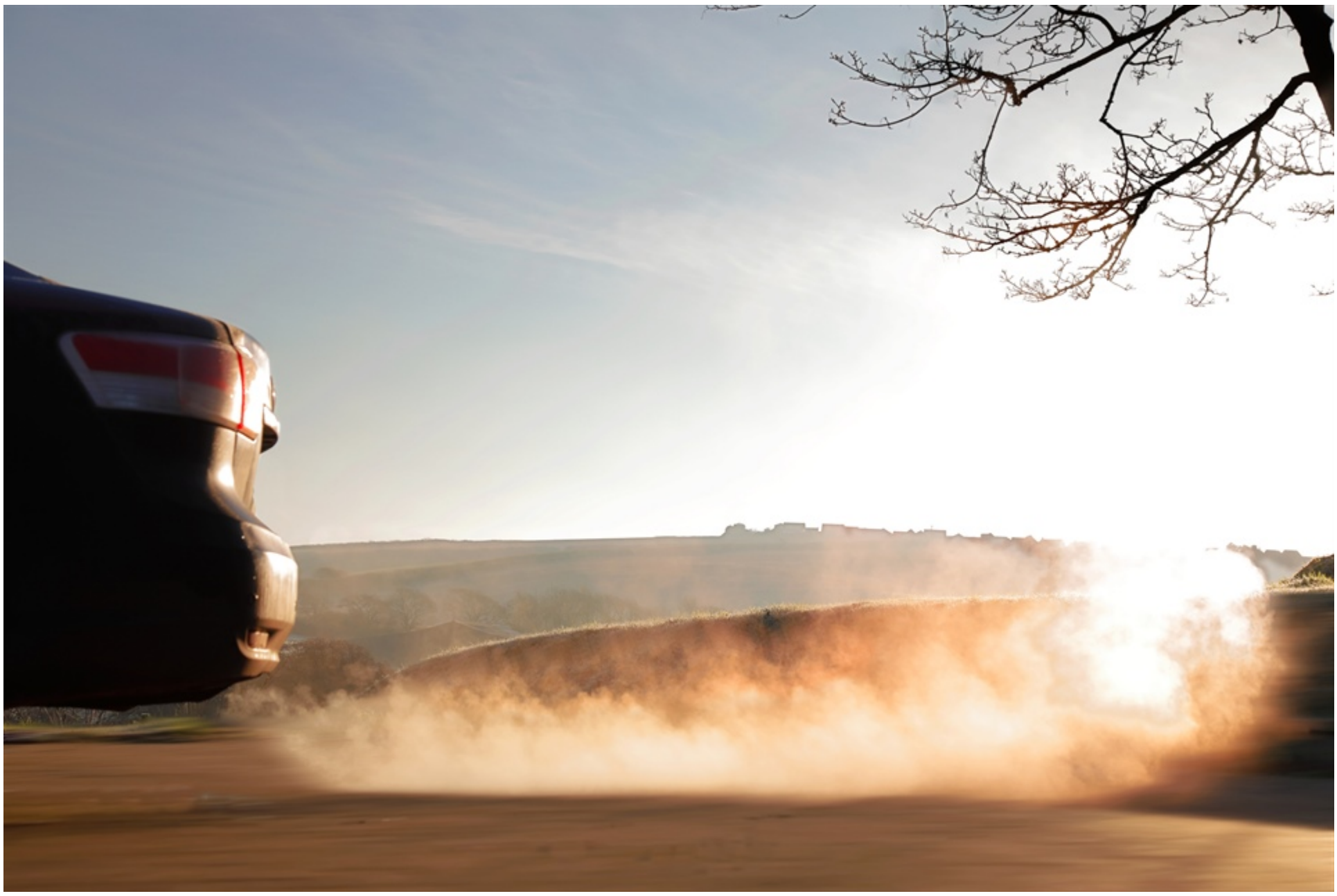

First introduced in 1992, European emissions standards (also known as "Euro standards") define consumption and set limits for polluting emissions from vehicles. As the main focus here is on air quality rather than climate change, carbon monoxide (CO), fine particles (PM10 and PM2.5) or Nitrogen oxides (NOx) are in scope, but not CO2 . Negotiated and sometimes hotly debated by various interested parties, from scientists to the automotive sector, these norms are regularly revisited and have become increasingly strict over time in the interests of environmental protection and public health. Each new version is referred to as "EURO + number" – the first standard was "EURO 1" and the latest, which dates back to January 2020, is "EURO 6". Each standard is then subject to various iterations, so that the standard currently in force is EURO 6d. The proposed text of the next generation – EURO 7 – has been published on November 10th, 2022. Let's discuss the implications of that proposal.

- **What are the timelines?**

After having been postponed several times, the text has finally been communicated by EU, including an implementation date planned for July 1st ,2025 for light vehicles, meaning Passenger Cars and Light Commercial Vehicles (2 years later for Trucks). But it still needs to go through the different steps of approval for definitive validation.

Meanwhile, July 2022 saw the introduction of an intermediary amendment of the current EURO 6 norm (Euro 6e, for implementation "by 2025"). Its primary focus is on PHEV CO2 emissions calculation that can lead to an increase of three or four times the levels currently in force, given more realistic parameters of usage in electric mode. However, again it remains to be seen what additional steps are necessary to apply this amendment across member states, and how this will connect to Euro 7 implementation.

A key element to bear in mind is that EURO 7 is very likely to be the last set of standards that applies to ICE vehicles before they are phased out.

- **What's new?**

If the expectation was a drastic lowering of existing pollution ceilings the result can be considered as conservative on one hand and as more holistic on the other.

Conservative, by the limited decrease of admitted exhaust pipe polluting emissions. Allowed levels of particulate matters (PM) remain the same as for Euro 6d, and for NOx, diesel engines will have to comply with the same levels as petrol engines (60 mg/km).

Holistic, by going beyond what comes out of the exhaust pipe for the first time. Indeed, the new text also includes wear and tear on brake pads, emitting fine particles (while tyre abrasion remains out of scope).

Put together, the impacts of exhaust emissions and brake usage represent a non-negligible impact on public health, particularly when it comes to respiratory issues.

The new text also includes new thresholds of norm's applicability (200.000km and 10 years, meaning twice the expectation of EURO 6 norm) and remaining performance ("state of health") of batteries for PHEVs and BEVs after 5 and 8 years of usage.

- **What's at stake for OEMs?**

The more stringent the standards, the more difficult and costly it is for OEMs to certify their vehicles. PHEV and BEV are concerned as well.

Stronger measures have a direct impact on R&D, vehicle equipment and other production costs.

Let’s highlight for example the introduction of particles vacuum on wheels to limit emission in the air. We can imagine the type of technology that we already see today on some trains.

These additional cost layers will impact all ICE-powered models irrespective of the segment and could potentially lead to the phasing out of smaller cheaper models, where the impact on list prices will be proportionally higher and may not meet customer readiness to pay.

Oliver Zipse, President of ACEA and CEO of BMW has declared “Unfortunately, the environmental benefits of the Commission’s proposal are very limited, while it significantly increases vehicle manufacturing costs”. EU on its side expects a cost increase only for a small fraction of total vehicle purchase costs, i.e. “between €90 and €150 for cars and vans”.

- **And the impact on companies and Fleet Managers?**

The decisions taken by OEMs will clearly have further repercussions. PHEV sales might diminish (subject to Euro6e enforcement), and we can expect a reduction in production of small ICE vehicles, even ahead of the phase-out. This will ramp up the need to find EV alternatives for discontinued models and will free some more space for BEVs even on the upper segments.

Overall, this represents an opportunity for BEV take-up, as exhaust emissions clearly do not apply in this case. However, the new more holistic approach, including the focus on brake abrasion, could mean that even certain BEVs are not natively compliant due to the levels of pollutants allowed.

- **And the benefit for environment?**

As mentioned in the introduction, the goal of those EURO norms is to limit the effect of vehicles on health and environment. Even if we see a first step in not measuring only emissions coming from the exhaust pipe, the lowering of ceilings is still limited compared with the existing norm. Thus, the new text appears as disappointing for both OEMs and NGOs.

We can easily understand the several delays in the text issuing since OEM are already steering their efforts in electrification while NGOs are pushing to accelerate the decrease of polluting emissions.

We’re monitoring developments and will keep you updated in the future validation steps.

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