

COMMENTS ON CO₂ EMISSIONS FOR CARS AND VANS – REVISION OF PERFORMANCE STANDARDS

The European Commission published on 14 July 2021 its proposal for amending the CO₂ emissions performance standards for cars and vans. The European emissions control industry that AECC represents, welcomes the opportunity to comment on these proposed regulatory amendments.

AECC is fully committed¹ to the climate objectives of the EU aiming to have zero-emission transport by 2050, as laid out in the European Green Deal. The EU zero-emissions transport objectives can best be achieved by the contribution of all available powertrain technologies, hybrid Internal Combustion Engine (ICE), Battery Electric Vehicle (BEV), Fuel-cell Electric Vehicle (FCEV), etc., to maximise the opportunities to reduce CO₂ emissions from transport.

The EU Green Deal zero-emissions transport objective can best be achieved by a truly technology-neutral CO₂ emissions standard for cars and vans. The Tank-to-Wheel approach currently limits the CO₂ reductions that can otherwise be obtained by using hybrid ICE technologies with drop-in sustainable renewable fuels in addition to the ongoing electrification of the cars and vans fleets. Emission control technologies fully operating in combination with these drop-in sustainable renewable fuels enable ultra-low pollutant emissions while contributing towards net-zero CO₂ emissions.

Setting a requirement for 100% CO₂ reduction by 2035 based on a Tank-to-Wheel approach limits the pathways available to achieve further CO₂ reductions from road transport. Greenhouse gas (GHG) accumulation is to be minimised to stay within the limited available GHG budget to achieve the Paris Climate Agreement. Thus, a holistic approach is required, allowing all available powertrain technologies to contribute to reduce CO₂ emission from road transport.

A Well-to-Wheel (WtW) approach is needed in the legislation as soon as possible as a first step towards life cycle assessment (LCA). In this manner the CO₂ emission standards could ensure a truly technology-neutral approach, which is a core value of the European legislation and will continue to drive further innovations in the automotive industry.

🔗 Hybrid ICE vehicles, an opportunity to achieve ultra-low pollutant and CO₂ emissions

The upcoming Euro 7 Regulation is expected to become a world leading emission legislation for pollutant emissions in real-world operation². The application of the Euro 7 will allow hybrid ICE vehicles - combining a conventional ICE with an electric propulsion system - including mild, full, and plug-in hybrids, to achieve ultra-low pollutant emissions in all driving conditions. These clean and efficient hybrid vehicles with modern emission controls will continue to be an important part of the powertrain mix.

Today, AECC's demonstration vehicles including state-of-the-art emission control technologies already demonstrate hybrid ICE technologies can achieve ultra-low pollutant emissions³.

🔗 Sustainable and renewable fuels present a great opportunity to contribute towards net-zero CO₂ emissions

Hybrid ICE vehicles will be equipped with emission control technologies which fully operate in combination with drop-in sustainable renewable fuels. This enables at the same time ultra-low pollutant emissions and substantial reduction in CO₂ emissions in an objective Well-to-Wheel assessment⁴.

Existing road transport fleet should contribute to achieve the GHG reduction by using drop-in sustainable renewable fuels. These fuels can use existing infrastructure and consequently avoid initial carbon investment emissions. This will preserve accessible and affordable mobility options for all.

In order to fully grasp the benefits that sustainable renewable fuels can bring in the new CO₂ emission standards, these should be integrated as an additional path within the Zero Emission Vehicles (ZEV) definition. As an example,

a voluntary [crediting mechanism](#) could be included when determining manufacturers compliance with their CO₂ targets. It is the use of fossil fuels that should be banned, rather than the use of internal combustion engines in order to truly decarbonise transport.

Finally, besides the further substantial emission reductions from hybrid ICE vehicles expected from an ambitious Euro 7 regulation, an effective way of moving the road transport emissions towards zero-impact in the short term is to encourage faster fleet renewal. This promotes the market uptake of cleaner cars and vans, including hybrids and clean ICE vehicles. To ensure a just transition, the fleet renewal will support current industrial developments, jobs and it would guarantee removing older, more polluting vehicles from the European roads, in a sensible socio-economic way.

AECC's vision⁵ for clean, efficient, convenient and affordable mobility and commitment to the European Green Deal are fully aligned with the European Commission's objective on climate. The climate is changing; GHGs are contributing to the warming of our planet and road transport is a contributor to this. The CO₂ performance standards for cars and vans are a key piece of legislation to lower the GHG contribution of the road transport sector to the ambitious goals set by the European Green Deal.

AECC would like to confirm its commitment to work with the European legislators on the revision of the CO₂ performance standards for cars and vans. AECC will continue to provide robust scientific data and facilitate informed discussions on how to improve the local and global air quality whilst maintaining the competitiveness of the European automotive industry through the integration of modern emission control technologies within the vehicle powertrain system.

Should you need more information, you can contact AECC at info@aecc.eu.

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References:

¹ AECC open letter on European Green Deal communication

<https://www.aecc.eu/wp-content/uploads/2020/08/200124-AECC-open-letter-on-Green-Deal.pdf>

² AECC position on Euro 7 emissions standards

<https://www.aecc.eu/wp-content/uploads/2021/06/210628-AECC-position-on-Euro-7-final.pdf>

³ "Ultra-low Emissions of a 48V Mild-Hybrid Gasoline Vehicle with Advanced Emission Control Technologies and System Control", J. Demuynck, et al.; SAE 2021-24-0070, 09/2021

<https://www.aecc.eu/wp-content/uploads/2021/09/210912-AECC-presentation-SAE-2021-24-0070-website-1.pdf>

⁴ "Improving Air Quality and Climate Through Modern Diesel Vehicles", J. Demuynck, et al.; MTZ worldwide, Issue 9/2020

<https://www.aecc.eu/wp-content/uploads/2020/09/200901-modern-diesel-MTZ.pdf>

⁵ AECC 2025 vision for clean, efficient, convenient and affordable mobility

<http://www.aecc.eu/wp-content/uploads/2020/02/200203-AECC-Vision-Document-Web.pdf>

AECC is an international non-profit scientific association of European companies operating worldwide in the research, development, testing and manufacture of key technologies for emissions control. Their products are the ceramic substrates for catalysts and filters; catalysts (substrates with catalytic materials incorporated or coated); adsorbers; filter-based technologies to control engine particulate emissions; and speciality materials incorporated into the catalyst or filter. Members' technology is integrated in the exhaust emissions control systems of cars, commercial vehicles, buses, non-road mobile machinery and motorcycles in Europe. More information on AECC can be found at www.aecc.eu and www.dieselinformation.aecc.eu.

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