ASSOCIATION FOR EMISSIONS CONTROL BY CATALYST

EURO 7 EMISSION STANDARDS FOR CARS, VANS, BUSES AND TRUCKS

Position paper - February 2023

The European emissions control industry that AECC represents welcomes the legislative proposal for Euro 7 emission standards as adopted by the European Commission on 10 November 2022.

Through the preparation of the Euro 7 proposal, AECC has indicated key recommendations based on on-road testing of light- and heavy-duty demonstrator vehicles. AECC has continuously supported the work of the European Commission and its consultants by sharing pollutant emissions data and expertise gained from testing demonstration vehicles in a broad range of driving conditions.

The aim of this AECC position paper is to comment on several topics from the published European Commission Euro 7 proposal based on further AECC data analysis.

Euro 7 ensures all powertrains contribute to improved air quality and works together with other legislative efforts to reduce CO_2 emissions from the transport sector. AECC calls for a swift adoption of ambitious Euro 7 emission standards. This is key to realising the implementation dates prescribed in the Euro 7 proposal, further improving European cities' air quality as soon as possible. Additionally, Euro 7 boundary conditions should represent driving conditions encountered in the real world.

For light-duty vehicles, AECC expects the proposal to be clarified for gaseous pollutants. AECC demonstrator data is significantly below the proposed Euro 7 limits under warm operation. Affordable emission control technologies are available to achieve the medium ambition limits of the Impact Assessment. AECC data indicates the proposed Euro 7 PN limit is achievable.

AECC supports the Euro 7 proposal for heavy-duty vehicles as it follows the outcome of the Impact assessment.

The upcoming Euro 7 Regulation is a unique opportunity to ensure truly clean vehicles on European roads, while minimising the impact on the health of EU citizens and preserving mobility options for everybody's needs. It is an important element to support the Ambient Air Quality Directive in improving air quality in European cities. Both files will be discussed by the co-legislators in 2023. Euro 7 will lead to positive impact on air quality until 2050 as fleet renewal takes more than 10 years. The Euro 7 emission standards need to be swiftly adopted, well before the next EU elections. This is key to realising the implementation dates prescribed in the Euro 7 proposal.

AECC has analysed the pollutant emissions data measured from its demonstrator vehicles according to limits and data processing methodology prescribed in the Euro 7 proposal.

Euro 7 proposal for light-duty vehicles

Regarding gaseous pollutants, AECC regrets the adopted Euro 7 proposal deviates from the outcome of the EC's Impact Assessment. AECC data is significantly below the proposed Euro 7 limits under warm operation for all gaseous pollutants. The ambition of the Euro 7 proposal will limit the implementation of available innovative emission control technologies to further reduce pollutant emissions in an affordable way.

It is also important to note that the Euro 7 proposal does not include a complete set of limits for pollutant emissions for light-duty vehicles. This was expected as a guideline for the design of emission control systems, similarly to the proposal for heavy-duty vehicles. For example, N_2O has an important impact on this.

With respect to particulates, AECC data shows the proposed Euro 7 PN limit is achievable. It is important to note that development in substrate and coating technologies is ongoing, beyond what has been demonstrated. But several test procedure changes have a similar effect to reducing limit values. This includes the increased effort required as we move from PN23 to PN10 and no explicit counting of the PEMS margin, which is higher for PN compared to gaseous pollutants.

The same boundary conditions should apply for light- and heavy-duty vehicles as both vehicle types move in cities and on highways, and encounter similar ambient and altitude conditions. Restricting the extended conditions to a single parameter to have a valid test is not representative of the driving conditions encountered in the real world.

Euro 7 proposal for heavy-duty vehicles

AECC supports the Euro 7 proposal for heavy-duty vehicles as it follows the outcome of the EC's Impact Assessment. This proposal will implement for the first time in the European regulation the possibility of testing a heavy-duty vehicle in real-driving conditions without restrictions to the driving conditions. It includes a complete set of pollutant limits which will be a guideline for the design of state-of-the-art emissions control systems. It is appreciated that separate fuel-neutral limits are set for N_2O and CH_4. The AECC data analysis shows the Moving Window methodology seems appropriate. No data exclusions have been observed. AECC has demonstrated that affordable emission control technologies are available to substantially reduce heavy-duty vehicles' pollutant emissions.

Further drive of innovation

AECC welcomes the options for manufacturers included in Article 5 of the Euro 7 proposal for both light-duty and heavy-duty vehicles. Options like 'Euro 7+, 7A, 7G, and their combinations' can further promote innovation in emission controls and achieve pollutant reduction levels beyond the capabilities of today's state-of-the-art technologies. It will be important for Member States to consider as well, as incentives will be needed to drive the innovation. Similarly, the review clauses will provide a development outlook for those technologies that are today at a lower Technology Readiness Level (TRL).

Finally, Euro 7 emission standards should ensure Europe retains a leading role in pollutant emissions legislations worldwide. This will guarantee that research, development, innovation and employment in the automotive sector industry are maintained in Europe. In this way, European standards will continue to serve as the benchmark for other emissions legislations around the world.

AECC remains committed to the Euro 7 legislative ordinary procedure that has started, as well as the development of the implementing regulations with sound scientific data from our vehicle demonstration programmes.

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

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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.

AECC's members are Johnson Matthey PLC, United Kingdom; NGK Europe GmbH, Germany; Solvay, France; Umicore AG & Co. KG, Germany; and Vitesco Technologies GmbH, Germany.

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