

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

Position paper - May 2023

The European Commission published the Euro 7 proposal on 10 November 2022. The European emissions control industry that AECC represents issued a position paper on 9 February 2023. In this new position paper, we would like to provide further input to the ongoing discussions during the ordinary legislative procedure.

Euro 7 is needed to ensure all powertrains contribute to improved air quality and works together with other legislative efforts to reduce CO₂ emissions from the transport sector.

AECC calls for a swift adoption of ambitious Euro 7 emission standards, before the EU elections in 2024. This is key to ensure a prompt implementation of the Euro 7 proposal, further improving European cities' air quality as soon as possible.

The European Environment Agency confirms¹ traffic is one of the main sources of air pollution in the EU. While emissions have declined, air pollution levels are still not safe. Euro 7 is a key supporting policy to the strengthening of the Ambient Air Quality Directive. Both files are being discussed in parallel by the EU co-legislators.

The timelines to develop the positions within the European Parliament and Council seem to converge towards the beginning of the 4th quarter of 2023. AECC calls on the co-legislators to aim for adoption of the initial position by October at the latest. Trilogue discussions should then follow swiftly to find a final agreement under the Belgian EU Presidency in the first half of 2024, leaving sufficient time for the publication of the Euro 7 rules before the EU elections.

In parallel, the European Commission is progressing with the development of the Euro 7 implementing legislation with the support of the AGVES expert working group. We note the Commission is committed to finish the necessary implementing legislation by the time the co-legislators find an agreement on the Euro 7 legislation within the first quarter of 2024.

From an emission control perspective, technologies are available for the implementation of Euro 7. We however understand other aspects are being considered, referring the implementation date to the publication date. This reinforces the importance of swiftly adopting the Euro 7 proposal and publishing it as soon as possible. AECC suggests considering review clauses for aspects that are new or need further clarification, in order not to delay the publication of the complete Euro 7 package. New aspects are for example particulates from brakes and tyres or OBM and geo-fencing, among other items. A new Type Approval procedure under discussion in AGVES might further facilitate an as early as possible introduction of tailpipe pollutant emissions limits and test procedures.

Data from AECC demonstrator vehicles shows the proposed Euro 7 limits are technically feasible, both for light-duty and heavy-duty vehicles.

Affordable emission control technologies for Euro 7 are available today. The costs for such components are to be considered incremental compared to Euro 6/VI baseline costs according to the European Commission's impact assessment.

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. This shows the proposed Euro 7 limits are technically feasible within the test conditions investigated, both for light-duty² and heavy-duty³ vehicles.

For light-duty vehicles, this is illustrated in the graph below for NO_x, which shows all the emissions of the gasoline demonstrator vehicle on an RDE aggressive test are below the proposed Euro 7 limits, also at -10 °C. The emission budget for trips below 10 km is the most challenging requirement due to the influence of the initial cold-start emissions. Near-zero emissions are observed during the remaining part (warm operation) of the test independent from ambient temperature or driving dynamics. It is to be noted that further developments in substrate and coating technologies are ongoing beyond what has been demonstrated.

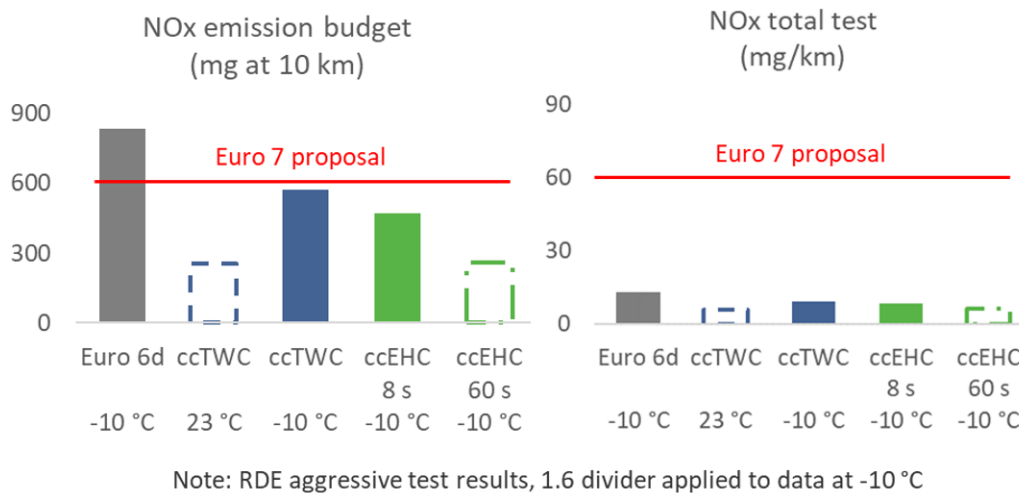


Figure 1: NOx emissions measured with the gasoline demonstrator vehicle ('ccTWC' is with a close-coupled Three-Way Catalyst, 'ccEHC' is with a close-coupled Electrically Heated Catalyst and Three-Way Catalyst)

AECC asks for further clarification with respect to the test conditions. Euro 7 test conditions should represent driving conditions encountered in the real world. The same ambient temperature and altitude conditions should apply for light- and heavy-duty vehicles. The possibility of combining parameters in extended operation is expected as it is allowed for Euro 6d RDE. AECC supports an additional definition to avoid misuse or abusive driving. VDA's Work Based Approach seems a reasonable method. AECC trusts the European Commission and CLOVE consortium have sufficient data available to determine an appropriate level for the parameter.

For heavy-duty vehicles, AECC fully supports the Euro 7 proposal, in line with the outcome of the European Commission's Impact Assessment and our AECC HD project data. Several aspects are appreciated. Firstly, a real-driving testing procedure without any driving conditions restriction is implemented for the first time for heavy-duty vehicles. Secondly, a complete set of limits is defined, including a separate fuel-neutral limit for N₂O and CH₄; and thirdly, the Moving Window method is without data exclusions.

AECC demonstration vehicles were equipped with series production technology components. The example emission control systems consist of a combination of close-coupled and underfloor catalysts in an integrated powertrain design. The cost of implementing such systems in view of the Euro 7 emission standards should be considered incremental compared to the latest vehicles on the market.

AECC asked the engineering houses to estimate the incremental costs of substrate and coating technologies applied to the demonstrator vehicles compared to Euro 6d/VI-D levels. These assessments are available from the AECC website and indicate the estimated ranges of the incremental costs for the [light-duty](#) and [heavy-duty](#) demonstrator vehicles. These were provided as input to the [European Commission's impact assessment](#)⁴ which considers further aspects, including hardware for evaporative and brake emissions, as well as R&D and calibration. AECC understands a higher range of cost estimations is being quoted in the debate for cars compared to the European Commission's impact assessment. AECC calls for hybridisation costs not to be added to Euro 7 since this is introduced anyhow as a measure for CO₂ emissions reduction.

AECC remains committed to supporting the development of Euro 7 emission standards, both during the legislative ordinary procedure and also for the development of the implementing regulations.

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

09.05.2023

¹ European Environment Agency briefing, "Air pollution and children's health", 24 April 2023

² J. Demuyck and D. Bosteels, [23rd International Symposium](#), Stuttgart, 4-5 July 2023

³ J. Demuyck and D. Bosteels, [SAE HD Diesel Sustainable Transport Symposium](#), Gothenburg, 3-4 May 2023

⁴ [Impact assessment](#) accompanying the Euro 7 proposal, European Commission, SWD(2022) 359, 2022



ASSOCIATION FOR EMISSIONS CONTROL BY CATALYST

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.

AECC is registered in the EU Transparency Register under n° 78711786419-61.