ASSOCIATION FOR EMISSIONS CONTROL BY CATALYST

COMMENTS ON THE REVISION OF THE AMBIENT AIR QUALITY DIRECTIVES INCEPTION IMPACT ASSESSMENT

The European Commission released on 17 December 2020 the inception impact assessment on the revision of the Ambient Air Quality Directives for public consultation. The emissions control industry that AECC represents, welcomes the opportunity to comment on the proposed roadmap.

AECC fully supports the revision of the Ambient Air Quality Directives. Clean Internal Combustion Engines (ICEs) have a role to play in further reducing air pollutant concentrations in European cities. AECC projects demonstrate the technical feasibility for reducing pollutant emissions using advanced emission control systems for light- and heavy-duty vehicles. These will continue to contribute to reduce air pollutant concentrations in the air and to improve Ambient Air Quality in Europe.

AECC's vision[1] for clean, efficient, convenient and affordable mobility and commitment to the European Green Deal are fully aligned with the European Commission's objective towards climate neutral and zero-emission mobility in 2050.

Since the early 1990s, road transport emissions regulations, whether for tailpipe pollutants or CO_2, have been set at the EU level. Vehicles have been equipped with emission control technologies which have led to reductions in emissions across Europe that could not have been achieved by individual Member States acting alone. The reduction of air pollutant concentrations from road transport through technology innovation incentivised by these emission standards, has contributed to the improvement of ambient air quality in European roads and cities.

AECC member companies will continue to supply emission control technologies to the automotive industry as part of the vehicle manufacturers' powertrain design. These emission control catalysts, adsorbers and filters are integrated with engine design, hybrid systems and operating strategies into advanced emission control systems by the vehicle manufacturers.

It is important to point out that modern light- and heavy-duty vehicles are now equipped with ICEs with integrated emission control technologies, allowing for emissions reduction of nitrogen oxides (NOx) and particles (PM & PN) among other harmful pollutants.

Modern vehicles type approved to Euro 6d-temp and 6d (including hybrid, petrol- and diesel-fuelled vehicles) are already showing very low emissions[2]. It is also important to note that lowering these pollutant emissions is not increasing the CO_2 produced by these vehicles. On the contrary, modern ICEs are also very efficient and constantly reducing greenhouse gas emissions. These vehicles are decisively contributing to cleaner cities in an affordable and accessible manner. These new ICEs should replace old models with support from fleet renewal incentive schemes.

Further improvements to lower pollutant emissions from road transport are required to comply with the ambitious 2050 goals provided by the European Green Deal and a revision of the Ambient Air Quality directives. AECC demonstrates that ultra-low NOx and particulates emissions are technically feasible with advanced emission control systems for light- and heavy-duty vehicles in real world driving[3].

The Euro 7/VII regulation, which is being discussed by the Commission's services, is a unique opportunity to implement a regulatory framework that could consider following three overarching principles to improve European Air Quality[4]:

- The new emissions standards should focus on real world emissions. They need to represent actual mobile source usage in the European region. The new standards should therefore legislate actual tailpipe emissions: use all data of each emissions test without exclusion or modification; and report the actual measured data accepting these will form a range of emission levels according to the route, traffic, weather and driver influence.
- The next standards need to be fuel- and technology-neutral. The same limits and procedures should apply for each type of powertrain within an application, irrespective of engine technology, type of fuel or level of electrification to ensure a free choice for consumers without market distortion. The new emissions standard

should also aim for application-neutral stringency, despite differences in vehicle design and function, as the impact on local air quality is independent of the type of vehicle.

- Euro 7 should legislate according to a 'total system approach' using a 'whole vehicle basis'. The new emissions standard should consider the vehicle as a single system and define testing procedures accordingly, not separately for specific components. A total system approach will simplify the legislation and eliminate possible loopholes and derogations. Requirements should be consistent throughout the different legislative elements that apply over the lifetime of the vehicle, from Type-Approval and In-Service Conformity up to Market Surveillance.

As technology continues to improve, the future of personal transport in cities will comprise a range of technologies, from 'conventional' petrol and diesel to electrified engines - mild, full or plug-in hybrid – as well as electric cars powered by batteries and even fuel cell models. These will all be needed to replace older, more polluting vehicles on European roads.

Finally, AECC would like to confirm its strong commitment 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 2025 Vision for clean, efficient, convenient and affordable mobility
http://www.aecc.eu/wp-content/uploads/2020/02/200203-AECC-Vision-Document-Web.pdf.

[2] Based on the database on Euro 6 vehicles (ACEA/JAMA)
https://www.acea.be/publications/article/access-to-euro-6-rde-monitoring-data
http://www.jama-english.jp/europe/publications/rde.html

[3] "Integrated Diesel System Achieving Ultra-Low Urban and Motorway NOx Emissions on the Road", J. Demuynck, et al.; 40th International Vienna Motor Symposium, 15-17 May 2019
http://www.aecc.eu/wp-content/uploads/2019/04/190516-AECC-IAV-IPA-Integrated-Diesel-System-achieving-Ultra-Low-NOx-on-the-road-Vienna-Symposium.pdf.

[4] AECC Euro 7/VII Emission Standards Position Paper
https://www.aecc.eu/wp-content/uploads/2020/07/200709-AECC-position-on-Euro-7.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.

AECC's members are BASF Catalysts Germany GmbH, Germany; 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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