SPEECH DIRK BOSTEELS AT EP-ENVI HEARING ON RDE

Honourable Members of the European Parliament, good morning Ladies, and Gentlemen,

Firstly, let me thank the organizers in the EP's ENVI committee for offering me the opportunity to share with you the views of the European emissions control industry that AECC represents on the topic of Real-Driving Emissions (RDE) from new European vehicles.

AECC is the Association for Emissions Control by Catalyst. It is an international non-profit, scientific association of European companies engaged in the research, development, production and testing of catalyst and filter-based technologies for the control of harmful emissions from mobile sources such as passenger cars. AECC's experience reaches back to the on-set of vehicle emissions regulation. As an example, AECC members develop, produce, and sell Diesel Particulate Filters (DPF) that have enabled vehicle manufacturers to efficiently control ultrafine particles emissions from diesel vehicles since they were first introduced in 2000 and then became necessary to meet the Euro 5 standard in 2009.

AECC members also develop, produce, and sell diesel NOx emissions control technologies such as Selective Catalytic Reduction (SCR) and Lean NOx Traps (LNT). Both SCR and LNT technologies are being introduced by vehicle manufacturers in aftertreatment systems in diesel vehicles to reduce NOx emissions from Euro 6 onwards. They are combined by vehicle manufacturers with engine measures such as advanced combustion modes and Exhaust Gas Recirculation (EGR) to further limit engine-out NOx emissions.

AECC believes that the agreed RDE legislation is important to reduce the current gap between type-approval vehicle emission results and those in the real-world. RDE provisions have the possibility of positively influencing air quality for European citizens by ensuring that vehicle manufacturers integrate emission control technologies with engine measures to achieve optimal emission reduction under driving conditions encountered in use.

AECC contributes to the Commission's working group on RDE for light-duty vehicles and has supplied real-world emissions data. In the last years AECC ran two test programmes on single vehicles equipped with SCR where on-road emissions were measured according to the agreed RDE procedure.

In the first programme the emissions control system of a diesel demonstrator vehicle was recalibrated for AECC by an independent institute. Baseline NOx emissions in real driving were 3.4 times higher than the Euro 6 NOx type-approval limit. Recalibration of the high-pressure EGR and the urea injection into the underfloor SCR-coated Diesel Particulate Filter (S-DPF) was performed. This approach

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reduced average real-driving NOx emissions down to 111 mg/km and the individual NOx RDE results were 1.1 to 1.6 times the Euro 6 limit over 3 tests, other pollutants continued to meet Euro 6 diesel limits during RDE.

Subsequently in 2015, AECC commissioned a second test programme where a commercially available 2-litre Euro 6b diesel car was rented to evaluate the emissions performance of a market vehicle using advanced emissions control. The car used high- and low-pressure EGR to reduce engine-out NOx levels. The aftertreatment system installed to control tailpipe NOx emissions included a close-coupled Diesel Oxidation Catalyst (DOC) immediately followed by an S-DPF. The Euro 6b diesel rental car, in fresh state, showed NOx emissions 1.4 times the Euro 6 NOx limit when tested according to the agreed RDE procedure and boundary conditions, including PEMS data post-processing with the EMROAD data analysis tool.

It should be noted that the above mentioned test results should not be considered as representative for the average mainstream Euro 6b diesel vehicles as the latter vehicle was carefully selected as a low-emitting vehicle demonstrating the current level of best-available technology.

The industry that AECC represents foresees further development of catalytic components as well as combinations of them in high performing systems for diesel NOx abatement under real-driving conditions while maintaining the inherent low CO_2 emissions of diesel engines. Considering that historically new best-available technology has been substantially optimised in cost as application experience has increased, we are confident that we will achieve this goal. AECC welcomes the outcome of the recent vote in the Parliament on 3 February. The agreed stepwise and realistic approach on NOx Conformity Factors, to be introduced from 2017 and 2020, will allow best-available technologies to be used and to spread across the fleet over time.

AECC is committed to continue contributing to the development of RDE legislative requirements in the future, including the two further legislative packages 3 & 4 that are planned to be developed and agreed in the current year 2016. AECC plans to continue its involvement in the analysis of real-world emissions from cars measured with on-board Portable Emissions Measurement Systems (PEMS) instruments.

Of course, AECC offers its expertise to the parliament on the RDE legislation as well as on other emissions legislation for the future.

In addition to the work done on diesel NOx emissions, AECC is also aiming at informing the debate on real-world emissions of ultrafine particles from Gasoline Direct Injection (GDI) cars. The European CO_2 legislation promotes the uptake of fuel-efficient GDI cars in the EU but for these GDI vehicles particle number emissions can be substantially higher on the road than on the regulatory test cycle. AECC members have developed a new technology: the Gasoline Particulate Filter (GPF). Stemming from the success of the DPF for diesel vehicles, GPFs offer a

durable solution to control ultrafine particles emissions in all driving conditions, even in highly dynamic driving.

Last year, AECC evaluated the performance of the first commercially-available passenger car that is equipped with 2 GPFs and confirmed that GPF-technology offers one of the most effective route for controlling Particle Number emissions from GDIs under a wide range of driving conditions. AECC also recently launched a new test programme that will evaluate the Real Driving Emissions performance of a GDI vehicle without and with a GPF, under a variety of driving conditions. Results of this programme will be disseminated in due time in order to help the EU decision makers decide on the 3rd RDE package.

To conclude, AECC has been supporting the development of EU emissions legislation over the many years since its existence.

AECC remains committed to continue contributing to the development of sound legislation and in particular the RDE legislative requirements that will help improving air quality by achieving the required emission levels of passenger cars and vans on the road.

I thank you for your attention and I look forward to your questions.

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