

Q&A ON EMISSIONS TESTING

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1. HOW DOES ACEA REACT TO THE VW SITUATION?

Following the recent developments regarding the use of 'defeat devices' by a car manufacturer, ACEA recognises the gravity of the situation and is taking this very seriously. However, we cannot comment on an issue affecting one individual company. There is no evidence that this is an industry-wide issue.

It is important not to confuse this issue with the separate issue of the difference between the results of lab tests and real-world emissions (see question 3 on page 3).

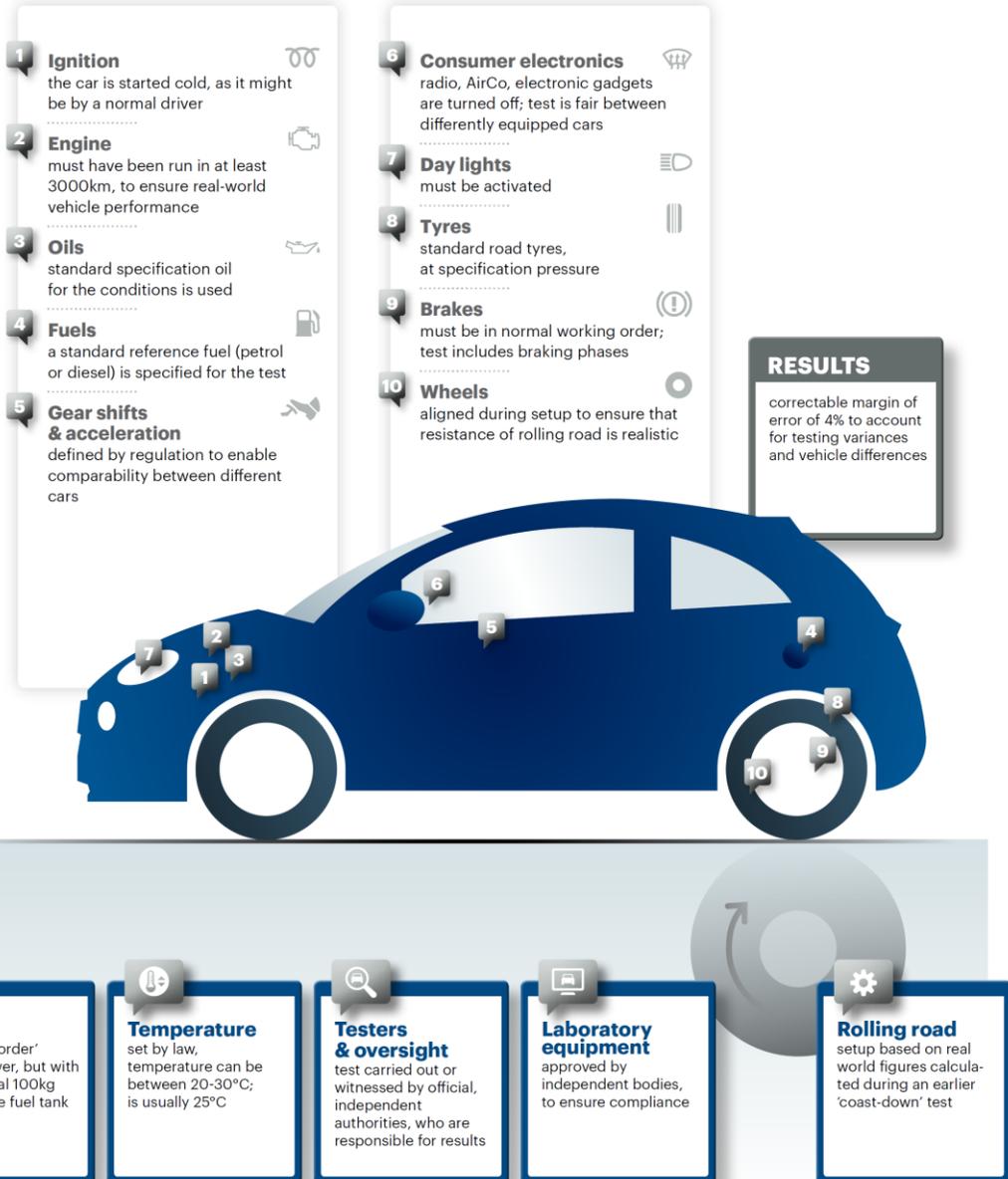
2. HOW DOES THE CURRENT LAB TEST WORK?

EU law defines the current lab test, known as NEDC, and all the conditions for vehicle set-up and test running, as well as the handling of test results. This ensures compliance with all the rules, and guarantees that the consumption determined is correct. The NEDC thus fulfils the task of being a standard regulation that does not generate any competitive advantages or disadvantages for individual manufacturers.

The details of the NEDC consumption measurement are set down in UN-ECE Regulation No. 101: <http://www.unece.org/fileadmin/DAM/trans/main/wp29/wp29regs/updates/R101r3e.pdf>

Some of the features that are controlled in the test procedure, in order to guarantee a level playing field when comparing the performance of different cars, can be seen in the figure below.

How the fuel efficiency and emissions test-cycle works



3. WHY ARE THERE DIFFERENCES BETWEEN THE LAB TESTS AND REAL-WORLD EMISSIONS?

It has always been fully understood that driving under a laboratory test cycle (NEDC currently; WLTP in the future) may be different to real-life driving conditions. Like fuel consumption, exhaust emissions are dependent on many external factors such as traffic conditions, terrain, driving behaviour, road type, vehicle load, vehicle condition and weather. In real-world conditions, even if two different drivers drive exactly the same vehicle under exactly the same conditions, each is likely to have different exhaust emissions.

The purpose of the legal test is to enable the customer to make comparisons between vehicles. As there is no 'one' real-world fuel consumption value, only figures produced using standardised cycles can give the customer guidance and the opportunity to make such comparisons. Emission values resulting from testing conducted today are in line with the existing regulatory requirements and have been verified by the national vehicle type approval authorities in the member states.

However, the industry recognises and has stated consistently that the current NEDC test cycle is outdated. As it was designed in the 1980s and deployed from the 1990s, it does not account for instance in the significant progress of vehicles and exhaust emission control systems.

To bridge the gap between test results and what is known as 'Real Driving Emissions', the European Union is working on a new test procedure (RDE). The industry supports a swift introduction of the new regulation to create clarity for consumers and the industry as quickly as possible.

4. WHAT IS ACEA'S POSITION ON RDE?

The automobile industry agrees that a new and fully updated RDE test is needed to better measure nitrogen oxides (NOx) emissions of light-duty vehicles under normal driving conditions. It is fully supporting the development of this test in order to ensure a robust control on emissions. The RDE test will take place on real roads and under actual driving conditions. It will require manufacturers to make major changes in testing and developing new vehicles. These changes can only be made once there is full clarity on the new test cycle.

ACEA has been calling on the European Commission and member states to agree all necessary RDE evaluation conditions urgently – ie those agreed last May, alongside several others that are critical for an effective RDE regulation.

The current proposal is incomplete in that it does not include the following criteria:

- A complete and comprehensive set of requirements;
- Specified performance limits;
- Dates of application for the regulation.

In addition ACEA has called for a two-step date framework, in order to allow industry the proper lead-time to apply the complex RDE regulation and make very significant changes to future vehicles (eg the re-design of engines, new exhaust after-treatment designs, adapted vehicle platforms to accommodate new equipment, and modified vehicle assembly lines). Member states have already agreed a two regulatory step approach for RDE but the Commission still has not proposed the actual dates for agreement of the member states.

These and other issues must be resolved if the new testing conditions are to be implemented by September 2017 - as ACEA has always intended. The industry needs clarity in advance so that it can plan the development and design of vehicles in line with the new requirements.

5. WHAT ARE THE DIFFERENCES IN EMISSIONS TESTS IN THE EU AND THE US?

Comparing the EU and US standards is like comparing apples to pears - both are based on completely different test cycles.

Before vehicles can be put on the market in the EU, they are tested using a laboratory-based test cycle by a national technical service in accordance with the EU legislation. The national type-approval authority grants the approval on the basis of these tests. The manufacturer may make an application for approval in any EU country. Once approved in one member state, all vehicles of its type may be registered throughout the EU. Vehicles are subsequently sampled from the production line at random and according to industry standard statistical sampling procedures. Those vehicles are tested to ensure they meet the approved requirements.

The emission certification in the US is based largely on a 'self-declaration' (for about 85% of a manufacturers' models) and each manufacturer must do this each 'model year'. The manufacturer will submit data based on regulatory tests for the EPA to review. Some 15% of manufacturers' models are physically tested randomly by the EPA. Since manufacturers must renew vehicle emission certificates each year, the process of self-declaration plus a selection of confirmatory tests helps to keep the administrative burden under control. The EPA also samples manufacturers' vehicle models produced and in the market using the same regulatory tests.

The US authorities have a well-constructed legal process that provides for transparent legislative preparation, far longer lead-time for industry to plan and implement, and much more flexibility as regards new vehicle phase-in. This means that manufacturers can adapt vehicles as they are developed according to product life-cycles. The US also has the possibility to roll-back legislation if found to be infeasible.

Currently both EU and US test cycles are laboratory tests. The EU will soon introduce the new on-road RDE test. This will make the EU standards far more stringent than the Californian and EPA laboratory-based standards. The US does not plan to introduce RDE at this time.

6. HOW IMPORTANT ARE DIESEL VEHICLES TO REDUCING CO₂?

Over the past years, policy initiated by the EU institutions has focussed on reducing greenhouse gas emissions, resulting in the most stringent targets for CO₂ emissions from passenger cars in the world. The European automobile industry's success in reducing CO₂ emissions has been, to a greater extent, dependent on higher sales of cars with diesel engines, since they emit 15-20% less CO₂ on average than comparable petrol engines.

Diesel vehicles are therefore a crucial part of the vehicle portfolio of each manufacturer to help them achieve the CO₂ fleet average target of 95gCO₂/km set by EU regulators. Any limitation on diesel vehicles would have severe consequences for all manufacturers in being able to achieve that CO₂ target, or any post-2021 targets.

7. WHAT IS THE IMPACT ON THE COMPETITIVENESS OF THE AUTOMOBILE INDUSTRY?

ACEA recognises the importance of better testing pollutant emissions from diesel engines and is ready to explore all the options for improving the current system. But new policy initiatives should not conflict with the need to protect jobs and growth in Europe, nor harm the industry's leading position in the global marketplace. The automotive sector employs 12.1 million Europeans and is responsible for nearly a quarter of all automotive production in the world.

Since 1998, regulatory requirements increased the production costs of an average car by 3-4% per year, a recent study identified. Moreover, it is expected that the latest environmental regulations will add a further 16% to the average manufacturing costs by 2020. From being the most profitable automotive sector in 2007, generating €15 billion profits, the European industry is now in the worst position, showing aggregated losses of €1 billion in 2012.

Future measures should be part of a predictable regulatory framework, which reflects the complexity of the implementation required and the possible impact on the supply chain. Bearing in mind that it takes up to five years on average to develop a new car, industry needs sufficient lead time. Moreover, new regulations should have a global potential and therefore should not restrict sales opportunities to the EU only.