



The reform of the of the EU legislation on car emissions: latest developments and where to go from here

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EMISSIONS LEGISLATION

Emission standards are currently in place for:

- **light-duty vehicles (cars, vans)**
 - Regulation (EC) No 715/2007
 - Commission Regulation (EC) No 692/2008 (Euro 5 and Euro 6)

- **heavy-duty vehicles (coaches, buses, trucks)**
 - Regulation (EC) No 595/2009
 - Commission Regulation (EU) No 582/2011 (Euro VI).

- **Tractors**

- **non-road mobile machinery**

NITROGEN OXIDE (NO_x) EMISSION LIMITS

- Over the past few years, the Commission has been working to tighten up both the NO_x emissions limits and the testing procedures.
- Nitrogen oxide (NO_x) emissions limits for diesel vehicles have been tightened as follows (dates for new types):
 - **January 2000: 500 mg/km (Euro3)**
 - **January 2005: 250 mg/km (Euro 4)**
 - **September 2009: 180 mg/km (Euro 5)**
 - **September 2014: 80 mg/km (Euro 6)**

THE PROBLEM

- laboratory tests do not accurately reflect the amount of air pollution emitted during real driving conditions
- Currently, diesel air pollutant emissions measured in real driving conditions are on average 400% higher than the regulatory limit of 80mg/km measured in laboratory conditions

THE SOLUTION - RDE

The new **RDE** testing method will **better reflect actual emissions** in real driving conditions and to a great extent **limit the risk of cheating with a defeat device.**

THE RDE TEXTS

1. COMMISSION REGULATION (EU) 2016/427 of 10 March 2016

- Covers the basic technical PEMS test procedure but without binding quantitative requirements
- The car will be driven outside and on a real road according to random acceleration and deceleration patterns.
- The pollutant emissions will be measured by portable emission measuring systems (PEMS) that will be attached to the car.

2. COMMISSION REGULATION (EU) 2016/646 of 20 April 2016

- Adds the not-to-exceed (NTE) emission limits or conformity factors (CF) applicable to RDE testing
- Defines complementary boundary conditions for RDE trips
- Will apply in **two steps**:
 - a conformity factor of maximum **2.1** (110%) for new models by **September 2017** (new vehicles 2019);
 - a conformity factor of **1.5** (50%), taking account of technical margins of error, by **January 2020** for all new models (January 2021 for all new vehicles).
- Annual review from 2020 onwards
- **obligation for the car manufacturer to declare its emissions reduction strategy**

NEXT STEPS

3. To be adopted in the coming months

- Particle number (PN) PEMS testing
- Coverage of the vehicle cold start
- Coverage of the diesel particle filters (DPFs) and catalysts system regeneration (SCR)
- Special RDE testing conditions for hybrids
- CFs of an individual vehicle in its certificate of conformity (CoC)

4. To be adopted next year

- This Regulation will cover the definition of **in-use-conformity RDE testing**.

- It will include two main elements:
 - In-use-conformity testing by the manufacturer and the authority responsible for issuing the emission type approval
 - Surveillance testing by a “third party”, i.e. an authority not involved in the initial type approval process or independent parties like NGOs or the manufacturers’ peers.

RDE – REAL EFFECTS

- RDE tests will have a **net effect** on the amount of air pollution emitted by cars.
- Today's divergence will be brought down from the current average of **400%** to max **110% from September 2017** and max **50% from January 2020**.
- In terms of actual real emissions: we are moving from the current average real NO_x emissions of **400mg/km** down to below **168mg/km** (September 2017), then to below **120mg/km** (January 2020).
- We are **more than halving the real amount of NO_x emissions**.

CO₂

What are the CO₂ requirements for cars?

- Regulation 333/2014 sets mandatory emission reduction targets for cars. EU cars cannot emit more than an average of:
 - **130 grams of CO₂ per kilometre by 2015**
 - **95 grams of CO₂ per kilometre by 2021**
- The fleet average is to be achieved by all new cars.
- The target of 130g/km was phased in between 2012 and 2015.
- A shorter phase-in period will apply to the target of 95g/km. 95% of each manufacturer's new cars will have to comply with the limit value curve in 2020, increasing to 100% in 2021.

THE PROBLEM

Significant and growing divergence between current test cycle CO₂ measurements - New European Drive Cycle (NEDC) - and those being observed in real world driving

THE SOLUTION: WLTP

- New test cycle for CO₂ – the World harmonised Light vehicle Test Procedure (WLTP)
- Is the development of the "WLTP Global Technical Regulation (GTR)", being done at UNECE level.
- Should ensure that the test cycle is more representative of real driving conditions and that there is less flexibility in carrying out the tests.
- The tests will be carried out in the laboratory.

THE EU WLTP REGULATIONS

1ST WLTP Regulation

- Already voted by TCMV
- Currently under scrutiny in EP and Council
- describes a complete WLTP test cycle, i.e. how emissions are being tested by putting a vehicle on a chassis dynamometer in a lab
- WLTP to replace the current test cycle (NEDC) in 2017

THE EU WLTP REGULATIONS - 2

2nd WLTP Regulation

Some extensions and improvements to WLTP test cycle:

- Correction of test results, to decrease the use of cycle flexibilities by the manufacturers.
- Adaptation to the WLTP testing cycle of the recently developed evaporative emissions testing procedure
- Introduction of transparency provisions - new provisions on the transparency of data, such as example making the Road Load parameters and the information needed for their calculation publicly available.

Market surveillance in the TA framework: Safeguard clauses (Framework Directive)

- **Article 29:** Vehicles or components posing a serious risk to road safety, the environment or public health, though in compliance with the requirements
- **Article 30:** vehicles and systems not in compliance with the approved type
- **Article 32:** recall of vehicles



MARKET SURVEILLANCE DEVELOPMENTS

European Commission's response :

- **New market surveillance provisions** already introduced in the revised type-approval legislation for vehicles of categories **L** (motorcycles) and **T** (tractors)
- On 27 January 2016 the Commission proposed a **Regulation on the approval and market surveillance of motor vehicles**, which will replace the current Framework Directive

COMMISSION'S PROPOSAL

How will the Commission's proposal on the EU type approval framework improve market surveillance?

- Reinforces the independence and quality of testing before a car can be placed on the market
 - modifies the remuneration system to avoid financial links between technical services and manufacturers
 - more stringent performance criteria for technical services
 - National type approval authorities will be subject to peer reviews to ensure that the relevant rules are implemented and enforced rigorously across the EU

COMMISSION'S PROPOSAL - II

- Introduces an effective market surveillance system to control the conformity of cars already on the market
 - While the current rules put more emphasis on ex ante controls, in the future Member States and the Commission will carry out checks on vehicles already on the market.
 - This will make it possible to detect non-compliance at an early stage, and ensure that immediate and robust remedial action
 - All Member States should be able to take safeguard measures against non-compliant vehicles on their territory without waiting for the authority that issued the type approval to take action.
 - Member States will have to review regularly the functioning of their market surveillance activities and make the results publicly available.

COMMISSION'S PROPOSAL - III

- Reinforces the type approval system with greater European oversight:
 - In agreement with member States, the Commission will have the power to suspend, restrict or withdraw the designation of technical services that are underperforming and too lax in applying the rules
 - the Commission will be able to carry out ex-post verification testing (through its laboratories in the Joint Research Centre) and, if needed, initiate recalls
 - allows the Commission to impose financial penalties
 - The Commission will also chair an Enforcement Forum which will develop common compliance verification strategies with Member States.

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Thank you