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**COMMISSION STAFF WORKING DOCUMENT**  
**EXECUTIVE SUMMARY OF THE IMPACT ASSESSMENT**

*Accompanying the document*

**PROPOSAL FOR A REGULATION OF THE EUROPEAN PARLIAMENT AND OF  
THE COUNCIL**

**on type-approval of motor vehicles and of engines and of systems, components and  
separate technical units intended for such vehicles, with respect to their emissions and  
battery durability (Euro 7) and repealing Regulations (EC) No 715/2007 and (EC) No  
595/2009**

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## Executive Summary Sheet

Impact assessment on the development of Euro 7 emission standards for cars, vans, lorries and buses.

### A. Need for action

#### What is the problem and why is it a problem at EU level?

Despite the progress in reducing harmful emissions through the introduction of Real Driving Emission (RDE) testing in 2017, the evaluation of the Euro 6/VI emission standards for cars/vans and lorries/buses respectively, identified three key problems that show that existing standards do not contribute sufficiently to the decrease of pollutant emissions from road transport in the EU: (1) The vehicle emission standards are too complex. (2) The current pollutant emission limits are obsolete as many harmful pollutants remain unregulated and further emission reductions are possible with current technologies. (3) Vehicle real-world emissions are insufficiently controlled over the vehicle lifetime (e.g. the Euro 6 requires durability of only 5 years, while the average age of cars on EU roads is 10.8 years). Despite proposed 100% CO<sub>2</sub> targets for cars and vans by 2035, increasing share of zero- and low-emission heavy-duty vehicles and new Euro 6d/VI E vehicles entering the market, a low-pollution level cannot be reached for pollutant emissions from road transport, neither for traditional pollutants such as NO<sub>x</sub>, exhaust particles or methane nor for new ones such as laughing gas or non-exhaust particles from brakes and tyres that will be there irrespectively of the engine.

#### What should be achieved?

The general objective is twofold, to ensure the proper functioning of the single market by setting more adequate, cost-effective and future-proof rules for vehicle emissions; and to ensure a high level of environmental and health protection in the EU by further reducing air pollutant emissions from road transport towards zero-pollution, as required by the Zero Pollution Action Plan, as rapidly as possible. The initiative aims to achieve the following specific objectives: (1) to reduce complexity of the current Euro emission standards, to curb administrative costs and facilitate efficient implementation; (2) to provide up-to-date limits for all relevant air pollutants; and (3) to improve the control of real-world emissions.

#### What is the value added of action at the EU level (subsidiarity)?

With the Euro 6/VI emission standards for cars/vans and lorries/buses, a fully harmonised EU legislation is already in place. Action at national or international level are unlikely to lead to optimal outcomes since both air pollution and road transport have a transboundary nature. Without a common action at EU level, numerous rules with different levels of stringency could be adopted by Member States. This would result in market fragmentation and harm the functioning of the single market. EU action is thus fully justified to address the problem of excessive pollutant emissions from road transport.

### B. Solutions

#### What are the various options to achieve the objectives? Is there a preferred option or not? If not, why?

Policy options 1, 2a, 2b and 3a (option 3b on high digital ambition has been discarded) were developed in line with the specific objectives. All options aim at reducing complexity of the current Euro emission standards by introducing simplification measures. Up-to-date emission limits for all relevant air pollutants are provided in option 1 with low green ambition, in option 2a and 3a with medium green ambition and in option 2b with high green ambition. Control of real-world emissions are improved in option 1 by low ambition real-driving testing boundaries, in option 2a by medium ambition real-driving testing boundaries and durability requirements, in option 2b by high ambition real-driving testing boundaries and durability requirements and in option 3a by medium ambition real-driving testing boundaries, durability requirements and new digital ambition through continuous emission monitoring. The overall proportionality assessment of the effectiveness, efficiency and coherence of each of the options has demonstrated that the preferred option can be narrowed down to policy option 3a with medium green and digital ambition for light- and heavy-duty vehicles.

#### What are different stakeholders' views? Who supports which option?

The public consultation has illustrated that in general industry stakeholders are more likely to support the baseline, i.e. the "no policy change" scenario assuming that Euro 6/VI continues to apply; or policy option 1 with low green ambition. In particular, they expressed concerns regarding technological potential for reducing emissions, especially in option 2b. Member States and civil society representatives and citizens, on the other hand, showed more support for the actions in the medium to high green and digital ambition policy options 2 and 3.

<b>C. Impacts of the preferred option</b>
<b>What are the benefits of the preferred option (if any, otherwise main ones)?</b>
Impacts have been assessed against a baseline assuming the continuation of the currently applicable Euro 6 d/VI E steps and the recent proposal for revised CO <sub>2</sub> emission standards for cars/vans. The preferred policy option 3a offers through twin green and digital ambition substantial positive impacts on public health and environment expressed as monetised health and environmental benefits covering all pollutants until 2050. Main driver for these positive impacts are the reduction of harmful air pollutant emissions. For example, for cars/vans in 2035 NO <sub>x</sub> emissions are only 221 kt in policy option 3a, instead of 389 kt in the baseline. For lorries/buses in 2035 NO <sub>x</sub> emissions are only 313 kt in policy option 3a, instead of 705 kt in the baseline. The reductions in pollutant emissions are estimated to result into total monetary health benefits of €56 billion for cars/vans and €134 billion for lorries/buses over the period 2025-2050. In addition, the preferred policy option 3a results in total cost savings for companies estimated at €4.7 billion for cars/vans and at €0.6 for lorries/buses over the period 2025-2050.
<b>What are the costs of the preferred option (if any, otherwise main ones)?</b>
Total regulatory costs for the automotive industry are estimated to increase in the preferred option. This is due to increasing substantive compliance costs in the form of equipment costs for emission control technologies and the related R&D and calibration costs including facilities and tooling costs. The total additional regulatory costs between 2025 and 2050 are estimated at €35 billion for cars/vans and at €18 billion for lorries/buses. When also taking into account the estimated cost savings, the overall cost per vehicle is expected to increase by €304 for cars/vans and by €2 681 for lorries/buses. Costs per vehicle are not expected to represent more than 2-3% of the average vehicle price for any vehicle segment for cars/vans and lorries/buses.
<b>What are the impacts on SMEs and competitiveness?</b>
Although the preferred option affects the costs of manufacturers which are mainly large companies, it would also have a positive effect on their competitiveness. The use of best available emission control technologies and new sensors supports access to international key markets, in particular United States and China which have stricter emission limits requirements. The 35 identified SME manufacturers – which generally build cars on the basis of powertrains from large manufacturers – are not expected to be affected in a significant manner, in particular as the exemption from certain tests for small volume manufacturers will continue to apply.
<b>Will there be significant impacts on national budgets and administrations?</b>
Since additional regulatory costs result from increasing hardware and R&D and related calibration costs, they will be borne by automotive manufacturers and suppliers. Industry players are expected to transfer these costs to their consumers. Overall, no significant impacts are expected on national budgets and administrations.
<b>Will there be other significant impacts?</b>
Through continuous emission monitoring, more information on the emission performance of vehicles could be made available to consumers, while also the detection of non-compliance and malfunction would be facilitated. This is expected to positively affect consumer trust and help modernise roadworthiness inspection procedures. The preferred option is also considered to have a slightly positive impact on the single market for all vehicles, on the workers skills and employment. Furthermore, through regulating the durability of in-vehicle batteries, the acceptance of battery electric vehicles will be promoted.
<b>Proportionality?</b>
The proposed action addresses the objective of the initiative - zero-pollution ambition the EU - without going beyond what is necessary to reduce complexity of the current Euro emission standards, to ensure up-to-date limits for all relevant air pollutants and to improve control of real-world emissions.
<b>D. Follow up</b>
<b>When will the policy be reviewed?</b>
Several monitoring indicators have been identified for the review of the Euro 7 emission standards planned with the mid-term evaluation of the 'fit-for-55' initiatives.