



## RECOMMENDATIONS FOR POST-EURO 6 STANDARDS FOR LIGHT-DUTY VEHICLES IN THE EUROPEAN UNION

The European Commission is looking ahead to the next stage of emission standards for light-duty vehicles. Post-Euro 6 standards are expected to continue to improve the emissions performance of new on-road, light-duty vehicles. The breadth and depth of issues that must be addressed in the coming months will

require the efforts of the Commission and other stakeholders invested in reducing the environmental impact of road transport.

The recommendations listed in the tables below are intended to address the limitations of the current standards and offer concrete policy fixes to improve post-Euro 6 emission standards.

### SUMMARY OF RECOMMENDATIONS FOR POST-EURO 6 STANDARDS

What to regulate	
Limits	<ul style="list-style-type: none"> <li>• Introduce fuel- and technology-neutral emission limits</li> <li>• Tighten the emission limits to harmonize with other markets</li> <li>• Introduce application-neutral emission limits</li> </ul>
Ultrafine particles	<ul style="list-style-type: none"> <li>• Lower the size cutoff for particle counting from 23 nm to at least 10 nm</li> <li>• Develop a methodology to measure volatile and semi-volatile particles</li> <li>• Include emissions that occur during filter regeneration</li> <li>• Make particulate number (PN) standards fuel- and technology-neutral</li> <li>• Investigate the feasibility of PN tailpipe measurements</li> </ul>
Unregulated pollutants	<ul style="list-style-type: none"> <li>• Set limits for ammonia emissions</li> <li>• Set limits for CH<sub>4</sub> and N<sub>2</sub>O emissions and account for them in the CO<sub>2</sub> standards</li> <li>• Set limits for aldehyde emissions</li> <li>• Regulate all VOCs and not just HC.</li> <li>• Set emission limits for brake wear particles</li> <li>• Consider limits for NO<sub>2</sub> emissions</li> </ul>

How to regulate it	
Evaporative emissions	<ul style="list-style-type: none"> <li>• Tighten the evaporative emissions limit</li> <li>• Introduce an on-board refueling emissions standard</li> <li>• Increase the temperature during hot-soak, prior to the 2-day diurnal test</li> <li>• Introduce requirements for leak monitoring in on-board diagnostics (OBD) provisions</li> </ul>
Low temperature test	<ul style="list-style-type: none"> <li>• Low temperature emission limits should be technology-neutral</li> <li>• Set low temperature limits for a wider set of pollutants</li> <li>• Tighten the current low temperature limits</li> <li>• Develop a new low temperature test procedure</li> <li>• Monitor the greenhouse gas emissions over the low temperature test</li> </ul>
On-road CO	<ul style="list-style-type: none"> <li>• Introduce not-to-exceed limits for CO during real driving emissions (RDE) testing</li> <li>• Reduce the laboratory limit for CO</li> <li>• Introduce limitations for fuel enrichment as an auxiliary emissions strategy</li> </ul>
Real Driving Emissions test	<ul style="list-style-type: none"> <li>• Extend the upper boundary condition for RDE driving dynamics</li> <li>• Eliminate the lower boundary condition for RDE driving dynamics</li> <li>• Revise the vehicle speed requirements during RDE tests</li> <li>• Extend the cumulative elevation gain boundary condition</li> <li>• Extend the temperature range for RDE testing and revise the correction factors</li> <li>• Adjust trip requirements to allow shorter urban sections and cold-start driving</li> <li>• Remove boundary conditions that reveal that an RDE test is taking place</li> <li>• Eliminate the RDE evaluation factor for adjusting emissions downward</li> </ul>

How to guarantee it	
Durability	<ul style="list-style-type: none"> <li>• Extend the definition of useful life for durability demonstration</li> <li>• Establish the whole-vehicle test as the only durability demonstration option</li> <li>• Extend the age/mileage requirements for in-service conformity to the full useful life</li> <li>• Set a minimum emission warranty program</li> <li>• Set an emission defect tracking and reporting program</li> <li>• Develop in-service conformity testing for CO<sub>2</sub>, fuel consumption, and electric range</li> <li>• Develop a battery durability test</li> </ul>
OBD and OBM	<ul style="list-style-type: none"> <li>• Align on-board diagnostics (OBD) requirements with those of California and China</li> <li>• Introduce on-board monitoring (OBM) of pollutant emissions</li> <li>• Set OBD threshold limits for PN and reduce the threshold limits for other pollutants</li> <li>• Strengthen the anti-tampering provisions</li> </ul>
Market surveillance	<ul style="list-style-type: none"> <li>• Develop a methodology for fleet screening to identify noncompliant vehicle models</li> <li>• Develop a remote sensing standard and establish a database of measurements</li> <li>• Clarify the criteria for failure of market surveillance tests</li> <li>• Issue defeat device guidance</li> <li>• Extend the scope of market surveillance beyond pollutant emissions</li> </ul>

#### PUBLICATION DETAILS

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