CO$_2$ emission standards for heavy-duty vehicles
Mobility Packages I-III: an integrated approach

Automotive industry (cars, trucks and buses)

Member States, regions and cities

Citizens, consumers, users and drivers at the centre

Infrastructure promoters and project developers

Innovative actors (digital services, mobility solutions)

Suppliers in the value chains (materials, equipment, batteries...)

Financial investors and capital markets

2016 Clean Energy Package incl. RED-2 (low-carbon fuels)

2016 European Low-Emission Mobility Strategy

Clean Vehicles Directive

Eurovignette Directive

Action Plan Alternative Fuels Infrastructure

Batteries Initiative

CO₂ emission standards for HDV

New CO₂ standards for cars and vans

Fuel efficiency of tyres

Coach Services

2016 European Low-Emission Mobility Strategy
Objectives

- Climate: Deliver on **Paris Agreement** commitments and support MS in meeting their binding Effort Sharing targets

- Consumers: Ensure fuel savings for **transport operators**, most of which are SMEs

- Industrial leadership: Maintain the **technological and innovative leadership** position of EU HDV manufacturers and component suppliers
Expected key benefits of the legislation

• Around **54 million tonnes of CO**₂ **reduced** in the period 2020 to 2030

• **Net savings for transport operators:** around €25 000 in the first five years of use for a new lorry bought in 2025 against an additional purchasing cost of less than €2 000

• **Oil savings of** more than 200 million tonnes of oil up to 2040

• Additional **jobs** compared to a business as usual scenario
Support MS to achieve emission reduction targets under Effort Sharing Regulation

EU road transport CO$_2$ emissions; 2005=100%
Which are the vehicles regulated?

- **Scope**: trucks are divided into 18 vehicle groups
- **Certification Regulation** currently applies to vehicle groups 4, 5, 9 and 10 with a technically permissible maximum laden mass TPMLM > 16t
- These four groups represent around 2/3 of the total CO₂ emission from HDVs

<table>
<thead>
<tr>
<th>Vehicle group</th>
<th>Axle and chassis configuration</th>
<th>Without trailer</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>4x2 Rigid</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>4x2 Tractor</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>6x2 Rigid</td>
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<tr>
<td>10</td>
<td>6x2 Tractor</td>
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Key elements of the final agreement on HDV CO$_2$ Standards
Targets

Two binding reduction targets for fleets of each manufacturer:

- **15% in 2025**
- **30% in 2030**

as compared to the 2019 baseline (= average of all manufacturers).

- Sufficient lead time combined with the possibility of early uptake of existing fuel-efficient technologies
- **Unit:** g CO₂/t km
- Tailpipe based approach
Incentive mechanism for ZEV/LEV

• **Type of incentives:**
  - **Super-credits until 2024**, subject to a cap
  - One-way/bonus-only crediting system based on a **2% benchmark from 2025 onwards**
  - 2030 benchmark to be set by the 2022 review
  - Scope covering both ZEV and LEV: technology-neutral
  - Also smaller ZE trucks with TPMLM < 16t not regulated yet for their CO₂ emissions contribute to incentives

• **Definition LEV:**
  - Emissions below 50% of the reference CO₂ emission of the sub-group to which the vehicle belongs
Compliance assessment

Penalties for exceedances of targets:

- EUR 4250 per gCO$_2$/tkm in 2025
- EUR 6800 per gCO$_2$/tkm in 2030

- Significantly above the marginal cost of meeting the targets, and therefore deterrent for manufacturers.
Governance provisions

- Robust reference CO$_2$ emissions
- Real world CO$_2$ emissions
- In-service conformity
Robust reference CO$_2$ emissions

• CO$_2$ reductions to be achieved through improvements in vehicle technology

• Avoid inflated reference CO$_2$ emissions

• COM to develop a methodology for assessing the test conditions and set criteria for determining undue increases and how they should be corrected

• COM to adjust the reference CO$_2$ emissions by 30 April 2022 in case of unjustified increase
Real world CO$_2$ emissions

Objective:

- Ensure that the HDV Certification Procedure results in CO$_2$ emission values that are representative of real world emissions
- Prevent an increase of the gap between real and certified emission values
Real world CO$_2$ emissions

How:

- Collect data from on-board fuel/energy consumption monitoring devices (OBFCMs) and payload monitoring devices
- COM to assess how this data can be used to prevent the gap between the certified CO$_2$ emissions and real world CO$_2$ emissions from increasing over time
- By 2027, if appropriate, COM to adopt a legislative proposal on a mechanism to adjust monitoring emissions to take into account the gap
In-service conformity

- Ensure a correspondence between CO$_2$ emission values as determined in accordance with the Certification procedure and the emissions of vehicles in use.
- COM to lay down principles and procedures for verification by MS.
- MS shall on that basis verify that manufacturers record correct values in the context of the use of the VECTO simulation tool and that manufacturers do not manipulate CO$_2$ emissions. In case of deviation, MS shall correct the values in the relevant documents.
More information

3rd mobility package

HDV policy
https://ec.europa.eu/clima/policies/transport/vehicles/heavy_en

The Regulation