



EU clean road vehicles legislation & policy

Clean Fleets Factsheet (July 2014)

1. Clean Vehicles Directive

The Directive on the Promotion of Clean and Energy Efficient Road Transport Vehicles (2009/33/EC – known as the Clean Vehicles Directive) is aimed at a broad market introduction of more efficient, lower emission vehicles.

It requires public purchasers and private companies running public transport services to consider energy and environmental impacts when purchasing road vehicles.

Purchasers must take the following aspects into account as part of their purchasing decision:

- Energy consumption
- CO₂ emissions
- NO_x (nitrogen oxide)
- NMHC (non-methane hydrocarbons)
- Particulates

Procurement methodologies

Purchasers may use one of three methodologies to take the above aspects into account when procuring road vehicles:

1. **Technical specifications** – defining minimum performance for the listed aspects. As Euro Standards (see below) already include emissions thresholds for NO_x, NMHC and particulates, specifying a vehicle of a particular Euro Standard will ensure that these pollutants are being taken into account. The Euro Standard specified will determine to what extent they are addressed (see below). Procurers should aim for the highest available Euro Standard.
2. **Award criteria** – Including the listed aspects as award criteria.
3. **Operational lifetime cost method** – assigning a monetised value to each aspect to be used in an operational lifetime cost comparison of different bids. Where this approach is used a methodology defined in the Directive must be followed.

Some EU countries have restricted which of the above methodologies may be used - Sweden allows only methodologies 1 and 3, the Czech Republic allows only methodologies 1 and 2, Slovenia only allows methodology 2.



Exclusions

Certain road vehicles are excluded from the Directive – specifically those in the following categories which are not subject to type approval or individual approval in the country where the procurement occurs:

- Vehicles designed and constructed for use principally on construction sites or in quarries, port or airport facilities;
- Vehicles designed and constructed for use by the armed services, civil defence, fire services and forces responsible for maintaining public order; and
- Mobile machinery.

Main legislation:

- [The Directive on the Promotion of Clean and Energy Efficient Road Transport Vehicles \(2009/33/EC\)](#)

More information:

- DG Move – <http://ec.europa.eu/transport/themes/urban/vehicles/directive/>
- Clean Vehicle Portal - www.cleanvehicle.eu/about/the-directive/
- The Clean Fleets project is producing a guide and training package on the implementation of the CVD. When ready this will be available on the website at www.clean-fleets.eu

2. Euro Standards – local pollutant emissions

The European Commission sets acceptable levels of pollutant emissions for road vehicles, known as the Euro standards. This covers emissions of carbon monoxide (CO), hydrocarbons (HC), non-methane hydrocarbons (NMHC), nitrogen oxides (NO_x), and particulates (PM) as well as particle numbers (PN).

Currently new cars and light delivery vehicles ((types M1, M2, N1 and N2 with a reference mass lower than 2610 kg¹) with a reference mass lower than 2610 kg are required to meet the Euro 5 standard. The Euro 6 standard will be gradually introduced between 2014 and 2016:

- 1 Sept 2014: All new M1 and N1 class I *model types*
- 1 Sept 2015: All new N1 class II and III *model types*; all new All new M1 and N1 class I *vehicles*
- 1 Sept 2016: All new N1 class II and III *vehicles*

¹ See Section 6 for information on EU vehicle classification



Since 1 January 2014 all new heavy duty vehicles (categories M1, M2 & 3, N1, N2 & 3 above a reference mass of 2610 kg) must meet the Euro VI² standard.

More information:

- DG Enterprise & Industry: http://ec.europa.eu/enterprise/sectors/automotive/environment/index_en.htm
- DG Environment: <http://ec.europa.eu/environment/air/transport/road.htm>

3. CO₂ emissions limits

The EU sets limits on CO₂ emissions for cars and light delivery vehicles (vans):

Date	Cars	Vans (category N1 ³)
2015	130g CO ₂ /km ⁴	-
2017	-	175g CO ₂ /km
2021	95g CO ₂ /km	147g CO ₂ /km

For comparison the average fleet values in 2007 were 158.7g CO₂/km for cars, and 203g CO₂/km for vans.

Currently there are no limits for buses or heavy duty trucks.

Main legislation:

- (Cars) [Commission Regulation \(EU\) No 397/2013 amending Regulation \(EC\) No 443/2009 as regards the monitoring of CO2 emissions from new passenger cars](#)
- (Cars) [Regulation \(EC\) 443/2009 of the European Parliament and of the Council setting emission performance standards for new passenger cars as part of the Community's integrated approach to reduce CO 2 emissions from light-duty vehicles](#)
- (Vans) [Consolidated version of Regulation 510/2011 of the European Parliament and of the Council setting emission performance standards for new light commercial vehicles as part of the Union's integrated approach to reduce CO2 emissions from light-duty vehicles](#)

² Euro standards for heavy duty vehicles are often referred to using roman numerals, with the Euro standards for cars and light duty vehicles being referred to numerically.

³ See section on vehicle classification below

⁴ Manufacturers must meet this target as an average for their whole fleet, not for all individual vehicles. Target phased in over 4 years. In 2012 65% an average of 65% of each manufacturer's newly registered cars must comply with the limit value; by 2013: 75%; by 2014: 85%; by 2015: 100%.



More information:

- DG Clima – http://ec.europa.eu/clima/policies/transport/vehicles/index_en.htm

4. Emissions and energy efficiency data from manufacturers

Manufacturers are required to provide certain data on emissions, as indicated below:

CO₂ emissions and fuel consumption

For **light duty vehicles** (types M1 and N1) information on fuel consumption and CO₂ emissions (g/km) is measured during type approval and recorded in the Certificate of Conformity (CoC), which manufacturers must deliver with each vehicle. For pure electric and plug-in electric hybrid vehicles fuel consumption is in kWh.

All passenger cars (category M1) sold on the European market must be additionally accompanied by a label indicating the car's fuel economy and CO₂ emissions. In many EU countries the label follows the familiar EU energy labelling design, however this is not compulsory and other countries have adopted their own specific design. Some Member States (e.g. UK) have also set-up publicly accessible databases making available the CO₂ emission and fuel consumption figures of all light duty vehicles.

For **heavy duty vehicles** (types M2, M3, N2 & N3) CO₂ emission values have to be measured by manufacturers from the entry into force of the Euro VI standard – the values are not recorded in the CoC, but can be demanded by procurers at the tender stage. Whereas for light duty vehicles, the values are defined by vehicle driving distance (g/km), for heavy duty vehicles they are defined by engine energy output (g/kWh). The heavy duty values are therefore not a suitable basis for calculating operational lifetime costs in accordance with the method described in CVD.

Toxic pollutants (NO_x, NMHC, Particulates)

The specific values of individual pollutants (incl. NO_x, NMHC, PM and PN) measured during the type approval tests are recorded in the CoC.

Until the development of a real-driving emissions test for light duty vehicles (likely to be available in 2014/2015), the reported emissions factors do not provide a reliable basis for assessing the actual lifetime environmental impacts of different vehicles. Compliance with a specific Euro standard is therefore the most important basis for procurement decision making.

All vehicles must also meet a specific Euro standard for such emissions (see section 2 above).



Main legislation:

- [Directive 1999/94/EC relating to the availability of consumer information on fuel economy and CO2 emissions in respect of the marketing of new passenger cars \(13 December 1999\)](#)
- [Commission Directive 2003/73/EC amending Annex III to Directive 1999/94/EC \(24 July 2003\)](#)

5. Clean Power for transport

With the aim of promoting the market breakthrough of alternative fuels on the European market, the European Commission has launched the Clean Power for Transport Package. A Communication lays out a comprehensive European alternative fuels strategy (COM(2013) 17) , for the long-term substitution of oil as an energy source in all modes of transport.

One of the main pillars of the strategy is the development of alternative fuels infrastructure. A proposal for a Directive on deployment of alternative fuels infrastructure (COM(2013) 18) has been published, which would require Member States to initiate a number of measures to promote infrastructure development.

Main policy & legislation:

- [Clean Power for Transport: A European alternative fuels strategy \(COM\(2013\) 17\)](#)
- [Proposal for a Directive on the deployment of alternative fuels infrastructure \(COM\(2013\) 18\)](#)

More information:

- DG Move: http://ec.europa.eu/transport/themes/urban/cpt/index_en.htm

6. Vehicle classification

In the EU vehicles are classified according to size and function, as outlined in the table below⁵. These classifications may be referred to in legislation or technical reports.

Category M – Passenger vehicles	Category N - Delivery vehicles
M1 – Passenger vehicles up to 8 seats (cars)	N1 – Delivery vehicles up to 3.5 tonnes (vans) ⁶

⁵ Additional classification categories exist for other vehicle types, e.g. L: Motorbikes, O: Trailers

⁶ N1 vehicles are further subdivided into 3 classes, depending on their reference mass



M2 – Passenger vehicles up to 5 tonnes (minibuses)	N2 – Delivery vehicles between 3.5 and 12 tonnes (medium sized lorries)
M3 – Passenger vehicles exceeding 5 tonnes (buses)	N3 – Delivery vehicles exceeding 12 tonnes (large lorries)

Main legislation:

- [Directive 2001/116/EC on type-approval of motor vehicles and their trailers](#)

More information:

- DG Move: http://ec.europa.eu/transport/road_safety/vehicles/categories_en.htm

7. Clean Fleets Factsheet series

The Clean Fleets project (www.clean-fleets.eu) assists public authorities and fleet operators with the implementation of the Clean Vehicles Directive and the procurement or leasing of clean and energy-efficient vehicles.

The Factsheet series aims to provide concise information on topics of relevance to clean vehicle procurement. If you wish to propose a topic for a new factsheet please email procurement@iclei.org

Clean Fleets project partners



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