# **EMISSIONS FROM MOBILE MACHINERY**

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# **KEY ISSUES**

**Objective of the Regulation:** The Commission wants to tighten the emission limits for combustion engines in machinery not intended for use on roads ("non-road mobile machinery" – NRMM).

Affected parties: Manufacturers of NRMM and NRMM engines



**Pro:** In order to reduce the distortion of competition in the internal market and limit air pollution, uniform EU legislation is essential.

**Contra:** The period between establishing the test procedure – end 2016 – and entry into force of the new limits – 2019 – is too short: manufacturers of NRMM also require time for development, the detail of which can only be completed when the new NRMM engines are available.

# CONTENT

## Title

**Proposal COM(2014) 581** of 25 September 2014 for a **Regulation** of the European Parliament and of the Council on requirements relating to **emission limits and type-approval** for internal combustion engines **for non-road mobile machinery** 

# **Brief Summary**

- Context and objectives
  - "Non-road mobile machinery" (NRMM) contributes substantially to air pollution. It is responsible for 15% of the emissions of nitrogen oxide (NO<sub>x</sub>) and 5% of particulate matter (PM), which is released in particular as rust by diesel engines (p. 2).
  - NRMM refers to mobile machines, transportable equipment and vehicles not intended for the transport of passengers or goods on roads (Art. 3 No. 1).
  - Emission limits for NRMM engines are currently regulated in the Emissions Directive on Mobile Machinery (97/68/EC). In the Commission's view, this has shortcomings because
    - its scope does not cover some categories of engine and
  - the emission limits were last amended in 2004 and do not conform to the state of the art.
  - The Commission wants to include categories of engine which have not so far been covered and adopt stricter emission limits in order to
    - protect human health and the environment,
    - prevent Member States from adopting different rules which are detrimental to the internal market, and
    - bring the EU requirements into line with the stricter requirements applicable in the USA in order to remove "obstacles to external trade through harmonised rules" (p. 2).
  - The Regulation will replace the existing Emission Directive (97/68/EC) as from 1 January 2017 (Art. 60 and Art. 61 (2)).

### ► Scope

- NRMM includes in particular (Art. 3)
  - hand-held equipment e.g. lawn mowers, chain saws -,
  - construction machinery e.g. diggers, bulldozers, cement mixers –,
  - electricity generators,
  - snowmobiles,
  - all-terrain vehicles primarily to travel on unpaved surfaces, and
  - which have four wheels with low-pressure tyres, no more than one passenger seat, and handlebars for steering ("all-terrain vehicle" ATV; Art. 3 No. 38) or
  - whose minimum weight is 300 kg, can travel at least 25 km/h, are not steered by way of handlebars and are used for recreational or utility purposes ("side-by-side vehicle" – SBS; Art. 3 No. 39),
  - locomotives and railcars (Art. 3 No. 40 and 41) and
  - inland waterway vessels and motorboats of at least 37 kilowatts (kW).
- The Regulation applies to all NRMM engines which run on diesel, petrol, petrol/oil mixture, natural gas, liquid petroleum or ethanol (Art. 24 (1)).

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- It tightens the emission limits by different amounts depending on the engine type (Art. 17 (2) in conjunction with Annex II)
  - for carbon monoxide (CO), total hydrocarbons (HC) and oxides of nitrogen (NOx) ("gaseous pollutants", Art. 3 No. 3) and
  - for particulate matter (Art. 3 No. 5)

and introduces new emission limits for the number of particles with a diameter greater than 23 nanometres ("Particle Number", Art. 3 No. 5).

## ▶ Placing on the Market

- The manufacturers of NRMM engines must ensure that their engines comply with the emission limits (Art. 17 (1)).
- The emission limits apply to engines first made available on the EU market from 2019 ("placing on the market", Art. 3 No. 44 and 45; Art. 17 (2) in conjunction with Annex III).
- The Member States can only permit the placing onto the market of an NRMM engine type if an approval authority certifies that it satisfies the relevant provisions and technical requirements of this Regulation ("EU type-approval", Art. 3 No. 2; Art. 5 (3)).

### ► EU type-approval procedure

- Member States establish or appoint the approval authorities (Art. 5 (1)) which (Art. 6)
  - grant EU type-approval for NRMM,
  - ensure that manufacturers applying for EU type-approval comply with their obligations and,
  - by way of a central administration platform set up by the Commission (Art. 42),
  - register all engine types that have received an EU type-approval and
  - exchange data with the approval authorities of other Member States.
- Engine manufacturers are responsible to the approval authority for the type-approval procedure and for ensuring that the manufactured engines conform to the approved engine type (Art. 8 (4)).
- In order to obtain an EU type-approval for an engine, the manufacturer must
  - submit an application to the approval authority of any Member State (Art. 19 (1)),
  - make an engine available (Art. 19 (2)) and
  - submit an information folder with engine data, drawings, photographs and other information (Art. 19 (1), Art. 20 (1) and (2)).
- An application for type-approval can only be made in a Member State (Art. 19 (4)).
- The approval authority must issue an EU type-approval if the engine (Art. 21 (1))
  - corresponds to the details in the information folder and
  - corresponds to the requirements of this Regulation.
- The manufacturer must affix a marking to each engine that conforms to the type-approval (Art. 31 (1))
- The EU can agree mutual recognition of approval procedures with non-EU states (Art. 40 (1)).

### Verification of engines

- The approval authorities must examine whether the manufactured engines conform to the type-approval (Art. 25 (1)).
- Compliance with the emission limits must be proven by means of "appropriate tests" (Art. 25 (1)). These tests must be carried out by an "independent technical service" (Art. 43–52).
- Sequences of varying test points are specified for the different NRMM engines ("test cycle", Art. 3 No. 69; Art. 23 (5) in conjunction with Annex IV).
- By the end of 2016, the Commission will lay down by way of delegated acts (Art. 290 TFEU):
  - the technical specifications and characteristics of the test cycles (Art. 23 (11)),
  - the technical specifications and characteristics in particular of (Art. 24 (3) and (4))
    - apparatus and procedures for conducting tests,
  - apparatus and procedures for emission measurement and sampling and
  - methods for data evaluation.

## Main changes to the status quo

- Until now, emissions from NRMM engines were governed by a Directive. Now they will be laid down in a Regulation.
- ► Until now, legislation applied only to NRMM engines with a capacity of at least 18 kW. Now they also apply to engines below 18 kW.
- ► Until now, only diesel and petrol engines were covered. Now, engines which run on petrol/oil mixture, natural gas, liquid petroleum or ethanol are also included.
- Emission limits have been lowered significantly.
- ► New: emission limits for the Particle Number.
- ► New: the fact that emission limits also apply to generators, snowmobiles, all-terrain vehicles and side-by-side vehicles.



## Statement on Subsidiarity by the Commission

According to the Commission, action at EU level is necessary to prevent the emergence of barriers to the single market and because of the transnational nature of air pollution. Divergent measures at national level would place an increased financial burden on NRMM manufacturers. (p. 6)

## **Policy Context**

Since its 6<sup>th</sup> Environment Action Programme (Decision No. 1600/2002/EC), the EU has wanted to achieve an air quality with no significant negative impact on human health and the environment. The Air Quality Directive (2008/50/EC) lays down binding limits on the concentration of significant air pollutants such as fine particulate matter and nitrogen oxide. In addition, the Commission proposes national ceilings on the emission of certain air pollutants applicable from 2020 and from 2030 [COM(2013) 920, see <u>cepPolicyBrief</u>]. In its Transport White Paper [COM(2011) 144, see <u>cepPolicyBrief</u>] the Commission called for more environmentally friendly transport on inland waterways and rail.

## **Legislative Procedure**

25 September 2014Adoption by the CommissionOpenAdoption by the European Parliament and the Council, publication in the Official<br/>Journal of the European Union, entry into force

# **Options for Influencing the Political Process**

Leading Directorate General:	DG Enterprise and Industry
Committees of the European Parliament:	Environment (leading), Rapporteur TBA
Federal Ministries:	Environment (leading)
Committees of the German Bundestag:	Environment (leading); EU Affairs; Transport
Decision-making mode in the Council:	Qualified majority (acceptance with a majority of 55% of the
	Member States representing at least 65% of the population).

## **Formalities**

Legislative competence:	Art. 114 TFEU (Internal Market)
Form of legislative competence:	Shared competence (Art. 4 (2) TFEU)
Legislative procedure:	Art. 294 TFEU (ordinary legislative procedure)

# ASSESSMENT

### **Economic Impact Assessment**

#### **Ordoliberal Assessment**

The Commission's aim of reducing air pollutants from NRMM engines is basically appropriate because the emissions are damaging both to health and the environment and, without mandatory regulations, engine manufacturers have no incentive to emit fewer air pollutants. In order to reduce the distortion of competition in the internal market and limit air pollution, uniform EU legislation is essential.

The new limits for gaseous pollutants and particulate matter are in fact based to a greater extent than before on stricter US limits. Many EU manufacturers of NRMM engines who operate internationally already more than comply with the current EU emission limits voluntarily or have a broad range of products in order to comply with the applicable provisions particularly those on the important US market. These manufacturers will not incur additional costs as a result of the new limits. Tighter limits improve the competition situation, particularly for these manufacturers on the EU market as compared with manufacturers principally operating on markets with no or only minimal air pollution requirements because in future the latter will also have to manufacture their engines in compliance with the stricter limits in order to be able to bring their products onto the EU market.

Uniform EU requirements on testing equipment and procedures facilitate uniform testing of the NRMM engines in all Member States and thus prevent varying testing standards within the EU.



#### Impact on Efficiency and Individual Freedom of Choice

The newly introduced limit on particulate matter means that lower-performance NRMM engines will have to be redesigned because, in the case of lower-performance machinery, the use of a particle filter is often impossible without adjusting performance. This is because the particle filter represents a resistance which does not affect high-performance machinery but does affect lower performance machinery. This increases the costs for manufacturers of this NRMM and thus also the price of NRMM.

The period between establishing the test cycles and procedure – end 2016 – and entry into force of the new limits – 2019 – is too short: It is likely that due to the tighter limits on gaseous pollutants and particulate matter and particularly as a result of the introduction of limits on the particle number, it will no longer be possible to use current NRMM engines in the machines and new engines will therefore have to be designed. Without any knowledge of test cycles and test procedures, the manufacturers of NRMM engines will not be able to develop engines with any certainty that they will receive type-approval. They will therefore only have a period of two years – 2017 and 2018 – to develop new motors. In addition: Manufacturers of NRMM engines are available.

#### Impact on Growth and Employment

The stricter limits and, in particular, the new limits on particle number, may result in an increase in the price of NRMM. This may have negative consequences for economic growth and employment. The cost of air pollution control measures are balanced by the benefits of a reduction in damage to health. These are, however, difficult to quantify.

#### Impact on Europe as a Business Location

The Regulation has a neutral impact on Europe as a business location because it also applies to NRMM engines manufactured outside the EU insofar as these are marketed in the EU.

#### Legal Assessment

#### Legislative Competency

Unproblematic. Varying regulations in the Member States on emission limits and type-approval for NRMM engines would significantly impede free trade. The EU is therefore permitted to adopt legislation in order to ensure the functioning of the internal market (Art. 114 TFEU). The EU can also adopt legislation to protect the environment including measures to combat air pollution (Art. 192 TFEU).

#### Subsidiarity

Unproblematic. The functioning of the internal market can only be achieved by action at EU level. In addition, air pollution is a cross-border problem which requires EU-wide measures in order to combat it.

#### Conclusion

In order to reduce the distortion of competition in the internal market and limit air pollution, uniform EU legislation is essential. The period between establishing the test procedure – end 2016 – and entry into force of the new limits – 2019 – is too short: manufacturers of NRMM also require time for development, the detail of which can only be completed when the new NRMM engines are available.