# SOUND LEVEL OF MOTOR VEHICLES



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# MAIN ISSUES

**Objective of the Regulation:** The Commission wishes to introduce lower noise limit values for motor vehicles and a new test method with which to measure noise levels.

Parties affected: Citizens affected by traffic noise, road users, automotive industry.



**Pros:** Lowering the noise limit values creates innovation incentives to develop quieter motor vehicles.

**Cons:** (1) Motor vehicles with a high power to mass ratio index (PMR) should not be granted preferential treatment during the type-approval procedure, as noise pollution is not dependent on this ratio.

- (2) The short adjustment periods will lead to increased motor vehicle prices.
- (3) The core provisions in particular for test methods and limit values are essential provisions and therefore must not be amended by the Commission through delegated acts.

# CONTENT

### **Title**

**Proposal COM(2011) 856** of 9 December 2011 for a **Regulation** of the European Parliament and of the Council on the **sound level of motor vehicles** 

### **Brief Summary**

Note: Unless otherwise provided for the pages and articles quoted refer to the Regulation Proposal COM(2011) 856.

### ► Background and target

- Motor vehicles ("vehicles") and their exhaust systems are subject to an EU-wide type-approval procedure which, among other things, prescribes noise emission limits and a uniform test method (Directive 70/157/EEC).
- The existing Directive on the sound level of motor vehicles (70/157/EEC) is to be replaced, since according to the Commission:
  - the test procedure does not reflect real world driving behaviour (Recital 7);
  - the most recent reduction of noise limit values in 1995 did not show the expected effects (Recital 5), and
  - the number of electric and hybrid electric vehicles, which due to their lack of audible signal have become a threat to other road users, has increased (Recital 10).
- The Regulation aims to (Recital 1):
  - ensure the proper functioning of the internal market; and
  - a high level of environmental protection and public safety.
- These aims are to be achieved, above all, by:
  - lowering noise limit values for the type-approval of vehicles;
  - a new test method to measure noise emissions and
  - introducing standards regarding the minimum noise level of electric and hybrid vehicles.
- The Regulation comprises all vehicles for the transport of goods and passengers on at least four wheels (Art. 2 in conjunction with Directive 2007/46/EC, Annex II).

# EU Type-approval regarding the noise level

- Type-approval means that a vehicle (vehicle type) or its component, e.g. exhaust system (exhaust system type), satisfies the relevant administrative provisions. Approval is granted by the Member State concerned (Directive 2007/46/EC, Art. 3 (3)).
- Type-approval is subject to the condition that amongst other things the motor vehicle type (Annex I) and the exhaust system type (Annex X) is in line with the noise level provisions of the Regulation (Art. 4).
- This includes in particular:
  - compliance with the noise limit values (Art. 6 in conjunction with Annex III),
  - carrying out the test method measuring the noise level (Art. 6 in conjunction with Annex II),
  - the labelling of the components, including the name of the manufacturer and trade designation (Art. 4 in conjunction with Annex I and X) and
  - compliance with the requirements of the Directive establishing a framework for the approval of motor vehicles (2007/46/EC) (Art. 4 in conjunction with Annex I and X).
- The manufacturer must ensure that:
  - the vehicle, its engine and its noise reduction system is designed in such a way that the vehicle in normal use complies with the provisions of the Regulation, regardless of any possible vibrations (Art. 5 (1)), and
  - that the noise reduction system is additionally protected against corrosive phenomena (Art. 5 (2)).



### ► EU-wide tightening of noise limit values

EU-wide limits for noise level (expressed in decibels, dB) are to be lowered in a two-step approach (Annex III) – two years (phase 1) and five years (phase 2) following the Regulation's entry into force.

	Vehicles and busses	Heavy goods vehicles (HGV)	
		up to 3,5 t	beyond 3,5 t
Phase 1	2 dB	2 dB	1 dB
Phase 2	2 dB	2 dB	2 dB

For vehicles with a power to mass ratio index (PMR) of more than 150 kilowatts per tonne (kW/t), limits increased by 1 dB apply (Annex III).

### ▶ EU-wide test method to measure noise level

For the type-approval procedure, a new test method for measuring noise level is to be introduced.

- It is mainly based on the test method of the UNECE Working Group on Noise (GRB) (UNECE; Regulation No. 51) of 2007 (Recital 6). However, it differs in that amongst other things it has lower tolerance values in terms of the distance of the microphones to the ground.
- The new test method comprises a vehicle acceleration test and a constant speed test (Annex II).
- The test is to be carried out by a technical service (e.g. TÜV, Dekra) (Annex I).

# Additional provisions on noise emissions

- As the test method is "less representative for noise emissions under worst case conditions" (Recital 7)
   "additional sound emission provisions (ASEP)" (Art. 8) apply to vehicles
  - for the transport of passengers with a maximum of nine seats and
  - for the transport of goods with a permissible mass of up to 3.5 t.
- The additional provisions are:
  - The noise emissions under typical on-road driving conditions must not deviate from the test result "in an unreasonable manner" (Art. 8 (2)).
  - The manufacturer must not alter any device solely for the purpose of fulfilling the noise emission requirements if the device is not operational during typical on-road operation conditions (Art. 8 (3)).
- The vehicle must fulfill the requirements of an additional measuring procedure (Art. 8 (4), Annex VIII).

# ► Acoustic Vehicle Alerting System

- Manufacturers of electric and hybrid vehicles may choose to install an Acoustic Vehicle Alerting System (AVAS) in their vehicles (Art. 9).
- AVAS is a sound generating device designed to inform pedestrians and "vulnerable road users" (Annex IX).
- Where an AVAS is installed, the following requirements in particular must be complied with (Annex IX):
  - The AVAS must automatically generate a sound at a speed of up to 20 km/h and during reversing.
  - The AVAS must generate a continuous sound indicating the vehicle behaviour and does not exceed the approximate sound level of a similar vehicle of the same category equipped with an internal combustion engine.
  - The sounds of a siren, horn, chime, bell and emergency vehicle are not acceptable.
  - Melodious sounds, animal and insect sounds "should be avoided".

### ▶ Future amendments of the Regulation by the Commission

- Within five years following the entry into force of the Regulation, the Commission is to ascertain whether the noise limits prove to be "appropriate" and if necessary propose amendments ("Revision Clause", Art. 7).
- The Commission may change the requirements regarding noise limits, the test methods and other material provisions relating to noise (Annexes I to XI) through delegated acts (Art. 290 TFEU) (Art. 10 (1); Art. 11 to Art. 13).
- If the test method according to UNECE-Rule No. 51 sets noise limits, the Commission may pursuant to Annex III "consider" replacing them with a direct reference to the corresponding requirements of UNECE Regulations No. 51 and No. 59.

# Changes to the Status quo

- ► To date, noise limits raised by 1 dB applied to vehicles with an engine power of more than 140 kW and a power to mass ratio of more than 75 kW/t. Now such limits apply to vehicles with a power to mass ratio of more than 150 kW/t. (Annex III)
- ► To date, the test method provided solely for testing vehicle noise in full acceleration. Now it also comprises a test during constant speed. (Annex II)
- ▶ New is the EU-wide reduction of the noise limit by a total of 3 dB or 4 dB (Art. 6 in conjunction with Annex III).
- ▶ New are the additional provisions on noise emissions for smaller vehicles (ASEP, Art. 8).
- ▶ New is that vehicle manufacturers may install AVAS in their electric and hybrid cars (Art. 9).



# **Statement on Subsidiarity by the Commission**

According to the Commission, only measures at EU level can help prevent a fragmentation of the internal market and ensure consistent health, safety and environmental standards. Moreover, economies of scale are thus generated since vehicles are produced for the entire European market and cannot be adjusted individually to each individual Member State (p. 5).

### **Policy Context**

In its Communication on a European strategy for clean and energy-efficient vehicles [COM(2010) 186, s. CEP Policy Brief], the Commission announced a legislative proposal to reduce noise emissions by vehicles. The type-approval procedure is regulated under the Directive to establish a framework for the approval of motor vehicles (2007/46/EC, Framework Directive). The Regulation Proposal is an independent Regulation under the scope of the Framework Directive, as is the Regulation on the type-approval of motor vehicles regarding their safety [(EC) No. 661/2009; s. CEP Policy Brief] and the Directive relating to the noise of tyres of vehicles (2001/43/EC). In addition, the Directive on the Environmental Noise Directive also applies to the noise from road traffic (2002/49/EC).

# **Legislative Procedure**

09 December 2011 Adoption by the Commission 09 March 2012 Debate in the Council

22 October 2012 1st Hearing in the European Council

Open Adoption by the European Parliament and Council, publication in the Official

Journal of the European Union, entry into force

# **Options for Influencing the Political Process**

Leading Directorate General: DG Enterprises and Industry

Committees of the European Parliament: Environment, health, food safety (leading), Rapporteur: Miroslav

Ouzký (ECR Group, CZ);

Committees of the German Bundestag: Committee for Transport, Building and Urban Development (in

charge);

Decision mode in the Council: Qualified majority (approval by a majority of Member States and at

least 255 out of 345 votes; Germany: 29 votes))

#### **Formalities**

Legal 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

Taking account of the noise level during the type-approval procedure of vehicles is principally appropriate, for noise has a negative impact on citizens' health and there are no market incentive mechanisms relating to noise emissions available. However, alongside vehicle noise, other factors also play a decisive role, in particular the quality of the road surface. Nonetheless, this is subject to the Member States' competency.

Vehicles with a power to mass ratio index (PMR) of more than 150 kW/T should not be granted preferential treatment during the type-approval procedure. For the noise impact resulting from a vehicle does not depend on this ratio. The proposed rule even allows the so-called "super sport vehicles" (e.g. Ferrari F550, Lamborghini Gallardo) to be louder than sportily designed series vehicles with a comparable performance (e.g. Mercedes S 63 AMG, Audi S6) due to their lighter weight. The rule sets incentives to construct vehicles which weigh just under the threshold of 150 kW/T to be louder. This leads to additional noise impact and environmental pollution.

Electric and hybrid vehicles without any audible signal are a threat to other road users. The optional use of AVAS does not, however, improve transport safety. For vehicle manufacturers have no incentive to install AVAS in their vehicles. Road users can be protected only through an obligatory use of AVAS. Melodious sounds, animal and insect sounds, however, should be explicitly prohibited as they are irritating and could endanger transport safety by distracting road users.

# Impact on Efficiency and Individual Freedom of Choice

Standardised EU-wide noise limits and test procedures for measuring the noise level replace national rules. Thus no additional costs are imposed on car producers for the compliance with different legal provisions of single Member States in order to sell their cars there. This strengthens the internal market. However, the test



procedure should be fully in line with the UNECE, as non-European countries (e.g. Brazil) recognise the type-approval procedure and car producers need no additional national approvals in such countries. Otherwise, car producers would have to measure the noise level of their cars under two different test procedures in order to sell their cars in those countries.

Lowering noise limit values creates incentives for car producers to develop quieter cars. The proposed reduction targets of a total of three or four decibel in connection with the relatively short adaptation period of two and five years constitutes, however, a substantial burden. Already in the first phase an average of 65% of all car fleets would be affected by the new developments. The reduction targets in the second phase affect almost all vehicles: the requested noise reduction of 3 dB and 4 dB corresponds to a noise reduction of 50% or 60%. In particular through the requested short adjustment period, high development and implementation costs accrue to producers. These lead to an increase in vehicle prices. Therefore the adjustment periods should be prolonged.

The fact that the Commission has the possibility to amend independently and at short notice the test method (Annex II) and the noise limit values (Annex III) through delegated acts reduces the planning safety of vehicle producers and makes it more difficult to develop new cars cost-efficiently. For such changes are not subject to any transparent ordinary legislative procedure and therefore do not require the explicit approval of the Council or the European Parliament (see "Compatibility with EU Law"). Thus newly developed cars which are about to enter the market can be denied type-approval more easily. In view of the long development periods and the associated costs, producers need more planning safety in order to enter the investment and sales risk.

### Impact on Growth and Employment

As a consequence of the increased development and implementation costs for the development of low-noise cars, higher sales prices can be expected with regard to new cars. This could create negative effects on growth and employment due to the resulting fall in demand.

### Impact on Europe as a Business Location

Unproblematic, since EU rules also apply to cars which are imported from non-European countries.

# **Legal Assessment**

#### Competency

Unproblematic. The EU may on the basis of its internal market competency (Art. 114 TFEU) harmonise the requirements for car type-approval procedures and their exhaust systems in order to prevent there being different rules in Member States and to ensure the functioning of the internal market.

#### Subsidiarity

Unproblematic.

### Proportionality

Unproblematic.

### Compatibility with EU Law

The material core provisions of the legal act – in particular of limits, test methods, additional provisions on noise, AVAS – are regulated in its comprehensive Annexes I to XI. As "essential provisions", they must not be amended by the Commission through delegated acts (Art. 290 (1) TFEU; cp. general CEP Analysis) – contrary to its provision in the Regulation Proposal (Art. 10 to Art. 13). Otherwise, EU legislative bodies – the European Parliament and the Council – would not be directly involved in the future shaping of the central rules of this regulation matter but limited to raising a general objection to a delegated act as a whole within a very short time-limit of two months. In view of this high hurdle, such a "veto" would in fact result in a shift of powers which infringes the institutional balance in general and Art. 290 TFEU in particular, as stipulated under Art. 290 TFEU.

# Compatibility with German Law

Unproblematic.

#### **Conclusion**

Lowering noise limit values creates innovation incentives for vehicle producers to develop quieter vehicles. The proposed reduction targets of a total of three or four decibel in connection with the relatively short adjustment periods of two and five years leads to an increase in vehicle prices. Cars with a high PMR should not be granted preferential treatment, since noise impact is not depend on this ratio. The material core provisions of the legal act must not be amended by the Commission through delegated acts since they constitute essential provisions.