

Basic information

2010/0271(COD)

COD - Ordinary legislative procedure (ex-codecision procedure)
Regulation

Approval and market surveillance of two- or three-wheel vehicles and quadricycles

Repealing Directive 95/1/EC [1991/0371\(COD\)](#)
 Repealing Directive 97/24/EC [1993/0470\(COD\)](#)
 Repealing Directive 2000/7/EC [1998/0163\(COD\)](#)
 Repealing Directive 2002/24/EC [1999/0117\(COD\)](#)
 Repealing Directive 2002/51/EC [2000/0136\(COD\)](#)
 Repealing Directive 2009/79/EC [2003/0058\(COD\)](#)
 Repealing Directive 2009/78/EC [2003/0059\(COD\)](#)
 Repealing Directive 2009/62/EC [2006/0161\(COD\)](#)
 Repealing Directive 2009/80/EC [2006/0175\(COD\)](#)
 Repealing Directive 2009/67/EC [2007/0270\(COD\)](#)
 Repealing Directive 2009/139/EC [2008/0099\(COD\)](#)
 Amended by [2018/0065\(COD\)](#)
 Amended by [2020/0251\(COD\)](#)
 Amended by [2023/0079\(COD\)](#)
 Amended by [2023/0370\(COD\)](#)
 See also [2018/0220\(COD\)](#)

Subject

2.10.03 Standardisation, EC/EU standards and trade mark, certification, compliance
 3.40.03 Motor industry, cycle and motorcycle, commercial and agricultural vehicles

Procedure completed

Key players

European Parliament

Committee responsible

[IMCO](#) Internal Market and Consumer Protection

Rapporteur

[VAN DE CAMP Wim \(PPE\)](#)

Appointed

13/10/2010

Shadow rapporteur

[WESTPHAL Kerstin \(S&D\)](#)

[MANDERS Antonius \(ALDE\)](#)

[RÜHLE Heide \(Verts/ALE\)](#)

[HARBOUR Malcolm \(ECR\)](#)

[SALVINI Matteo \(EFD\)](#)

Committee for opinion


[ENVI](#) Environment, Public Health and Food Safety

Rapporteur for opinion

The committee decided not to give an opinion.





Appointed

	ITRE Industry, Research and Energy	The committee decided not to give an opinion.	
	TRAN Transport and Tourism	ZĪLE Roberts (ECR)	17/11/2010
Council of the European Union	Council configuration	Meetings	Date
	General Affairs	3210	2012-12-07
European Commission	Commission DG		Commissioner
	Internal Market, Industry, Entrepreneurship and SMEs		TAJANI Antonio

Key events			
Date	Event	Reference	Summary
04/10/2010	Legislative proposal published	COM(2010)0542 	Summary
19/10/2010	Committee referral announced in Parliament, 1st reading		
05/12/2011	Vote in committee, 1st reading		
04/01/2012	Committee report tabled for plenary, 1st reading	A7-0445/2011	Summary
19/11/2012	Debate in Parliament		
20/11/2012	Decision by Parliament, 1st reading	T7-0424/2012	Summary
20/11/2012	Results of vote in Parliament		
07/12/2012	Act adopted by Council after Parliament's 1st reading		
15/01/2013	Final act signed		
16/01/2013	End of procedure in Parliament		
02/03/2013	Final act published in Official Journal		

Technical information	
Procedure reference	2010/0271(COD)
Procedure type	COD - Ordinary legislative procedure (ex-codecision procedure)
Procedure subtype	Legislation
Legislative instrument	Regulation
Amendments and repeals	Repealing Directive 95/1/EC 1991/0371(COD) Repealing Directive 97/24/EC 1993/0470(COD) Repealing Directive 2000/7/EC 1998/0163(COD) Repealing Directive 2002/24/EC 1999/0117(COD)

	Repealing Directive 2002/51/EC 2000/0136(COD) Repealing Directive 2009/79/EC 2003/0058(COD) Repealing Directive 2009/78/EC 2003/0059(COD) Repealing Directive 2009/62/EC 2006/0161(COD) Repealing Directive 2009/80/EC 2006/0175(COD) Repealing Directive 2009/67/EC 2007/0270(COD) Repealing Directive 2009/139/EC 2008/0099(COD) Amended by 2018/0065(COD) Amended by 2020/0251(COD) Amended by 2023/0079(COD) Amended by 2023/0370(COD) See also 2018/0220(COD)
Legal basis	Treaty on the Functioning of the European Union TFEU 114-p1
Other legal basis	Rules of Procedure EP 165
Stage reached in procedure	Procedure completed
Committee dossier	IMCO/7/04190

Documentation gateway				
European Parliament				
Document type	Committee	Reference	Date	Summary
Committee draft report		PE464.815	06/05/2011	
Committee opinion	TRAN	PE458.815	27/05/2011	
Amendments tabled in committee		PE467.203	30/08/2011	
Committee report tabled for plenary, 1st reading/single reading		A7-0445/2011	04/01/2012	Summary
Text adopted by Parliament, 1st reading/single reading		T7-0424/2012	20/11/2012	Summary
Council of the EU				
Document type		Reference	Date	Summary
Draft final act		00052/2012/LEX	15/01/2013	
European Commission				
Document type		Reference	Date	Summary
Legislative proposal		COM(2010)0542 	04/10/2010	Summary
Document attached to the procedure		SEC(2010)1151 	04/10/2010	
Document attached to the procedure		SEC(2010)1152 	04/10/2010	
Commission response to text adopted in plenary		SP(2013)73	23/01/2013	
Follow-up document		COM(2018)0136 	19/03/2018	Summary
National parliaments				

Document type	Parliament /Chamber	Reference	Date	Summary
Contribution	PT_PARLIAMENT	COM(2010)0542	02/12/2010	
Contribution	IT_SENATE	COM(2010)0542	17/12/2010	
Contribution	IT_CHAMBER	COM(2010)0542	08/06/2011	

Other institutions and bodies

Institution/body	Document type	Reference	Date	Summary
EESC	Economic and Social Committee: opinion, report	CES0065/2011	19/01/2011	

Additional information

Source	Document	Date
National parliaments	IPEX	
European Commission	EUR-Lex	

Final act

<p>Regulation 2013/0168 OJ L 060 02.03.2013, p. 0052</p> <p>Corrigendum to final act 32013R0168R(04) OJ L 077 23.03.2016, p. 0065</p>	Summary
---	-------------------------

Delegated acts

Reference	Subject
2013/2926(DEA)	Examination of delegated act
2013/2966(DEA)	Examination of delegated act
2013/2999(DEA)	Examination of delegated act
2017/3025(DEA)	Examination of delegated act
2016/2854(DEA)	Examination of delegated act
2023/2870(DEA)	Examination of delegated act
2025/2838(DEA)	Examination of delegated act

Approval and market surveillance of two- or three-wheel vehicles and quadricycles

2010/0271(COD) - 20/11/2012 - Text adopted by Parliament, 1st reading/single reading

The European Parliament adopted by 643 votes to 16, with 18 abstentions, a legislative resolution on the proposal for a Regulation of the European Parliament and of the Council on the approval and market surveillance of two- or three-wheeled vehicles and quadricycles.

The Parliament adopted its position at first reading following the ordinary legislative procedure. The amendments adopted at plenary are the result of a compromise negotiated between the European Parliament and the Council. They amend the proposal as follows:

Scope of the Regulation: the Regulation establishes the administrative and technical requirements for the **type-approval of all new vehicles**, systems, components and separate technical units. It also establishes the requirements for the market surveillance of parts and equipment for such vehicles. In certain limited cases, it is appropriate to allow for national small series type-approval.

The Regulation also applies to **enduro motorcycles, trial motorcycles and heavy all terrain quads**.

Safety provisions: amendments seek to ensure a high level of vehicle functional safety, occupational safety and environmental protection, in harmonising the technical requirements and environmental standards applicable to vehicles, systems, components and separate technical units with regard to type-approval.

Environmental requirements: the Regulation sets environmental requirements for two stages with the second stage (Euro 5) being mandatory for new types of vehicles as of 1 January 2020, thereby creating long-term planning predictability for the vehicle manufacturers and the supplier industry.

Access to repair and maintenance information: the amended text stresses that unrestricted access to vehicle repair information, via a standardised format which can be used to retrieve the technical information, and effective competition on the market for vehicle repair and maintenance information services are necessary to improve the functioning of the internal market. A great proportion of such information is related to **on-board diagnostic systems** and their interaction with other vehicle systems.

The Regulation stipulates that manufacturers shall make vehicle repair and maintenance information available in an unrestricted, itemised, user-friendly and legible way to independent operators by means of internet sites. In particular, this access should be provided in a non-discriminatory way as regards the content provided to or accessible to official dealers and repairers. This requirement does not apply to small series vehicles.

Delegated acts: to add further technical specifications to the Regulation, the Commission can adopt delegated acts in respect of functional safety, construction requirements, environmental and propulsion performance.

Penalties: Member States shall provide for penalties for infringement by economic operators of this Regulation and the delegated or implementing acts adopted pursuant to this Regulation. They shall take all measures necessary to ensure that the penalties are implemented. The penalties provided for shall be effective, proportionate and dissuasive.

Reports: by **31 December 2021**, the Commission shall submit a report on the implementation of the Regulation. In particular, the report shall consider whether, on the basis of experience gained with the application of this Regulation, it would be appropriate to provide also for EU type-approval of small series. If it considers necessary, the Commission shall present a proposal to this effect.

On the basis of reports submitted by the Member States, the Commission will prepare, **no later than 31 December 2022**, a report on

- the number of individual approvals granted to vehicles covered by this Regulation before their first registration per year by the national authorities of that Member State since 1 January 2016;
- the national criteria upon which such approvals were based insofar as these criteria deviated from the requirements obligatory for EU type-approval.

The report shall be accompanied, where appropriate, by legislative proposals, and shall examine the inclusion of individual approvals in this Regulation on the basis of harmonised requirements.

Timetable: the Regulation will apply from 1 January 2016. A recital stresses the need to allow industry sufficient time to adapt to the new provisions laid down in this Regulation and to the technical specifications and administrative provisions set out in the delegated and implementing acts adopted pursuant to this Regulation.

Approval and market surveillance of two- or three-wheel vehicles and quadricycles

2010/0271(COD) - 15/01/2013 - Final act

PURPOSE: to lay down new provisions on functional safety and environmental performance for the type-approval of motorcycles.

LEGISLATIVE ACT: Regulation (EU) No 168/2013 of the European Parliament and of the Council on the approval and market surveillance of two- or three-wheel vehicles and quadricycles.

CONTENT: the Regulation lays down **new provisions on the functional safety and environmental performance** for new two- or three-wheel vehicles and quadricycles of L-category (light vehicles).

Purpose and scope: the Regulation aims to lay down **harmonised rules for the type-approval of L-category vehicles** and establishes the requirements for the **market surveillance** of vehicles, systems, components and separate technical units which are subject to approval in accordance with the Regulation. In certain limited cases, it allows for national **small series type-approval**. In order to prevent misuse, any simplified procedure for small-series vehicles should be restricted to cases of very limited production. It is therefore necessary to define precisely the concept of small series in terms of the number of vehicles produced.

L-category vehicles are two-, three- or four-wheel vehicles such as powered two-wheel vehicles, tricycles and quadricycles.

The Regulation also applies to **enduro motorcycles, trial motorcycles** and heavy **all terrain quads**.

Requirements on safety: the Regulation aims to ensure a high level of vehicle **functional safety, occupational safety and environmental protection**, through harmonising the technical requirements and environmental standards applicable to vehicles, systems, components and separate technical units with regard to type-approval.

The Regulation specifies that new motorcycles of more than 125 cc are to be **equipped with an enhanced ABS (anti-lock braking system)**, whereas the incorporation of anti-lock or combined brake systems for motorcycles under 125 cc will be left to the choice of the vehicle manufacturer.

Having carried out an evaluation and bearing in mind statistics on road accidents, **the Commission shall submit a report by 31 December 2019**. That report shall examine the mandatory fitting of an anti-lock brake system and a supplemental combined brake system at the choice of the manufacturer to L3e-A1 subcategory motorcycles.

Furthermore, the Regulation:

- requires, **as from the date of application on 1 January 2016, mandatory fitting of the automatic turning-on the lighting** to increase the visibility for new models of L-category vehicles;
- lays down **requirements for the progressive installation of on-board diagnostics systems**, which can detect failures and monitor the emissions control system.

Environmental requirements: the Regulation sets environmental requirements for two stages with the second stage (Euro 5) being mandatory for new types of vehicles as of **1 January 2020**, thereby creating long-term planning predictability for the vehicle manufacturers and the supplier industry.

By **1 January 2016**, the Commission shall carry out a **comprehensive environmental effect study**. The study shall evaluate the air quality and the share of pollutants contributed by L-category vehicles and shall cover the requirements of test types described in the Regulation.

Obligations of economic operators: the Regulation enhances the legal provisions governing conformity of production and specifying the obligations of the economic operators in the supply chain. In particular, the role and responsibilities of the authorities in the Member States in charge of type-approval and market surveillance are clarified, and the requirements relating to the competence, obligations and performance of the technical services that perform tests for vehicle type-approval reinforced

Access to vehicle repair and maintenance information: the Regulation specifies that manufacturers must provide **unrestricted** access to vehicle repair and maintenance information to **independent operators** through **websites using a standardised format** in a readily accessible and prompt manner. In particular, this access shall be granted in a manner which is **non-discriminatory** compared to the provision given or access granted to authorised dealers and repairers. This obligation shall not apply if a vehicle has been approved as a small series vehicle.

Penalties: Member States shall provide for penalties that are effective, proportionate and dissuasive for infringement of this Regulation and the delegated or implementing acts adopted pursuant to the latter, and take all measures necessary to ensure that the penalties are implemented.

Review: the Commission will submit a report on the application of the Regulation by 31 December 2021. On the basis of reports sent by Member States, it will submit a report, by **31 December 2022**, accompanied, where appropriate, by legislative proposals, and shall examine the inclusion of individual approvals in this Regulation on the basis of harmonised requirements.

ENTRY INTO FORCE: 22/03/2013.

APPLICATION: from 01/01/2016.

DELEGATED ACTS: the Commission is empowered to adopt delegated acts in respect of requirements on environmental and propulsion performance, on functional safety and on vehicle construction. The power to adopt delegated acts will be conferred on the Commission for a period of **five years from 22 March 2013**.

The European Parliament or the Council may object to the delegated act within a period of **two months** of notification of that act (which be extended by two months.) If the European Parliament or Council objects, the delegated act shall not enter into force.

Approval and market surveillance of two- or three-wheel vehicles and quadricycles

PURPOSE: to simplify the current legal framework, to contribute to a lower, more proportionate share of overall road transport emissions, and to increase vehicle safety for new two- or three-wheel vehicles and quadricycles (L-category vehicles) entering the EU market.

PROPOSED ACT: European Parliament and Council Regulation.

BACKGROUND: type-approval requirements for new vehicles of the L-category are currently set out in [Directive 2002/24/EC](#) of the European Parliament and of the Council (the 'Framework Directive'). In addition, a series of Directives referred to in the Framework Directive contain detailed technical requirements relating to L-category vehicles.

The Commission has identified a number of **key concerns** associated with the current provisions for the type-approval of new L-category vehicles, which need to be addressed:

- the complexity of the legal framework;
- the level of emissions and its increasing share in total road transport emissions, which are decreasing overall;
- vehicle functional safety aspects related to type-approval requirements;
- the lack of a legal framework for vehicles fitted with new technologies;
- selling and registration of certain vehicles, systems, components or separate technical units imported in the EU market which do not comply with the current type-approval requirements regarding vehicle functional safety and/or environmental protection.

IMPACT ASSESSMENT: for each of the main aspects of the proposal, different options were analysed by listing possible advantages and disadvantages in terms of economic, environmental, safety and societal aspects. Qualitative and quantitative aspects were both included in this analysis. Next, the different options were compared and one preferred option or a logical combination of two preferred options were identified and described. These preferred options form the basis for this new Framework Regulation.

LEGAL BASE: Article 114 of the Treaty on the Functioning of the European Union (TFEU).

CONTENT: this proposal uses the 'split-level approach' originally introduced at the request of Parliament and used in other legislation for EU type-approval of motor vehicles. This approach provides for legislation in three steps:

- the **fundamental provisions and scope** are laid down by the European Parliament and the Council in a Regulation based on Article 114 TFEU in accordance with the ordinary legislative procedure.
- the **technical specifications** associated with the fundamental provisions are laid down in **three delegated acts** (Article 290), adopted through comitology;
- an **implementing act** (Article 291) sets out the **administrative provisions**, such as the information document, the definitions of the type-approval certificate, the certificate of conformity and associated production conformity requirements, etc.

This proposal for a Regulation relates to the **first step** of this process. It establishes the **administrative and technical requirements** for the approval and market surveillance of all new L-category vehicles that are intended to travel on public roads, including where designed and constructed in more than one stage. It also establishes the requirements for the sale and entry into service of systems, components and separate technical units intended for vehicles approved in accordance with this Regulation.

In the interests of clarity, rationality and simplification, Directive 2002/24/EC and its separate directives should be repealed and replaced by one Regulation and a small number of delegated and implementing acts.

This Regulation constitutes a set of specific safety and environmental requirements. It establishes provisions to ensure that, in cases where a vehicle presents a serious risk for users or the environment, the manufacturer or any other economic operator in the supply chain has taken effective protective measures, including the recall of vehicles.

In addition, appropriate measures should be taken in order to make sure that systems, components or separate technical units which can be fitted to vehicles, and which could significantly impair the functioning of systems that are essential for environmental protection or functional safety, are subject to prior control by an approval authority before they are sold, registered or are entering into service.

To improve market surveillance, the role and responsibilities of the authorities in the Member States in charge of type-approval and market surveillance are clarified. The proposal also reinforces the requirements relating to the competence, obligations and performance of the technical services that perform vehicle type-approval.

In order to prevent misuse, any simplified procedure for small-series vehicles should be restricted to cases of very limited production. It is therefore necessary to define precisely the concept of small series in terms of the number of vehicles sold, registered and entered into service.

In order to ensure that the procedure for monitoring conformity of production is correctly implemented and functions properly, manufacturers should be regularly checked by the competent authority or by an appropriately qualified technical service appointed for that purpose.

Lastly, Member States should lay down rules on penalties applicable to infringements of the provisions of this Regulation and ensure that they are implemented. Those penalties should be effective, proportionate and dissuasive.

FINANCIAL IMPLICATIONS: this proposal has no implications for the European Union budget with regard to the first two emission-limit reduction steps (Euro 4 and 5 for motorcycles, Euro 3 and 4 for all other L-category vehicle categories). The third emission step will include a Euro 6 step motorcycles and a Euro 5 step for all other L-category vehicle categories (mopeds, tricycles and quadricycles). These limits are absolutely equivalent to the Euro 5 emission limits for passenger cars. An additional environmental effect study is planned in order to determine the short-term environmental effects of the

Euro 3, 4 and 5 steps and whether the targeted Euro 6 step is appropriate within the given time. This study will be completed in the period 2016-2017 and will be financed through the Commission budget.

Approval and market surveillance of two- or three-wheel vehicles and quadricycles

2010/0271(COD) - 04/01/2012 - Committee report tabled for plenary, 1st reading/single reading

The Committee on the Internal Market and Consumer Protection adopted the report by Wim van de CAMP (EPP, NL) on the proposal for a Regulation of the European Parliament and of the Council on the approval and market surveillance of two- or three-wheeled vehicles and quadricycles.

The committee recommends that the European Parliament's position, adopted at first reading following the ordinary legislative procedure, should be to amend the Commission proposal as follows:

More efficient urban mobility: in general, the report underlines that the proposed requirements for L-category vehicles can facilitate the transition to more efficient, safe and clean urban mobility.

Scope of the proposed regulation: the Members propose new sub-categories for L-vehicles that are intended for both off road and on road use, having those also properly categorised. This concerns the special use motorcycles (Enduro (S1) and Trial (S2)), all-terrain vehicles (ATV) and side-by-side vehicles (SbS). Vehicles exclusively intended for public works and public services are excluded.

Substantive requirements: in order to ensure a high level of safety and environmental protection, the Commission shall lay down detailed technical requirements, including test procedures and limit values where applicable, only for requirements other than the environmental limits and thresholds listed in Annex VI and VII to this Regulation, by means of delegated acts.

The Members wish that any measures adopted in accordance with the Regulation shall be preceded by an evaluation resulting in a report and striving for a fair balance between the following elements:

- the existence of a serious risk to the safety or environmental performance of the technical requirements under consideration; and
- the effect on consumers and manufacturers (including in the after-market) of the imposition under this Regulation of any additional requirements.

General requirements related to on-board diagnostics (OBD): the report proposes to clarify and to tighten the timetable for new vehicles of OBD systems equipment.

An amendment proposes that, following confirmation in a decision adopted by the Commission, seven years after the entry into force of the Regulation (2021), all existing types of vehicles in (sub-) categories L3e, L5e, L6Ae and L7Ae shall also be equipped with OBD II which, in addition to OBD I, monitors not only complete failures but also deterioration of systems, components or separate technical units during vehicle life under the condition that its cost-effectiveness is proven in the environmental effect study referred to in the Regulation.

Validity and acceptance of the individual approval: where a competent authority intends to refuse the placing on the market, registration or entry into service of a vehicle which has been granted an individual approval by an approval authority from another Member State, it shall send the person concerned written notice of such intention, specifying the technical provisions on which the decision is to be based and setting out technical or scientific evidence to justify that decision.

Following receipt of such notice, the person concerned shall, be allowed at least 20 working days in which to submit comments.

Any decision to refuse sale, registration or entry into service of a vehicle which has been granted an individual approval by an approval authority from another Member State, shall also specify the remedies available under the law in force in the Member State concerned and the time limits applying to such remedies.

Certificate of conformity: according to the Members, the certificate of conformity shall be drawn up in one of the official languages of the Union. Any Member State may request the certificate of conformity to be translated into its own official language or languages.

Small-series vehicles: in order to prevent misuse, the simplified procedure for small-series vehicles should be restricted to limited numbers of vehicles. Individual approval should apply to a particular vehicle, so as to accommodate a more simplified and affordable application to unique amateur-built vehicles.

Vehicle repair and maintenance information: the Members propose to further clarify the definition of "independent operator" or "repairer" in order to ensure that the individual vehicle user and repairers will have sufficient access to repair and maintenance information at reasonable costs. Vehicles shall be supplied with all information, special equipment and accessories essential to enable them to be adjusted, maintained and used safely. Manufacturers shall make vehicle repair and maintenance information available in an itemised, user-friendly and legible way.

Timetable: the report proposes that the Regulation **be applicable as from 1st January 2014** (instead of the 1st January 2013). The amendment aims, with other amendments, to streamline the timetable for the implementation of the provisions of the Regulation. The Members consider that a one-year deferral will give manufacturers and national administrations sufficient time to adapt to the proposed provisions, including those of the delegated acts. At the same time, final deadlines with respect to the obligations to meet the requirements for safety and the environment are not compromised and remain those proposed by the Commission.

Evaluation: within two years of the entry into force of this Regulation, the Commission should assess, on the basis of the outcome of a study, the need for and, if necessary, adopt, a new proposal. That proposal should address at least the following questions: whether the 450 kg weight limitation remains relevant; whether the distinction between 3 and 4-wheelers remains relevant in view of recent developments and whether further adaptation is needed due to market development in the area of electronic vehicles.

Delegated acts and execution: several amendments are intended to adapt the text to the most recent formulation relating to delegated acts and acts of execution.

Approval and market surveillance of two- or three-wheel vehicles and quadricycles

2010/0271(COD) - 19/03/2018 - Follow-up document

The Commission presented a report on the effects of the Euro 5 environmental step for L-category vehicles (motorcycles and mopeds, all-terrain vehicles (quads) and other small three- or four-wheel motor vehicles).

Purpose of the report: as a reminder, Regulation (EU) No 168/2013 establishes the Euro 4 and Euro 5 emission limit values and the associated technical requirements and test procedures for the Euro 5 step. Annex IV to the Regulation sets out the timetable for the introduction of the different tests and other technical requirements with regard to type-approval:

- the Euro 4 emission limits were introduced for new vehicles of certain subcategories on 1 January 2016 but it was only on 1 January 2017 that these limits became mandatory for all new types of vehicles;
- regarding the **Euro 5 emission limits**, the Regulation provides that they shall become mandatory for all new types of vehicles of all sub-categories **as of 1 January 2020**.

In order to underpin this two-step approach, Regulation (EU) No 168/2013 requires the Commission to **conduct an environmental effect study** through modelling, technical feasibility and cost-effectiveness analysis based on the latest available data.

On the basis of the conclusions of this study, the Commission presented a report covering the following aspects:

- an analysis of the feasibility and cost-effectiveness of the enforcement dates of the Euro 5 level;
- an analysis of the adequacy of the Euro 5 emission limits referred to in Annex VI and OBD threshold in Annex VI of the Regulation in light of the most recent available data;
- a cost-benefit analysis of the foreseen introduction of OBD stage II at the Euro 5 level for (sub) categories L3e, L5e, L6e-A and L7e-A and;
- a review of the durability mileage for the Euro 5 level referred to in Annex VII (A) and the deterioration factors for the Euro 5 limit referred to in Annex VII (B) of this Regulation.

Main conclusions: based on its assessment of the study and targeted stakeholders consultations it conducted throughout the study's total duration, the Commission draws the following final conclusions:

- the assessment generally indicates that the existing Euro 5 emission limits, dates, requirements and test procedures, set out in Regulation (EU) No 168/2013, are both **feasible and cost-effective**;
- the introduction date for the Euro 5 step for mini cars (L6e-B), three wheel mopeds for utility purposes (L2e-U) and the enduro and trail motorcycles (L3e-AxE; L3eAxT): the adjustments to the emission control system needed cannot be introduced by 2020 in a cost-effective way for the engines currently fitted in those vehicles. An **extra lead time of two years** should allow manufacturers to move away from Euro 4 powertrains and introduce the Euro 5 step in a cost-beneficial way for these vehicle categories;
- **OBD II requirements:** there is a need to change the window of misfire detection and to extend the lead time for the introduction of catalyst monitoring to ensure accurate monitoring of the emission control systems;
- in Use Performance Ratios (IUPR) introduced at the Euro 5 step: IUPR should be implemented gradually, allowing for an introductory period to enable that type-approval authorities and manufacturers become familiar with the IUPR functionality;
- **the mathematical durability procedure** for environmental performance requirements should be **phased out**. The mathematical durability procedure does not reflect properly the actual deterioration of the environmental performance of a vehicle during its lifetime. Under the mathematical approach, new vehicles are only driven for 100 km during which they are tested, which does not reflect the ageing of the emission control device over the lifetime of the vehicle. Therefore, this method does not guarantee the environmental performance during the entire life of a vehicle;
- the **drive cycles** used for the durability requirements: a complete phasing out of the AMA cycle after 2020 is not necessary, as this is still useful for vehicles with a moderate and low speed profile, for which it provides the same accuracy as the SRCLCV. Phasing out is therefore only recommended for larger motorcycles;
- **mileage accumulation durability procedure:** there is a need to introduce a bench ageing procedure as an alternative to full and half mileage accumulation.

In accordance with the outcome of the study, the Commission will consider making **appropriate proposals for future amendments** to the type approval legislation.