

CONTENTS

Background

- Introduction
- Context
- Existing situation
- Parliament's starting position

Proposal

- Preparation of the proposal
- The changes the proposal would bring

Views

- Advisory committees
- National parliaments
- Stakeholders' views

Legislative process

References

- EP supporting analysis
- Other sources

CO₂ standards for new cars and vans

In November 2017, the European Commission adopted a proposal for a regulation on reducing CO₂ emissions from new passenger cars and light commercial vehicles (vans). The proposed measures and targets are aligned with the 2030 climate and energy framework and with the energy union strategy, which envisages a reduction in transport emissions and energy consumption.

The Commission sets new targets for the EU fleet-wide average CO₂ emissions of new passenger cars and vans. Average CO₂ emissions from new passenger cars and vans registered in the EU would have to be 15 % lower in 2025, and 30 % lower in 2030, compared to their respective limits in 2021. The proposal includes a dedicated incentive mechanism for zero- and low-emission vehicles, in order to accelerate their market uptake.

Interinstitutional trilogue negotiations started on 10 October 2018, after the Parliament and the Council adopted their respective positions.

Proposal for a regulation of the European Parliament and of the Council setting emission performance standards for new passenger cars and for new light commercial vehicles as part of the Union's integrated approach to reduce CO₂ emissions from light-duty vehicles and amending Regulation (EC) No 715/2007 (recast)

COM(2017) 676, 8.11.2017, 2017/0293(COD), Ordinary legislative procedure (COD) (Parliament and Council on equal footing – formerly 'co-decision')

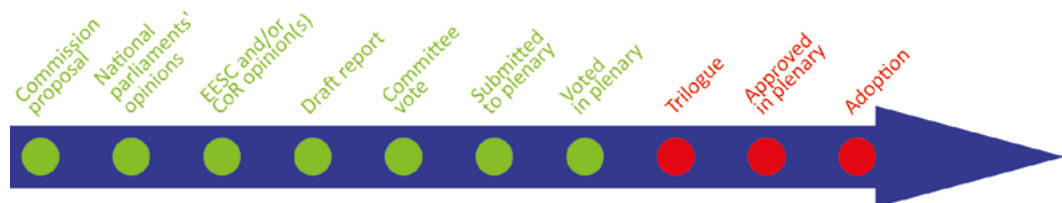
Committee responsible: Environment, Public Health and Food Safety (ENVI)

Rapporteur: Miriam Dalli (S&D, Malta)

Shadow rapporteurs: Nils Torvalds (ALDE, Finland)
Kateřina Konečná (GUE/NGL, Czech Republic)
Rebecca Harms (Greens/EFA, Germany)
Eleonora Evi (EFDD, Italy)

Next steps expected: Continuing trilogue negotiations

20 November 2018
Second edition
The 'EU Legislation in Progress' briefings are updated at key stages throughout the legislative procedure. Please note this document has been designed for on-line viewing.



[Introduction](#)[Context](#)[Existing situation](#)[Parliament's starting position](#)

Introduction

In November 2017, the European Commission adopted a legislative proposal for a regulation setting new targets for the EU fleet-wide average CO₂ emissions from new passenger cars and vans. Average CO₂ emissions from new passenger cars and vans registered in the EU would have to be 15 % lower in 2025, and 30 % lower in 2030, compared to their respective limits in 2021. The proposal also includes a dedicated incentive mechanism for zero- and low-emission vehicles, in order to accelerate their market uptake.

The legislative proposal is part of the [clean mobility package](#), consisting of legislative proposals on road transport vehicles, infrastructures and combined transport of goods, non-legislative measures presented in an alternative fuels action plan, and a communication on low-emission mobility. The package supports the [renewed EU industrial policy strategy](#) that was presented in September 2017 to help European industries remain or become world leaders in innovation, digitisation and decarbonisation.

Context

Transport is the only sector in the EU that did not record any significant decline in greenhouse gas (GHG) emissions since 1990. [GHG emissions in the EU transport sector](#) have increased since 2014. In 2016, they were 25 % above 1990 levels (including international aviation but excluding maritime shipping). Of all means of transport in the EU, road transport generates the largest share of greenhouse gas emissions (72.9 % in 2016), and is responsible for around 20 % of the EU's total GHG emissions. Road transport was responsible for 78 % of EU oil consumption in 2015. Energy consumption for road transport in 2015 was 23 % higher than in 1990. The share of diesel used in road transport has grown from 51 % in 2000 to more than 66 % in 2015.

The [average CO₂ emissions](#), based on laboratory tests, of a new car registered in the EU in 2016 was 118.1 grams per kilometre (g/km), well below the 2015 target of 130 g. A new van registered in the EU in 2016 emitted, on average, 163.7 g/km of CO₂, which is already below the 2017 target of 175 g. However, the rate of emission reductions has slowed. In 2016, average CO₂ emissions of new cars fell by only 1.5 g/km, the smallest annual decrease since 2006. Further reductions of almost 20 % for passenger cars are needed to meet the 2021 target (95 g/km). Emissions from new vans must fall by more than 11 % to meet the 2020 target (147 g/km).

For all these reasons, many EU policy instruments in the transport sector need to be coordinated to achieve the 2030 climate and energy targets and the EU contribution to the Paris Agreement. These targets, endorsed at the [October 2014 European Council](#), plan for sectors outside the EU Emission Trading System (ETS) – such as transport, buildings, agriculture, and waste – to reduce their emissions by 30 % by 2030 compared with 2005 levels. The [effort sharing regulation](#), which entered into force in July 2018, determines the share of each Member State in the post-2020 collective emission reduction effort in the non-ETS sectors.

In July 2016, the Commission adopted a [strategy for low-emission mobility](#), focusing on improving transport-system efficiency through digital technologies, smart road charging and multimodality, low-emission energy (such as electricity and advanced biofuels) for transport, and zero-emission vehicles.

[Introduction](#)[Context](#)[Existing situation](#)[Parliament's starting position](#)

A [regulation](#) on the approval and market surveillance of motor vehicles was adopted in May 2018. It introduces EU oversight in the type-approval process, and strengthens enforcement and market surveillance as well as quality of testing. In addition, the Commission adopted a legislative proposal in May 2018 regarding [CO₂ standards for heavy-duty vehicles](#).

Existing situation

CO₂ standards for passenger cars

Mandatory CO₂ standards for all new passenger cars in the EU were introduced in 2009, after a voluntary agreement concluded between the European Commission and the Association of European Automobile Manufacturers (ACEA) in 1999 failed to deliver the expected emission reductions (140 g/km average CO₂ emission for all new cars by 2008): [Regulation \(EC\) No 443/2009](#) established a CO₂ target of 130 g/km for 2015 for the fleet average of all manufacturers combined. Individual manufacturers are allowed higher or lower average CO₂ emissions, depending on the average vehicle weight of their vehicle fleet, according to a limit value curve that is adjusted in such a way that the EU targets for fleet average emissions are achieved. In contrast to pollutant emissions regulations, the regulation does not set maximum limits per vehicle: the heavier the average weight of the cars sold by a manufacturer, the higher the permitted CO₂ emissions.

The targets were strengthened by [Regulation \(EU\) No 333/2014](#), which sets a CO₂ emissions standard at 95 g/km,¹ phased in for 95 % of vehicles in 2020, with 100 % compliance in 2021. The targets for 2015 and 2021 represent reductions of 18 % and 40 % respectively compared with the 2007 fleet average of 158.7 g/km.

To encourage industry to invest in new technologies, what are known as 'super-credits' can be used, whereby vehicles with CO₂ emissions below 50 g/km count as more than one car when calculating the average specific CO₂ emissions. Manufacturers can also receive emission credits up to 7 g/km per year for eco-innovations that verifiably reduce CO₂ emissions on the road, but not in the laboratory tests.

CO₂ standards for light commercial vehicles

A similar CO₂ standard for vans ([Regulation \(EU\) No 510/2011](#)) sets a CO₂ emissions target of 175 g/km for 2017. It was reinforced by [Regulation \(EU\) No 253/2014](#) that sets the CO₂ standard to 147 g/km for 2020.

Alternative fuel vehicles (capable of running on a mixture of petrol with 85 % bioethanol) permit a reduction in the calculation of CO₂ emissions.

¹ This corresponds to a fuel consumption of around 4.1 l/100 km of petrol or 3.6 l/100 km of diesel.

[Introduction](#)[Context](#)[Existing situation](#)[Parliament's starting position](#)

Common provisions

Both regulations set out monitoring and reporting requirements that are further specified in delegated and implementing acts. Each Member State has to monitor and report relevant data² to the European Commission each year. Since 2010 the European Environment Agency (EEA) has been collecting data on cars and vans registered in all EU Member States, which are openly available on the EEA website and summarised in an annual [monitoring report](#).

Every manufacturer must ensure that the average CO₂ emissions from its fleet of newly registered vehicles in a calendar year do not exceed its specific annual emissions target. Manufacturers may form a pool for the purpose of meeting a common CO₂ target. Manufacturers that exceed their emissions target in a given year must pay a premium. From 2019 onwards, the target is set at €95/g CO₂/km per vehicle registered.³

Emission measurement standards

The [Volkswagen scandal](#) revealed weaknesses in the emission measurements of cars and light-duty vehicles. The scandal disclosed discrepancies between laboratory testing (type-approval) and on-road emissions (both nitrogen oxides (NO_x) and CO₂) from cars. The EU has long used type-approval tests for CO₂ emissions based on the new European driving cycle (NEDC) standard, now regarded as somewhat inaccurate in assessing real-world levels of emissions. Since 1 September 2017, new car models must pass more reliable [emissions tests](#) in real driving conditions ('Real Driving Emissions' – RDE) and an improved laboratory test ('World Harmonised Light Vehicle Test Procedure' – WLTP) before they can be sold in the EU. Since 1 September 2018, this requirement applies to all new cars.

The above-mentioned regulations do not apply to manufacturers responsible for less than 1 000 annual registrations. Small volume manufacturers (responsible for 1 000 to 10 000 registrations for cars, and 1 000 to 22 000 registrations for vans) can propose their own emissions reduction target (subject to approval by the European Commission based on agreed criteria). Niche manufacturers of cars (between 10 000 and 300 000 new registered vehicles) can apply for a target of a 25 % reduction from their 2007 average emissions for 2012-2019, and a 45 % reduction from the 2007 level as of 2020.

The regulations include review clauses to establish CO₂ emission targets for the post-2020 period.

Other legislation related to transport CO₂ emissions

To support the CO₂ emissions reduction policy, [Directive 1999/94/EC](#) requires that information relating to the fuel economy and CO₂ emissions of new passenger cars is made available to consumers so that they can make an informed choice when buying or renting a new car. Fuel quality is another important element for GHG emission reductions. The [Fuel Quality Directive \(amended\)](#) in 2015 aims at reducing the

2 The following details are required for each new passenger car and van registered: manufacturer name, type approval number, type, variant, version, make and commercial name, specific emissions of CO₂, mass of the vehicle, wheel base, track width, engine capacity, fuel type and fuel.

3 Between 2012 and 2018, the excess emissions premium amounts to €5 for the first g/km, €15 for the second g/km, €25 for the third g/km and €95 for each subsequent g/km.



Introduction

Context

Existing situation

Parliament's starting position

GHG intensity of fuels by 6 % by 2020, to be achieved by – among other measures – the use of biofuels, subject to certain sustainability criteria. However, the Commission does not intend to prolong the Fuel Quality Directive beyond 2020.

Parliament's starting position

The European Parliament has regularly called for ambitious measures to reduce greenhouse gas emissions in road transport. It advocated introducing the internationally agreed WLTP in the EU in its [first reading position](#), adopted in February 2014, on Regulation (EU) No 333/2014 to reduce CO₂ emissions from new passenger cars by 2020. In its [resolution of 9 September 2015](#), it called for 'a legislative proposal setting mandatory limits on average CO₂ emissions from new passenger cars and vans for the period beyond 2020, maintaining a clear long-term emissions-reduction trajectory'.

In the aftermath of the Volkswagen car emissions scandal, the Parliament called on the Commission to address these issues in its [resolution of 27 October 2015](#) on emission measurements in the automotive sector.⁴ The Parliament also decided at the end of 2015 to create a committee for investigation on emission measurements in the automotive sector ([EMIS](#)). The core of its 12-month mandate was to investigate the alleged failure of the Commission and the Member States in relation to emission measurements in the automotive sector. On 4 April 2017, the [EMIS final report](#) was discussed during the plenary session in Strasbourg and a [recommendation](#) was adopted.

4 In consequence of the EP demand and in relation to previous work, the Commission published a [proposal for a regulation on approval and market surveillance](#) of motor vehicles and their trailers on 27 January 2016.



Proposal

Preparation of the proposal

A [public consultation](#) on the revision of the regulations setting CO₂ emission standards for new cars and vans was held from 20 July to 28 October 2016. Concerning target levels, manufacturers in general support less ambitious targets for 2030 compared to environmental and consumer NGOs, which are in favour of more ambitious targets for both 2025 and 2030. As regards the distribution of effort, manufacturers support basing the manufacturer-specific target on the vehicles' average mass, whereas NGOs prefer basing it on their footprint. While the automotive industry is mostly against binding targets for zero- and low-emission vehicles, battery and electricity producers, infrastructure investors, and European cities facing air quality problems, as well as most environment and transport NGOs, favour such an approach, while consumer organisations take a neutral position.

At the request of the European Commission, the [high level group of scientific advisors](#) analysed possible ways to close the growing gap between the CO₂ emissions from passenger cars in laboratory tests and their average real-world emissions. In its [scientific opinion](#), the high level group recommends complementing the laboratory-based WLTP test with a framework for the monitoring of 'real driving' CO₂ emissions and fuel consumption. It also calls for enhanced coordination and enforcement, stronger technical oversight capacities, and transparency of the process.

The Commission's [impact assessment](#) analysed various policy options for setting CO₂ emission targets, distribution of effort amongst manufacturers, incentives for low- and zero-emission vehicles, cost-effective implementation and governance. The impact assessment finds that the preferred option results in additional reductions of CO₂ and air pollutant emissions, compared to the baseline. It would raise the cost of a new car or van by €400 to €2 700, but reduce the total cost of ownership for an average new car by €1 000 to €2 000 over a 15-year lifetime, and by €3 800 to €4 000 for an average new van, due to fuel savings. It would also boost the global competitiveness of the EU automotive industry and improve EU energy security, due to a reduced need for fossil fuels. EPRS has prepared an [initial appraisal](#) of the Commission's impact assessment.

The changes the proposal would bring

The [proposal for a regulation](#) specifies the EU fleet-wide CO₂ emission targets applicable to new passenger cars and vans for 2020, 2025 and 2030. It includes the existing NEDC-based targets for 2020 of 95 g/km for cars and 147 g/km for vans, as well as new targets for 2025 and 2030. Starting from 2021, the specific emission targets would be based on the new WLTP emissions test procedure. Therefore, the fleet-wide targets for 2025 and 2030, which are WLTP based, would be expressed as percentage reductions (15 % lower in 2025, and 30 % lower in 2030) relative to the average of the specific emission targets for 2021 determined for each manufacturer.

The proposal also includes a technology-neutral incentive mechanism for zero- and low-emission vehicles, in order to accelerate their market uptake. Zero-emission vehicles include battery electric or fuel cell vehicles. Low-emission vehicles with tailpipe CO₂ emissions of less than 50 g/km are mainly plug-in hybrid vehicles equipped with both a conventional and an electric engine. Manufacturers with a share of zero-



and low-emission vehicles higher than the proposed benchmark levels of 15 % in 2025 and 30 % in 2030 would have a less strict CO₂ target. In determining that share, the emission performance of the vehicles would be taken into account, so that a zero-emission vehicle would be counted more than a low-emission vehicle. The provision on super credits would remain unchanged and would apply until end-2022. The excess emissions premium for manufacturers that exceed their targets would be maintained.

The Commission would be empowered to clarify the conditions for pooling arrangements between independent manufacturers, in particular with regard to competition rules.

The general provisions on the monitoring of CO₂ data would remain unchanged, but with a stronger obligation on Member States to ensure high quality data and cooperate with the Commission. A mechanism would be added to deal with monitoring deviations in the CO₂ emissions of vehicles in use as compared to the type approval values, aligned with the proposal for in-service conformity checks of the CO₂ emission values in the type approval legislation. Type approval authorities would have to report any deviations found and the Commission would have to take those into account when checking manufacturers' compliance with their targets. The Commission would be empowered to specify the details for such a procedure through an implementing act.

For niche manufacturers of cars (between 10 000 and 300 000 new registered vehicles), the possibility to benefit from a derogation from the 95 g/km target would end in 2025. The possibility for small volume manufacturers to apply for a derogation from their specific emissions targets would be maintained.

Manufacturers would continue to benefit from lower average emissions by fitting their vehicles with approved eco-innovations. To take account of the eco-innovation savings that may occur as a result of the change in the regulatory test procedure, the Commission would be empowered from 2025 to adjust the 7 g CO₂/km cap set on the CO₂ savings that a manufacturer may take into account. The criteria for eligible eco-innovations would remain unchanged until 2024 inclusive. From 2025, air-conditioning equipment would become eligible as an eco-innovation.

The CO₂ reduction effort would be distributed among manufacturers on the basis of the average mass of the vehicle fleet over a certain period. The reference mass for each manufacturer would be adjusted every three years before 2025, and every two years with effect from 2025, so that changes in the average test mass and their effect on the positioning of manufacturers on the limit value curve can be taken into account earlier. The same methodology would apply to vans with a below-average mass. For vans with above-average mass, the limit value curve would be kept constant over time.

The collection, publication, and monitoring of real world fuel consumption data is envisaged,⁵ based on an obligation for manufacturers to equip new vehicles with standardised 'fuel consumption measurement devices'.

The Commission would be empowered to monitor and assess the real-world representativeness of the WLTP test procedure and to inform the public how that representativeness evolves. For that purpose, the Commission would have the power to request that Member States and manufacturers collect and report

5 This is based on the recommendations of the Scientific Advice Mechanism (SAM) and the European Parliament.



Preparation of the proposal

The changes the proposal would bring

real world data. By 2024, the Commission would have to report on the effectiveness of the regulation, accompanied by a new proposal if appropriate.

[Regulation \(EC\) No 715/2007](#) (Euro 5 and 6 emissions type approval regulation) would be amended by empowering the Commission to set up an in-service conformity procedure for verifying CO₂ emissions, considered essential for an effective market surveillance. Regulations (EC) No 443/2009 and (EU) No 510/2011 would be repealed with effect from 1 January 2020. The new regulation would enter into force following 20 days of publication in the Official Journal.



Advisory committees

National parliaments

Stakeholders' views

Views

Advisory committees

The [European Economic and Social Committee](#) (rapporteur: Dirk Bergrath, Workers – Group II, Germany) adopted an [opinion](#) on the proposal in February 2018. It welcomes the Commission proposal in principle, but considers the proposed interim target for 2025 (15 % emission reduction compared to 2021) to be very demanding, considering the advanced state of combustion engine technology; calls for industrial policy measures to accompany the structural transition towards low-carbon mobility; proposes that any fines under the existing and new regulation should be used to support the sector and its workers in this transition; and calls for the mid-term review to examine the effectiveness of the regulation with respect to climate, innovation and employment goals as well as the state of play regarding the qualification and (re) training of staff.

The Committee of the Regions has decided not to draft an opinion.

National parliaments

Twenty [parliamentary assemblies](#) in 16 Member States have scrutinised the proposal. No subsidiarity concerns were raised. The Czech Senate and Chamber of Deputies, the Portuguese Assembleia da República and the Romanian Senate opened political dialogue with the Commission; the Spanish Cortes Generales submitted an opinion.

Stakeholders' views⁶

The [European Automobile Manufacturers Association](#) (ACEA) argues that a more integrated approach to road transport emissions – focused on factors such as faster fleet renewal, intelligent transport systems, infrastructure, and driver behaviour – can reduce emissions more effectively than focusing only on emissions from new vehicles. ACEA wants emission reductions to be balanced between the ETS and non-ETS sectors,⁷ across transport modes, and in Europe compared to other regions of the world. ACEA favours a 20 % CO₂ emissions reduction target for [cars](#) and 13 % for [vans](#) by 2030, conditional on progress in the market uptake of electric vehicles.

[FuelsEurope](#) believes that the Commission proposal, although technology-neutral in principle, favours electric vehicles in practice. FuelsEurope considers that other technologies including internal combustion engines can achieve the desired emission reductions in combination with lower-carbon liquid fuels, and reproaches the Commission for ignoring the life cycle performance of cars, batteries, electricity or fuels.

⁶ This section aims to provide a flavour of the debate and is not intended to be an exhaustive account of all different views on the proposal. Additional information can be found in related publications listed under 'EP supporting analysis'.

⁷ The [EU emissions trading system](#) (ETS) covers around 45 % of the EU's greenhouse gas emissions (electricity generation, industrial installations, and flights between countries in the European Economic Area).



Advisory committees

National parliaments

Stakeholders' views

The consumer organisation, [BEUC](#), regrets that the proposal does not set a binding market share for electric vehicles (unlike similar schemes in California and China), which would help bring electric cars to market rapidly and reduce driving costs for consumers.

[Transport & Environment](#), an environmental NGO, considers that the target for zero-emission vehicles is largely ineffective, due to the lack of penalties. Their European transportation roadmap model [indicates](#) that even more ambitious targets (45 % CO₂ emissions reductions for new cars by 2030 and 40 % for vans) would deliver only half of the emission reductions required in the transport sector to meet the emission reduction target (30 % below 2005 levels by 2030) for sectors outside the EU ETS.



Legislative process

In the European Parliament, the file was referred to the ENVI committee, which appointed Miriam Dalli (S&D, Malta) as rapporteur. She presented her [draft report](#) on 16 April 2018, calling for more ambitious targets, including a 50 % emissions reduction for new cars and vans and a 50 % share of zero- and low-emission vehicles from 2030. The draft report also sought to introduce provisions on emissions and fuel consumption testing, measuring, reporting and labelling.

The ENVI committee adopted its [report](#) on 10 September 2018. It proposes to reduce the CO₂ emissions of new cars and vans by 45 % by 2030, with an intermediate 20 % reduction by 2025, and to introduce targets for the share of low- and zero-emission vehicles in new vehicle sales of 20 % in 2025 and 40 % in 2030.

The European Parliament voted on the report during the October I 2018 plenary session. The [adopted amendments](#) would set a 40 % target for reducing EU fleet-wide emissions for new cars by 2030, with an intermediate target of 20 % by 2025. Similar targets are set for new vans. Manufacturers whose average CO₂ emissions exceed these targets would pay a fine to the EU budget, to be used for qualification and reallocation of workers affected by changes in the automotive sector. Carmakers would also have to ensure that zero- and low-emission vehicles have a 35 % market share of sales of new cars and vans by 2030, and 20 % by 2025. Parliament calls on the Commission to table, within two years, plans for a real-world CO₂ emissions test to be introduced by 2023, using portable equipment, like that recently introduced for NO_x. Until then, CO₂ emissions would be calculated based on data from the cars' fuel consumption meters. By the end of 2019, the Commission would have to propose legislation to provide consumers with accurate and comparable information on the fuel consumption, CO₂ and pollutant emissions of new cars. As of 2025, carmakers would have to report the lifecycle CO₂ emissions of new cars put on the market, using a common methodology. In 2023, the Commission would have to review the effectiveness of the regulation. The adopted text calls on the EU, Member States and regions to promote skills development and reallocation of workers in the automotive sector, in order to achieve a socially acceptable and just transition towards zero-emission mobility, particularly in regions and communities most affected by the required changes throughout the value chain. It also calls for support for developing infrastructure, including recharging and refuelling infrastructure, and European battery manufacturing.

The Council adopted its [general approach](#) on 9 October 2018. Under the Council position, average CO₂ emissions of new passenger cars registered in the EU would have to be 35 % lower in 2030 than the emission limits valid in 2021. The intermediate target for 2025 would be 15 %, as in the Commission proposal. For vans, the Council maintains the targets as proposed by the European Commission: 15 % in 2025 and 30 % in 2030. The target for the market share of zero- and low-emission passenger cars in 2030 would be raised to 35 %. Newly registered zero or low-emission passenger cars would be weighted more favourably in Member States where the share of such vehicles is below 60 % of the EU average, in order to incentivise sales in these markets. Car manufacturers would be obliged to report measured, instead of declared, values concerning the emissions of cars and vans, in order to ensure more robust and more representative data. The calculation of targets would thus be based on measured WLTP values. The derogation for niche manufacturers making up to 300 000 cars would be extended beyond 2025. In 2023, the Commission would have to review the effectiveness of the regulation, including the functioning of the incentive mechanism for zero- and low-emission vehicles.

Trilogue negotiations started on 10 October 2018.



References

EP supporting analysis

[Post 2020 CO₂ emission targets for cars and vans: the right level of ambition?](#), European Parliament, Policy Department for Economic, Scientific and Quality of Life Policies, April 2018

Bourguignon D., [Motor vehicles: new approval and market surveillance rules](#), EPRS, European Parliament, June 2017.

Kramer E., [Review of CO₂ emission standards for new cars and vans](#), Initial appraisal of a European Commission impact assessment, EPRS, European Parliament, January 2018.

Pape M., [Towards low-emission EU mobility](#), EPRS, European Parliament, March 2017.

Thirion E., [Emission performance standards for new passenger cars and light commercial vehicles: implementation appraisal](#), EPRS, European Parliament, April 2017.

Other sources

[Emission performance standards for new passenger cars and for new light commercial vehicles \(recast\)](#), Legislative Observatory (OEL), European Parliament.

[Closing the gap between light-duty vehicle real-world CO₂ emissions and laboratory testing](#), High Level Group of Scientific Advisors, European Commission, November 2016.

[Monitoring progress of Europe's transport sector towards its environment, health and climate objectives](#), European Environment Agency, December 2017.

[Monitoring CO₂ emissions from new passenger cars and vans in 2016](#), European Environment Agency, January 2018.

[Improving understanding of technology and costs for CO₂ reductions from cars and LCVs in the period to 2030 and development of cost curves](#), Ricardo Energy & Environment, Report for Directorate General Climate Action, European Commission, February 2016.

[Assessment of the modalities for LDV CO₂ regulations beyond 2020](#), CE Delft, Report for Directorate General Climate Action, European Commission, January 2017.

[Characterisation of real-world CO₂ variability and implications for future policy instruments](#), Joint Research Centre, European Commission, 2017.

Disclaimer and Copyright

This document is prepared for, and addressed to, the Members and staff of the European Parliament as background material to assist them in their parliamentary work. The content of the document is the sole responsibility of its author(s) and any opinions expressed herein should not be taken to represent an official position of the Parliament.

Reproduction and translation for non-commercial purposes are authorised, provided the source is acknowledged and the European Parliament is given prior notice and sent a copy.

© European Union, 2018.

eprs@ep.europa.eu | [EPRS](#) (intranet) | [Thinktank](#) (internet) | [Blog](#)