

September 2017

Monitoring and reporting of CO₂ emissions and fuel consumption of new heavy-duty vehicles

Impact assessment (SWD (2017) 188 final, SWD (2017) 189 final (executive summary)) of a Commission proposal for a regulation of the European Parliament and of the Council on the monitoring and reporting of CO₂ emissions from and fuel consumption of new heavy-duty vehicles (COM (2017) 279 final)

Background

This note seeks to provide an initial analysis of the strengths and weaknesses of the European Commission's [impact assessment](#) (IA) accompanying the above [proposal](#), adopted on 31 May 2017 and referred to Parliament's Committee on Environment, Public Health and Food Safety (ENVI). The proposal aims at monitoring and reporting CO₂ emissions and fuel consumption of heavy-duty vehicles (HDVs) registered for the first time in the EU in 2019, subject to the upcoming Commission regulation on certification of CO₂ emissions and fuel consumption for new HDVs proposed by the Commission¹ (IA, pp. 12-13). Once the certification regulation enters into force, in 2019, HDV manufacturers would be required to carry out a simulation of CO₂ emissions and fuel consumption using a software developed by the Commission, the 'Vehicle Energy Consumption calculation Tool' (VECTO).² The proposal is among the first batch of eight proposals of the ['Europe on the Move'](#) initiative for clean, competitive and connected mobility adopted on 31 May 2017. According to the explanatory memorandum (p. 4), and the accompanying IA (pp. 5-6), the proposal:

- implements the Commission strategy for reducing heavy-duty vehicles' fuel consumption and CO₂ emissions set out in its communication [COM\(2014\) 285 final](#), by seeking to ensure that CO₂ emissions and fuel consumption from new HDVs placed on the EU market are certified, monitored and reported;
- implements the Commission strategy for low-emission mobility³ set out in its communication [COM\(2016\) 501 final](#), aimed at reducing (for the transport sector) both greenhouse gas (GHG) emissions, by at least 60 % by 2050 (compared to 1990 levels), and the emission of air pollutants;
- is consistent with the ['Energy Union'](#) package adopted by the Commission on 25 February 2015 which foresees, inter alia, actions on further decarbonising road transport, as illustrated in communication [COM\(2015\) 81 final](#);⁴
- is consistent with the Commission proposal [COM\(2016\) 761 final](#) to revise [Directive 2012/27/EU](#) on energy efficiency, setting a binding headline target at EU level of improving energy efficiency by 30 % by 2030 compared to the baseline scenario;⁵
- is consistent with the [2030 climate and energy policy framework for the EU](#) agreed by the European Council in its [conclusions](#) of 23 October 2014, endorsing a *binding*, economy-wide EU target (covering *all* sectors and *all*

¹ Annex 5 of the IA provides an overview of the draft certification methodology proposed by the Commission (pp. 57-61).

² For an overview of this tool, see Annex 4 of the IA (pp. 53-56); see also: TUG, TÜV-Nord Mobilität, Heinz Steven and TNO (2014), Development and validation of a methodology for monitoring and certification of greenhouse gas emissions from heavy duty vehicles through vehicle simulation, [Final report](#) prepared for DG CLIMA; N-G. Zacharof, G. Fontaras, [Report](#) on VECTO technology simulation capabilities and future outlook, Joint Research Centre Technical Reports, European Union, 2016.

³ See M. Pape, [Towards low-emission EU mobility](#), EPRS, 2017.

⁴ [COM\(2015\) 81 final/2](#) is a corrigendum version concerning the English, French and German language versions only.

⁵ See V. Kononenko, [Energy Efficiency](#), initial appraisal of a Commission IA, EPRS, 2017; see also N. Šajn, [Revised Energy Efficiency Directive](#), EU Legislation in progress, EPRS, 2017.

sources of emissions) of reducing domestic⁶ GHG emissions⁷ by at least 40 % by 2030 compared to 1990 levels (Council Conclusions, p. 2).⁸

The European Parliament has regularly called for ambitious measures aimed at reducing GHG emissions in road transport. In a [resolution](#)⁹ on the implementation of the 2011 white paper on transport, the Parliament called for 'a legislative proposal setting mandatory limits on average CO₂ emissions from newly registered heavy-duty vehicles'. It also called for further measures and best practices to stimulate market uptake of the most efficient HDV and promote fuel efficiency. In another [resolution](#)¹⁰ on road transport in the EU, the Parliament called on the Commission to 'come up with ambitious proposals for CO₂ standards for trucks and buses in order to reduce GHG emissions from the road sector' and to consider the opportunities for introducing incentives for retrofitting to accelerate the shift towards low-emission transport.

Problem definition

The IA identifies three problems (pp. 7-9):

1. barriers to the setting of policies to address the GHG emissions challenges for the HDV sector;
2. missed opportunities to design policies to reduce the fuel bill for transport operators;
3. increasing competitiveness challenges for vehicle manufacturers.

Problem 1: barriers to the setting of policies to address the GHG emissions challenges for the HDV sector.

The transport sector contributes to the national GHG emissions reduction targets under the Effort Sharing [Decision No 406/2009/EC](#) (ESD), establishing binding annual GHG emission targets for Member States for the period 2013–2020, and regarding emissions from most sectors not included in the EU Emissions Trading System (EU ETS), such as transport, buildings, agriculture and waste.¹¹ However, transport is the only sector in the EU that did not record any significant decline in GHG emissions since 1990. Binding EU emissions targets for new passenger cars and new light commercial vehicles have been in place since [2009](#) and [2011](#) respectively. However, neither CO₂ emissions from HDV nor their fuel efficiency are currently regulated at the EU level.¹² In addition, CO₂ emissions from HDVs are predicted to increase by up to an estimated 10 % between 2010 and 2030 (IA, p. 8).¹³ According to the proposed Effort Sharing Regulation,¹⁴ emissions for transport would have to be between 18 and 19 % lower, by 2030, compared to 2005 levels, in order to contribute to meeting the EU target of reducing GHG emissions by 2030 by at least 40 % compared to 1990 levels (IA, p. 5). Without further action, the lack of data on fuel consumption and CO₂ emissions from HDVs will continue to hamper action at national or EU level to reduce HDV CO₂ emissions or to provide incentives for the uptake of fuel-efficient HDVs.

Problem 2: missed opportunities to design policies to reduce the fuel bill for transport operators.

According to the IA, freight transport operators can experience fuel costs greater than a quarter of their operational costs. However, most of them, which are to a large extent SMEs, do not have access to standardised information to evaluate fuel efficiency technologies among HDVs. This is not the case for cars and light duty vehicles, where current EU legislation ensures that consumers have access to information on their fuel consumption and CO₂ emission levels. In addition, the IA states that a study¹⁵ has concluded that the lack of

⁶ 'Domestic' means real internal reduction of EU emissions, not offsetting through the carbon market ([COM\(2011\) 112 final](#), p. 4).

⁷ These emissions regard all GHG not controlled by the [Montreal protocol](#) on substances that deplete the ozone layer.

⁸ See COM(2011) 112 final (p. 15).

⁹ European Parliament resolution of 9 September 2015 on 'the implementation of the 2011 White Paper on Transport: taking stock and the way forward towards sustainable mobility', (2015/2005(INI)).

¹⁰ European Parliament resolution of 18 May 2017 on road transport in the European Union, (2017/2545(RSP)).

¹¹ As a follow-up to the European Council conclusions of 23 October 2014, the Commission has proposed to include emissions from land use, land use change and forestry (LULUCF) and international shipping in the 2030 climate and energy framework: see G. Erbach, [Land use in the EU 2020 climate and energy framework](#), EU Legislation in progress, EPRS, 2017. For an initial appraisal of the IA accompanying the Commission proposal see V. Kononenko, [Inclusion of greenhouse gas emissions and removals from land use, land use change, and forestry \(LULUCF\) into the 2030 climate and energy framework](#), EPRS, 2016.

¹² Only pollutant emissions (i.e. gaseous + particulate pollutants) from these vehicles are in fact, so far, regulated under the so-called Euro VI [Regulation \(EC\) No 595/2009](#).

¹³ European Commission, [EU Reference Scenario 2016: Energy, transport and GHG emissions - Trends to 2050](#), Luxembourg, Publications Office of the European Union, 2016.

¹⁴ See G. Erbach, [Effort sharing regulation, 2021-2030: Limiting Member States' carbon emissions](#), EU Legislation in progress, EPRS, 2017; see also K. Eisele, [Effort sharing: greenhouse gas emission reductions by Member States \(2021-2030\)](#), initial appraisal of a Commission IA, EPRS, 2016.

¹⁵ [Market barriers to increased efficiency in the European on-road freight Sector](#), CE Delft, Delft, 2012.

information and comparability among vehicles regarding their CO₂ emissions and fuel consumption was one of the main market barriers to the uptake of fuel saving innovation. Without further action, transport operators will continue to be prevented from making the most efficient purchasing decisions and, therefore, reducing their fuel costs. In addition, these cumulative missed fuel savings will hinder the reduction of the EU's dependency on fossil fuel imports (IA, p. 7).

Problem 3: increasing competitiveness challenges for vehicle manufacturers.

According to the IA, EU HDV manufacturers face increasing competitive pressures, especially from those countries that have already implemented measures in the form of fuel consumption and/or emission standards. EU action would further encourage EU HDV manufacturers to improve vehicle efficiency and invest in innovation,¹⁶ thereby reducing the risks of losing the leading role they currently play in achieving vehicle fuel efficiency. In addition, transparency on fuel and CO₂ emission performance of HDVs would stimulate competition inside the EU market (IA, p. 7). The IA states that 'the main driver for the identified knowledge gap is a market failure, i.e. the absence of monitoring and reporting of objective, standardised and comparable CO₂ emissions from HDVs' (p. 9). This is in line with the Commission's better regulation guidelines, [SWD\(2017\) 350 final](#), which indicate that policy proposals should be built on a clear problem definition and an identification of the underlying factors and behaviours (or 'drivers'). However, the IA could perhaps have been clearer by saying that the problems identified share a common driver, which is, in fact, an *information* failure (one of possible different types of market failures), i.e. the lack of standardised and comparable CO₂ emissions and fuel consumption from HDVs. In addition, the IA states that the information available to potential buyers of new HDVs concerning their fuel consumption is based on different testing and simulation methodologies, which are therefore not directly comparable. However, no further details or references are provided regarding the different testing and simulation methodologies used by HDV manufacturers (IA, pp. 9-10). The IA states that in the absence of EU action, national authorities may adopt different monitoring and reporting approaches leading to a fragmented and inconsistent collection of such data across the EU. This would lead to high administrative burden for HDV manufacturers, which the IA does not quantify. However, according to the results of the public consultation, it seems that in case of no EU action, national authorities would rather decide not to act at all (IA, p. 14).

Objectives of the legislative proposal

According to the IA (p. 17), the proposal presents:

- three *general* objectives: facilitate a reduction in fuel costs for transport operators; contribute to the improvement of the competitiveness of HDV manufacturers; contribute to the achievement of the EU's climate and energy target and objectives;
- four *specific* objectives: enable informed purchasing decisions and deployment of more fuel efficient vehicles; foster innovation and development of fuel efficiency technologies; promote cost-effective reductions of CO₂ emissions and reduce overall fuel consumption from HDVs; enable the development of rational policies promoting the uptake of advanced fuel efficient and low emission HDVs;
- one *operational* objective: monitor and report in a cost-efficient manner CO₂ emissions and fuel saved over time per vehicle group, manufacturer and Member State; the uptake levels of more fuel efficient vehicles and rate of annual efficiency improvement in each vehicle group; technology development and penetration levels in the fleet.

The general and specific objectives appear to be clear and consistent with the manner in which the problem has been defined, as well as with other EU policies. As regards the specific objectives, two seem to be partially overlapping, as both mention the deployment of more fuel-efficient vehicles and the development of fuel-efficient technologies. In addition, the IA does not clarify what is meant by the development of *rational* policies. As regards the operational objective, the IA includes it in the section describing the general and specific ones (p. 17). This does not seem to be in line with the Commission's [better regulation toolbox](#) which indicates that operational objectives are option-specific and should be set only after having identified the preferred option (tool no 16, p. 100). On the whole, these objectives seem to be specific, measurable, achievable, relevant, and time-bound (S.M.A.R.T), according to the recommendations set out under tool no 16 (pp. 100-101). In fact, even though the

¹⁶ On this topic see, for instance: Ricardo Energy & Environment (2017), Heavy duty vehicles technology potential and cost study, [Final Report](#) prepared for the International Council on Clean Transportation (ICCT), and Ricardo-AEA (2015).

IA does not mention specific dates, monitoring and reporting of CO₂ emissions and fuel consumption of HDVs is expected to start in 2019, once the certification regulation enters into force.

Range of options considered

The IA takes into account two steps which have already been decided by the Commission, and therefore it does not assess them further in the IA, namely (IA, p. 6):

- the simulation tool developed to calculate new HDV CO₂ emissions and fuel consumption (VECTO);
- the (upcoming) regulation on certification of CO₂ emissions and fuel consumption.

Therefore, the initial options listed below relate only to the monitoring and reporting of CO₂ emissions from all new HDVs placed on the EU market, which will be subject to the certification procedure (IA, p. 18), namely:

OPTION	DESCRIPTION OF CONSIDERED OPTIONS	DECISION
-	Baseline: no further EU action	Retained
-	<i>Voluntary cooperation</i>	<i>Discarded</i>
-	<i>Collection of real-world fuel consumption data</i>	<i>Discarded</i>
-	<i>VECTO as an open tool</i>	<i>Discarded</i>
-	<i>Coverage of Well-to-Wheel emissions¹⁷</i>	<i>Discarded</i>
1	Reporting by National Authorities	Retained
2	Reporting by manufactures	Retained
3	Mixed reporting by National Authorities and manufacturers	Preferred

(Source: author's reworking of IA text)

The explanations for the discarded options are provided under section 4.4 of the IA (pp. 25-26); all of them seem clear except one, regarding the collection of real-world fuel consumption. The rationale for considering this as an initial option is not obvious, given that CO₂ emissions and fuel consumption are calculated by using a *simulation* software (IA, Annex 4, pp. 53-56). As regards the retained options (IA, pp. 21-25), they seem consistent not only with the manner in which the problem has been defined, but also with the results of the stakeholder consultation. A comparison of the retained options with respect to the criteria of effectiveness and efficiency is also provided, and the IA describes clearly how they fed into the overall policy considerations (pp. 36-37). In addition, Table 5 provides a summary overview of how the retained options compare with respect to the aforementioned criteria as well as to stakeholders' views, subsidiarity, and coherence with other mainstream EU policies (IA, p. 39). According to the outcome of the stakeholder consultation, option 3 has been considered as the preferred one by the highest number of respondents, amounting to 42 % (IA, p. 46). Under this option, designated national authorities would annually report to the Commission, via the European Environment Agency (EEA) vehicle identification numbers (VINs)¹⁸ for new vehicles registered in the previous year. HDV manufacturers would submit to the Commission, via the EEA, the corresponding monitoring data; monitoring data at EU level would be obtained by combining the two datasets (IA, p. 24).

Scope of the impact assessment

The IA provides an assessment of the economic (pp. 27-28), social (p. 32) and environmental impacts of the retained options, the latter being analysed separately for CO₂ and other emissions (pp. 32-33). The IA clarifies that a precise quantification of the impacts of monitoring and reporting over time on HDV CO₂ emissions in the EU could not be carried out due to the lack of reliable methodology. Nevertheless, a 1 % increase in fuel efficiency in the EU fleet, resulting from more informed purchasing decisions, has been estimated to translate into a reduction of about 2.1 Mt CO₂ emissions a year (IA, p. 32, and box 1, p. 28). In addition, the IA states that, though not quantified, positive impacts are expected on employment due to the stimulation of competitiveness and innovation for manufacturers and transport operators (IA, p. 32). The impacts on competitiveness and innovation (pp. 33-34), on third countries and on EU international trade (p. 34), and on SMEs (p. 35) are also briefly illustrated. The administrative burden for the main stakeholders concerned is analysed in depth (pp. 28-32); additional explanations regarding the methodology used is provided by the CE Delft (2016) study included in Annex 10 of the

¹⁷ These are defined as the sum of Tank-to-Wheel (or tailpipe) emissions, i.e. emissions that occur throughout the drive cycle of vehicles, and Well-to-Tank emissions, i.e. upstream emissions attached to the fuel production and transport (IA, p. 4).

¹⁸ Annex 6 of the IA provides an explanation about VINs (p. 62).

IA (p. 78). According to the IA, the monitoring costs per vehicle are estimated to be between €1 and €5, depending on the retained option; this is considered to be a negligible cost compared to the purchase price and maintenance and insurance cost per vehicle (IA, pp. 37-38). The explanatory memorandum of the proposal states that it has no consequences for the protection of fundamental rights (p. 7).

Subsidiarity / proportionality

The IA indicates that the legal basis of this proposal is Article 192 of the Treaty on the Functioning of the European Union (TFEU), the same used for previous EU actions in the area of vehicle emissions (p. 15). As regards subsidiarity, the IA states that climate change is a trans-boundary problem and is, at the same time, a competence shared between the EU and Member States; coordination of climate action at European level is therefore necessary and EU action is justified on grounds of subsidiarity. EU action is also justified in view of the need to safeguard single markets in fuel, vehicles and transport services (IA, p. 15). The deadline for the submission of reasoned opinions by national parliaments on whether the proposal complies with the principle of subsidiarity was 4 September 2017. No reasoned opinions had been submitted by national parliaments by that date. The IA contains a brief section on the proportionality check, stating that, in view of the scale of HDV CO₂ emissions (representing about 5 % of EU CO₂ emissions and 20 % of transport emissions) and their trend, it appears proportionate to collect and report HDV CO₂ emissions and fuel consumption data for new vehicles (IA, p. 17).

Budgetary or public finance implications

The explanatory memorandum of the proposal states that the budgetary impact resulting from the implementation of the proposed regulation is very limited (p. 7). In particular, it would require a minor re-programming of the financial resources allocated to the EEA for the years 2019 and 2020, in order to cover the (two) additional human resources needed in case of adoption of the proposed regulation (explanatory memorandum, legislative financial statement, pp. 10-13). As regards the impact on public finances, monitoring costs have been thoroughly assessed in the study carried out by CE Delft (2016), and are comprehensively summarised in the IA (pp. 28-32). For the preferred option 3, no one-off (transition) costs are envisaged for Member States, while total annual costs are estimated to be, on average, about €100 000 per year, i.e. about €3 500 per Member State (IA, p. 31).

SME test / Competitiveness

The IA provides two short sections dealing with the impact on SMEs (IA, p. 27 and p. 35), and on competitiveness (IA, p. 33). According to the statistics provided in Annex 7 (IA, pp. 63-72), HDV manufacturers responsible for monitoring and reporting are all very large companies, whereas SMEs are mainly companies manufacturing bodies and trailers, made up of thousands of enterprises mostly operating in local markets. However, this sector will not be involved in monitoring and reporting since, in the first stage of implementation, trailers and bodies will be included in the VECTO simulation using default values (IA, p. 35). Nevertheless, the IA does not explain what will happen to trailer and body manufacturers after this first stage. A different impact will concern transport companies, most of which are SMEs operating a few HDVs, whose fuel costs have been estimated to represent between about 14 % and 36 % of their operating costs, depending on the studies quoted. According to the IA, these SMEs would benefit from the monitoring of CO₂ emissions as this would provide more transparency on the fuel consumption of HDVs, something of relevance when purchasing a new HDV (p. 35). As regards competitiveness, the IA concludes that, within the EU market, positive impacts are expected in the medium to long-term period for the automotive manufacturing industry, for transport operators, and for other sectors of the economy (IA, p. 33); however, no evidence is provided to support such a conclusion. In addition, even though it does seem reasonable to assume, as the IA suggests, that 'improved performance of transport operators are expected to be at least partly passed through to their customers through lower prices' and that in other sectors of the economy 'lower transport costs may (marginally) lead to lower prices of intermediate goods, and thereby to increases in competitiveness of many other segments of the economy', these statements are not substantiated by any supporting evidence or study (IA, p. 33). Consequently, the analysis provided in the IA regarding the impact on competitiveness could, perhaps, have been further developed or, at least, supported by evidence. The impact

on competitiveness with respect to non-EU countries is not dealt with, even though some information can be found under the section dealing with the impacts on third countries and on EU international trade (IA, p. 34).

Simplification and other regulatory implications

The IA states that the proposed regulation would facilitate the development of a methodology for differentiating infrastructure use charges for new HDVs, based on their CO₂ emissions, supporting the implementation of the review of [Directive 1999/62/EC](#) ('Eurovignette')¹⁹ on the charging of heavy goods vehicles for the use of certain roads²⁰ (IA, p. 6). At the same time, it would represent the enforcement tool for the future first-ever EU CO₂ emission standards for HDV vehicles, which the Commission is planning to implement in the coming months (see Commission [press release of 31 May 2017](#)).

Quality of data, research and analysis

The analysis carried out in the IA is not entirely new, as it relies also on the impact assessment [SWD\(2014\) 160 final](#) accompanying the Commission communication on a strategy for reducing heavy-duty vehicles' fuel consumption and CO₂ emissions (explanatory memorandum, p. 6). The assessment of the policy options is based on a study carried out by CE Delft (2016),²¹ included in Annex 10 of the IA (p. 78) which, in turn, builds on the work carried out by TNO et al. (2015),²² providing a cost-benefit analysis of options for certification, validation, monitoring and reporting of HDV fuel consumption and CO₂ emissions (IA, Annex 10, p. 45). As regards the quality of data, recent data regarding the HDV sector and GHG emissions is used and referenced throughout the IA, which also includes a dedicated annex on HDV sector statistics (Annex 7, pp. 63-71). However, the CE Delft (2016) study included in the IA contains a table (IA, Annex 10, Table 17, p. 52) whose data presents some inconsistencies compared to that included in the [corresponding source table](#) provided by the European Automobile Manufacturers' Association (ACEA). Comparing the number of HDV registrations in 2011 in Member States reported in Table 17 with the source table seems to reveal two issues:

- A **methodological issue**: Table 17 refers to HDV (registrations), defined at the beginning of the IA as lorries, buses and coaches weighing more than 3.5 tons. However, the figures listed in Table 17 correspond only to those that in the ACEA table can be found in the worksheet which refers to *commercial vehicles* over 3.5 tons (*excluding buses and coaches*, as clarified in the index to the table). In other words, the data provided in table 17 of the IA does not include buses and coaches, even though it is stated that it refers to HDV registrations.
- A **quantitative issue**: the ACEA table does not include data regarding Bulgaria, Croatia, Cyprus and Malta, whereas Table 17 reports a total of 6 750 vehicles for these four countries. Considering the previous issue, resulting in the exclusion of 33 700 vehicles, it would therefore seem relevant to clarify the source of this discrepancy given that the data reported in it has been used for estimating the costs of monitoring for those Member States that were not interviewed.

As regards the VECTO simulation software, the IA mentions the key reasons to opt for simulation rather than other testing procedures, without mentioning any limitations (IA, pp. 11-12). As the Commission has already decided to use VECTO to calculate new HDV CO₂ emissions and fuel consumption, this briefing limits itself only to recalling that the VECTO software is considered by some to have some limitations.²³ As regards the methodology used to analyse the monitoring options, it should be pointed out that the IA states that the supporting study carried out by CE Delft (2016) is largely based on interviews regarding, mainly, national registration authorities and original

¹⁹ G. Malmersjo, [The Eurovignette and the framework to promote a European electronic toll service \(EETS\)](#), implementation appraisal, EPRS, 2017.

²⁰ See A. Debyser, [Revision of Directive 1999/62/EC on charging of heavy-goods vehicles for use of certain infrastructures \(Eurovignette Directive\)](#), Legislative train schedule, European Parliament, and E. Kramer, Revision of the 'Eurovignette' directive, initial appraisal of a Commission IA, EPRS, 2017, [PE 603.273](#)

²¹ [Monitoring heavy-duty vehicles CO₂ emissions and their costs](#), CE Delft, Delft, March 2016. Of note, the hyperlink points to the version available on the DG CLIMA website, amending the typographic errors contained in the version included in the IA (see IA, Annex 10, pp. 37-38, p. 45, and pp. 49-54).

²² TNO et al. (2015), Cost-benefit analysis of options for certification, validation, monitoring and reporting of HDV fuel consumption and CO₂ emissions, [Final report](#) prepared for DG CLIMA.

²³ Some of these were, however, acknowledged by a Commission representative speaking at a [joint workshop](#) on the future role of trucks for energy and the environment organised in Brussels on 8 November 2016 by the Joint Research Centre of the European Commission and the International Energy Agency (IEA): see the [workshop summary](#).

equipment manufacturers (OEMs). However, only 17 Member States were interviewed (as well as 5 OEMs), and some interviewees could not answer all questions (IA, Annex 10, pp. 12-13). It would therefore seem useful to clarify if, and to what extent, the combination of the limitation in Member States representativeness, and the quantitative issue highlighted above, could have modified the estimation of the cost of the monitoring options.

Stakeholder consultation

The Commission consulted a broad range of stakeholders and gathered their views through a public online, 12 week consultation running from 20 July until 28 October 2016, the results of which are described extensively in Annex 2 of the IA (pp. 43-51); Annex 3 describes how the stakeholders identified are affected (p. 52).

121 replies were received from a broad spectrum of stakeholders (IA, Table 1, p. 44), which are available on the DG CLIMA website ([anonymous replies](#) and [public replies](#)), together with the [questionnaire submitted](#) and the [consultation report](#). The IA states that a number of coordinated responses were received, though they are not quantified or disaggregated by stakeholder category (IA, p. 44). Among the comments received on proposed options, it is worth mentioning those stressing the need to supplement the emission data reported by manufacturers with on-road/actual operations, and the need to implement mechanisms to ensure real-world compliance in order to avoid differences between VECTO and real driving emissions (IA, p. 46). A growing discrepancy has, in fact, emerged between the outcome of the emission test in the type-approval process and the actual emissions that occur in real-world driving,²⁴ at least for *new passenger cars*; however, the issue of this discrepancy seems not to have been further dealt with in the IA. Also of note, while 87 % of stakeholders fully disagreed or tended to disagree with the statement that HDV monitoring should be focused only on petrol and diesel fuels, the IA does not seem to investigate this aspect further (IA, p. 49).

Monitoring and evaluation

The IA states that HDV CO₂ emissions are currently not subject to any specific EU legislation and therefore no evaluation has been carried out previously (IA, p. 15). The IA proposes four indicators to monitor and evaluate the impacts of the proposed initiative, which should be calculated every year by the EEA for new HDVs registered in the EU within the scope of the forthcoming certification regulation, namely:

1. average annual CO₂ emissions and fuel consumption per vehicle group, manufacturer and Member State;
2. comparison of average annual CO₂ emissions and fuel consumption of the same group of vehicles across different years;
3. annual overview of fuel efficiency technologies fitted in the new vehicles and their penetration level;
4. exports and imports of HDVs.

These indicators are, as a whole, broadly consistent with the operational objective described under the objectives section of this briefing. However, the third one is not an indicator, and the penetration level aspect could have been better qualified in order to make it operational. In addition, it could have been made consistent with the scope of the operational objective that referred to 'the uptake levels of more fuel efficient vehicles and rate of annual efficiency improvements in each vehicle group' (IA, p. 17). As regards the fourth indicator, it is worth highlighting that it was not mentioned as one of the dimensions to be monitored and reported under the operational objective. However, it is unclear whether the monitoring and reporting will concern only vehicles above 7.5 tonnes (IA, p. 18). This would, in fact, be inconsistent with what is stated regarding the scope of monitoring and reporting, namely that 'the options considered relate to the monitoring and reporting of CO₂ emissions from all new HDVs placed on the EU market' (IA, pp. 18-19), HDVs being defined from the outset as vehicles of *more than 3.5 tonnes* (IA, p. 4).

Commission Regulatory Scrutiny Board

The Regulatory Scrutiny Board (RSB) adopted a [positive opinion](#) on a draft version of the IA report of 24 February 2017, recommending further improvement with respect to the following key aspects:

²⁴ New vehicles can emit up to 40 % more CO₂ under real driving conditions than official measurements would indicate; see European Environmental Agency, [Explaining road transport emissions. A non-technical guide](#), EEA, Copenhagen, 2016 (pp. 27-37).

- clarifying the context and scope of the report;
- better assessing the potential risks involved, as regards data sensitivity and the potential market-disruptive risks relating to the monitoring and data collecting system;
- better explaining the differences in estimated digitalisation costs between policy options and how they relate to Member States with different types of registration systems.

Annex 1 of the IA describes how the final version of the report has addressed the RSB's recommendations (p. 41). However, the aspect regarding data sensitivity and the potential market-disruptive risks relating to the monitoring and data collecting system seems still not sufficiently illustrated and the arguments used lack any supporting evidence of similar experiences in other countries. In addition, for those cases where public disclosure of the data would evidently seriously undermine commercial interests, it is not clear whether the solution mentioned in the IA, i.e. the publication of ranges of values instead of the specific values or the parameter (IA, p. 21), has emerged from the public consultation or, more likely, has been suggested by the Commission alone.

Coherence between the Commission's legislative proposal and the IA

The legislative proposal appears to be aligned with the recommendations set out in the IA (expl. mem., pp. 13-16), even though the articles contained in the proposed regulation include details that are not mentioned there. As regards the data to be monitored and reported by Member States and by manufacturers of HDVs, as detailed in Annex I of the Commission proposal (pp. 1-5), it is not possible to assess whether they are aligned with the content of the IA as this contains only a generic table illustrating the main elements of the data to be monitored and reported (IA, table 1, p. 19). The reason for including vehicles of categories O3 and O4 (i.e. trailers) in the scope of Article 2 of the Commission proposal, is also unclear, as this possibility was not discussed in the IA.

Conclusions

The IA clearly defines the problems and the objectives of the proposed initiative, and relies on comprehensive and up to date sources of information. Overall, the objectives appear to be relevant, measurable, and achievable; however, some discrepancy seems to exist between the definition of the operational objective and the indicators suggested for monitoring and evaluating the impacts of the proposed initiative. In addition, two of the suggested indicators could have been better qualified, in order to make them operational. The IA lacks any precise quantification of the impacts of monitoring and reporting over time on HDV CO₂ emissions in the EU, although this weakness is acknowledged and attributed to the lack of reliable methodology. The analysis of the impact on the competitiveness of SMEs appears to be, in general, insufficiently developed or explained. The Commission consulted a broad range of stakeholders, whose views are described and analysed extensively; however, at least two issues considered relevant by the large majority of stakeholders, were not taken up and dealt with in the IA. The IA appears to have addressed most of the RSB recommendations; however, the aspect regarding data sensitivity and the potential market-disruptive risks relating to the monitoring and data collecting system seems still to be insufficiently illustrated and the arguments used lack any supporting evidence. Finally, the IA seems to make a reasonable case for the preferred option, which is reflected in the legislative proposal; however it is unclear why vehicles of categories O3 and O4 (i.e. trailers), included in the scope of Article 2, are not covered by the IA.

This note, prepared by the Ex-Ante Impact Assessment Unit for the European Parliament's Committee on Environment, Public Health and Food Safety (ENVI), analyses whether the principal criteria laid down in the Commission's own better regulation guidelines, as well as additional factors identified by the Parliament in its Impact Assessment Handbook, appear to be met by the IA. It does not attempt to deal with the substance of the proposal. It is drafted for informational and background purposes to assist the relevant parliamentary committee(s) and Members more widely in their work.

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