

INCEPTION IMPACT ASSESSMENT			
TITLE OF THE INITIATIVE	Monitoring Heavy Duty Vehicles' (HDV) fuel consumption and CO <sub>2</sub> emissions with a view to improving purchaser information		
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<p style="text-align: center;"><b>This Inception Impact Assessment is provided for information purposes only and can be subject to change. It does not prejudice the final decision of the Commission on whether this initiative will be pursued or on its final content and structure.</b></p>			

A. Context, Subsidiarity Check and Objectives
<p><b>Context</b></p> <p>The July 2016 Strategy for low-emission mobility<sup>1</sup> put the emphasis on low-emission mobility as an essential component of the broader shift to low-carbon, circular economy needed for Europe to stay competitive and be able to cater to the mobility needs of people and goods. Transport, as a whole, should reduce its CO<sub>2</sub> emissions by at least 60% by 2050 compared to its 1990 level and be firmly on the path towards zero CO<sub>2</sub> emissions. While heavy duty vehicles have been subject to similar air pollution standards as cars and vans, and are now required to meet them under real driving conditions, the EU has neither fuel efficiency standards for them, nor a carbon dioxide monitoring scheme as in the case of cars and vans.</p> <p>The 2030 Climate and energy framework agreed by EU Heads of State in October 2014 requires a 30% reduction in greenhouse gas (GHG) emissions in sectors outside of the EU Emissions Trading System (ETS) by 2030 compared to 2005. The October 2014 European Council conclusions notably cite the need to promote emissions reductions and energy efficiency in transport, an objective that is fully in line with the call for a resilient Energy Union and forward-looking climate change policy. Road transport represents about 19% of total EU emissions, and heavy duty vehicles (i.e. trucks and buses)<sup>2</sup> about 5% of this total.</p> <p>The February 2015 Energy Union Communication<sup>3</sup>, announced a number of actions in the transport field, including "establishing a monitoring and reporting system for heavy duty vehicles (trucks and buses) with a view to improving purchaser information" and called specifically for "measures to increase fuel efficiency and reduce CO<sub>2</sub> emissions for heavy duty vehicles and buses". July 2016 Strategy furthermore announced that the "EU will also need to introduce measures to actively curb carbon dioxide emissions from lorries, buses and coaches".</p> <p>The May 2014 Strategy Communication<sup>4</sup> on reducing Heavy Duty Vehicle (HDV) fuel consumption and CO<sub>2</sub> emissions did put the emphasis on closing the knowledge gap regarding HDV CO<sub>2</sub> emissions with a view to improving market transparency.</p> <p>The Commission intends to put forward, in a first step, legislative proposals to:</p> <p>(i) certify under type approval legislation (at vehicle registration) HDV CO<sub>2</sub> emissions and fuel efficiency performance<sup>5</sup>; and,</p> <p>(ii) monitor and report HDV fuel consumption and CO<sub>2</sub> emissions data to the European Commission for new vehicles<sup>6</sup>.</p>

<sup>1</sup> 'A European strategy for low-emission mobility', COM(2016) 501 final

<sup>2</sup> For the purposes of the present consultation the term "Heavy-Duty Vehicles" shall potentially cover :

- all goods (trucks) vehicles of categories N2 (maximum mass from 3.5 tonnes to 12 tonnes) and N3 (maximum mass exceeding 12 tonnes);
- and all passenger vehicles of categories M2 (having more than 8 seats and a maximum mass below 5 tonnes) and M3 (having more than 8 seats and a maximum mass exceeding 5 tonnes).

<sup>3</sup> COM(2015)final

<sup>4</sup> COM(2014)485

<sup>5</sup> The Commission has developed a simulation methodology "VECTO" to calculate whole vehicle CO<sub>2</sub> emissions and fuel consumption data. This will be deployed under the type approval legislation

<sup>6</sup> In the present impact assessment "new vehicles" will either mean newly registered vehicles (see options 1 and 3) or newly sold vehicles (see option 2) in the EU, on an annual basis.

The Commission's intention is to propose in 2016 ad-hoc legislation for HDV CO<sub>2</sub> certification under Regulation 595/2009<sup>7</sup> within the current type-approval framework. To prepare the detailed methodology and legislative text for this an "Editing board" has been established in 2015 with Member States and Stakeholders, and is expected to continue throughout 2016.

Once HDV fuel consumption and CO<sub>2</sub> certification is accordingly introduced under type-approval legislation, CO<sub>2</sub> and fuel consumption certified data shall be available for new vehicles: these data are those that need to be collected, processed and reported to monitor values and trends in the EU and would establish a reliable basis for setting possible future emission standards. Such monitoring requires a legislative basis which is the subject matter of the present initiative.

Other parts of the world, such as the United States, China, Japan and Canada, have already introduced standards, and some European manufacturers participate in these schemes. The Commission will speed up analytical work on design options for carbon dioxide emission standards for such vehicles and will launch a dedicated public consultation to prepare the ground for a proposal during this mandate.

This is a new policy, HDV CO<sub>2</sub> emissions are currently not subject to EU legislation and consequently no evaluation has been undertaken.

Transport will need to contribute to the 2030 targets and, in particular, to the 30% reduction effort set for the non-ETS sectors. No sector-specific targets are set, but the reduction effort for the non-ETS sectors (transport, buildings, agriculture, small industry and waste) will be distributed between Member States through the revision of the Effort Sharing Decision. There are two different levels contributing to this reduction effort: the contribution secured by the EU legislation and policies and actions that Member States can take to reduce their own transport emissions. HDV transport will need to take an active part in these emission reduction efforts.

#### Issue

The EU has an overall target of an 80% domestic reduction in EU greenhouse gas emissions compared to 1990 levels by 2050. For the 2030 climate and energy framework the overall domestic emissions reduction effort has been divided in a cost-effective manner between an EU ETS-sector reduction of 43% and a non-ETS sector reduction of 30%.

No sector-specific target has been set but transport, including HDVs, will need to contribute significantly to the achievement of the non-ETS emissions reduction target in the context of the Effort Sharing Decision (together with buildings, agriculture, small industry and waste). No individual measure will achieve the decarbonisation of the transport sector on its own. In addition, both measures at EU-level and at Member States level will be needed.

This initiative will introduce measures that represent a first milestone and will lead HDVs – CO<sub>2</sub> emissions of which have not been regulated so far in the EU - to contribute to the EU's long term climate goals and the 30% reduction target set for non-ETS emissions for 2030. It is also a first step for policy options including the possible setting of mandatory CO<sub>2</sub> emission limits for new HDVs.

- HDV CO<sub>2</sub> emissions represent about 5% of total EU emissions (compared to a share of emissions from cars and vans of 13% in total EU emissions). While HDV represent only 5% of the vehicles on the road in the EU, they represent about 25% of road transport emissions and 20% of all transport emissions<sup>8</sup>. Contrary to car and van emissions, HDV CO<sub>2</sub> emissions are currently neither monitored nor subject to standards. HDV emissions have risen until the 2008 crisis in line with increased freight volumes<sup>9</sup> in the EU. As road freight decreased by more than 10% in the five subsequent years, HDV CO<sub>2</sub> emissions followed a similar trend. Without action HDV CO<sub>2</sub> emissions are expected to remain in 2050 close to their current level<sup>10</sup>, i.e. some 20% above their 1990 level. Furthermore, as HDV emissions are not measured the market lacks transparency as regards the fuel efficiency and CO<sub>2</sub> emissions of different HDVs.
- Major stakeholder groups affected include freight transport operators as well as logistics companies (i.e. the buyers and users of HDVs) due to fuel representing a large share of vehicle operating costs. These companies – including many SMEs – would be expected to benefit from fuel savings. HDV manufacturers, automotive component suppliers and fuel suppliers are also impacted as this initiative will increase transparency as regards the energy efficiency of the vehicles. The general population as consumers of transport services or goods that include an intermediate transport cost that may be reduced due to improved fuel efficiency is also indirectly affected, as well as Member States, notably in their capacity of tax raising

<sup>7</sup> OJ L188 of 17/8/2009, <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009R0595&from=EN>.

<sup>8</sup> Source: AEA-Ricardo (2011), Reduction and testing of Emissions from Heavy-Duty Vehicles, Lot1- Strategy. Report for the Commission, [http://ec.europa.eu/clima/policies/transport/vehicles/docs/ec\\_hdv\\_ghg\\_strategy\\_en.pdf](http://ec.europa.eu/clima/policies/transport/vehicles/docs/ec_hdv_ghg_strategy_en.pdf). Estimates quoted in the latter report shall be revisited in the present Impact Assessment.

<sup>9</sup> Source: Eurostat data on EU road freight (table 2.2.2, EU Transport in Figures, Statistical pocketbook 2014).

<sup>10</sup> Source: European Commission, Primes-Tremove 2011 model projections.

authorities as transport fuels are highly taxed goods.

- In the absence of EU-wide monitoring/reporting legislation, national authorities may adopt varied monitoring and reporting approaches. As the production of HDVs, as well as freight transport, are EU-wide markets the lack of an EU-wide framework could lead to fragmented or incomparable monitoring/reporting. This would not provide a solid basis for further EU-wide action, such as for instance the adoption of future CO<sub>2</sub> emission standards.

### Subsidiarity check

Climate change is a competence shared between the EU and Member States that has largely been exercised by the Union and hence has become exclusive pursuant to Article 2(2) TFEU. Therefore coordination at EU level is necessary and action is justified as provided for in Article 191 of the TFEU.

It is unlikely that the objective of reducing HDV greenhouse gas emissions in line with the EU's long term objectives could be achieved sufficiently or cost-optimally by Member States acting alone. There are three main elements that are relevant to this finding:

- There is a single market for road fuel.
- There is a single market for road vehicles (although national vehicle taxation schemes may represent substantial barriers).
- The ability to provide transport services throughout the EU is in principle assured (although some restrictions on market access for road transport remain).

EU action is necessary in view both of the cross-border impact of climate change and the need to safeguard single markets in fuel, vehicles and transport services.

- The absence of action at the European level, to monitor and report HDV fuel consumption and CO<sub>2</sub> emissions, could result in a series of national monitoring schemes to report CO<sub>2</sub> emissions of HDVs in a non-comparable manner, triggering some degree of EU market fragmentation and loss of market transparency and potentially higher costs. It would be inconsistent with the adoption of certification legislation of HDV fuel consumption and CO<sub>2</sub> emissions foreseen to be enacted at EU level shortly, once the measurement and certification methodology, based on the VECTO simulation tool, is finalised.

### Main policy objectives

The main objective is to curb CO<sub>2</sub> emissions from HDVs. Certifying HDV CO<sub>2</sub> emissions under type-approval legislation and monitoring/reporting them at EU level is the first step foreseen in the 2014 Strategy that will address the current knowledge gap regarding HDV fuel consumption and CO<sub>2</sub> emissions. This is because, at present, such information is neither calculated for new vehicles, nor reported, implying that neither individual vehicle, nor total HDV fleet emissions can currently be accurately estimated. On the basis of the certified data market transparency would be increased regarding new vehicles, facilitating the uptake of the most energy efficient HDVs and thereby contributing to reducing fuel consumption and CO<sub>2</sub> emissions. This would improve EU road transport competitiveness as fuel represents a significant share of its operating costs, and ultimately benefit consumers. The increased push for fuel-efficient technology should also contribute to the competitiveness of the European HDV industry.

In the absence of proper EU-wide monitoring/reporting, some of the benefits of HDV CO<sub>2</sub> emissions' certification cannot be attained as information on fuel consumption and CO<sub>2</sub> emissions is not reported, although it is expected to be already available for new vehicles at the stage of vehicle production.

## B. Option Mapping

### Baseline scenario – no EU policy change

- Currently, EU HDV CO<sub>2</sub> emissions and fuel consumption monitoring is absent at either EU or Member State level, implying that neither individual, nor total HDV fleet CO<sub>2</sub> emissions can currently be accurately estimated. (Indicative emissions levels of the whole HDV sector are thus only estimates that are subject to revisions).
- On the other hand, while this does not appear to be the case so far, this situation may –in case of inaction at EU level- trigger various monitoring and reporting schemes or other measures at Member State level.

<p><b>Options of improving implementation and enforcement of existing legislation or doing less/simplifying existing legislation</b></p>
<ul style="list-style-type: none"> <li>• N/A.</li> </ul>
<p><b>Alternative policy approaches</b></p>
<p>Three basic options will be considered in the Impact Assessment on how possibly to monitor CO<sub>2</sub> emissions from new HDVs. They all require a fully-fledged new legislative basis, under the ordinary (co-decision) legislative approval procedure :</p> <ul style="list-style-type: none"> <li>• <u>Option 1</u> is expected to mirror the monitoring already carried out for light-duty vehicles' CO<sub>2</sub> emissions, with manufacturers reporting to national authorities and national reporting authorities to the Commission (or an EU designated agency such as the European Environment Agency (EEA)), with the Commission publishing annual average values per vehicle type/manufacturer. Under this first option the data to be monitored would be registration-based data, a priori designating national registration authorities as the main potential national authorities in charge of submitting national data to the EU. Sub-options may be developed under this first option.</li> <li>• <u>Option 2</u> would alternatively put HDV manufacturers in charge of the monitoring, with reporting to the Commission (or an EU designated agency such as the EEA) and with the Commission publishing annual average values. In such a case the data to be monitored could be annual sales-based data in the possession of vehicle manufacturers.</li> <li>• <u>Option 3</u> is an intermediate option between 1 and 2: designated national authorities – most of which are expected to be the national registration authorities - would annually report to the Commission (or an EU designated agency such as the EEA) individual HDV vehicle identification numbers ("VINs") of new registered vehicles. Based on the latter VIN numbers, vehicle manufacturers will have formatted data files with relevant monitoring parameters upon production of the vehicles. Upon notification of the relevant registration VIN numbers by the Commission or EEA, vehicle manufacturers will submit relevant monitoring information from their data files that shall have been completed upon production. As in the two previous options the Commission would publish annual average values per vehicle type/manufacturer.</li> </ul> <p>Under all three options:</p> <ul style="list-style-type: none"> <li>- manufacturers' monitoring data will have to be fully consistent with type approval information;</li> <li>- data monitoring files – with the exception of manufacturer confidential information - might be made available upon demand by the European Commission (or an EU designated agency such as the EEA) to external parties (as in the case of vans pursuant to Regulation 510/2011).</li> </ul> <p>A number of possible features of monitoring options, including possibly sub-options, are still to be assessed in an ongoing study to support the impact assessment.</p> <p>This initiative to monitor and report HDV fuel consumption and CO<sub>2</sub> emissions is being prepared in tandem with the adaptation of type-approval legislation to certify new vehicles' fuel consumption and CO<sub>2</sub> emissions. As both are closely linked, there are no other identified policy approaches to close the knowledge gap on HDV CO<sub>2</sub> emissions and thereby improve market transparency: data to be monitored are those that would ensue from HDV certification as defined in the type-approval process, once it comes into force.</p>
<p><b>Alternative policy instruments</b></p>
<ul style="list-style-type: none"> <li>• Voluntary co-operation among national authorities and/or vehicle manufacturers could provide a monitoring of fuel consumption and CO<sub>2</sub> emissions of new vehicles in the EU.</li> <li>• However: <ul style="list-style-type: none"> <li>- Harmonised checks and controls of these data would not be easy and the quality of the reporting may be affected.</li> <li>- Cooperation cannot further be taken for granted. In the absence of full cooperation of all players EU-wide monitoring/reporting would not be possible.</li> <li>- The absence of such voluntary monitoring so far points to the difficulty of such approaches.</li> </ul> </li> </ul>
<p><b>Alternative/differentiated scope</b></p>

- HDV manufacturers from which the monitoring reporting is required are all very large international companies, namely mainly: Daimler, Volvo Trucks (which is also the owner of Renault Trucks), MAN and Scania which are part of the VW group, Iveco (Fiat Group) and DAF (Paccar Group)<sup>11</sup>.
- SMEs may benefit from a likely impact of this initiative which is the placing of more energy efficient vehicles on the EU market: most transport operators are actually very small SMEs.

### Options that take account of new technological developments

The three above foreseen monitoring options will all make use of the fully digitalised VECTO software simulation tool that will calculate fuel consumption and CO<sub>2</sub> emissions of each new HDV in the EU. VECTO software output files can be used for registration and monitoring in an efficient fully digitalised way. However, full digitalisation of monitoring – without any breaches in the digitalised monitoring process - may not be feasible under option 1 as the majority of national registration authorities still process paper files to register HDVs. Full digitalisation of monitoring – and efficiency gains associated with this - appears feasible under options 2 and 3. This has a potential important bearing on costs that shall be assessed with the support of ongoing external analysis.

### Preliminary proportionality check

- HDVs cause about 5% of EU CO<sub>2</sub> emissions and their share is expected to grow further if no action is taken. In view of their scale, measures to monitor HDV CO<sub>2</sub> emissions and fuel consumption for new vehicles, and thereby improve market transparency, appear necessary to meet the EU's climate and energy goals. At this preliminary stage action is therefore considered to be proportionate; proportionality will be further examined in the current impact assessment.

## C. Data Collection and Better Regulation Instruments

### Data collection

- In preparation of the 2014 Strategy, as well as for the anticipated monitoring and reporting legislation, a number of analyses were completed:
- Reducing Greenhouse Gas Emissions from Heavy-Duty Vehicles (2008)
- Reduction and testing of Greenhouse emissions from Heavy-Duty Vehicles. Lot1: Strategy (2011)
- Reduction and testing of Greenhouse emissions from Heavy-Duty Vehicles. Lot 2: development and testing of a certification procedure for fuel consumption and CO<sub>2</sub> emissions of HDV (2011)
- European Union greenhouse gas reduction potential for heavy-duty vehicle (2011)
- HDV CO<sub>2</sub> abatement cost curves (2012)
- Development and validation of a methodology for certification and monitoring of greenhouse gas emissions from heavy-duty vehicles through vehicle simulation (2014)
- Cost benefit analysis of options for certification, validation, monitoring and reporting of heavy-duty vehicle fuel consumption and CO<sub>2</sub> emissions (2015)

All reports are available on the Commission's relevant web page.<sup>12</sup>

- Further information and data will be available from current work being completed for the Commission on the main features of monitoring and reporting options and their costs. These findings will feed into the impact assessment.
- In parallel the development and testing of the VECTO simulation tool will continue. Numerous reports on this simulation methodology have been published on the Commission's website.

### Consultation approach

- A three-stage consultation of stakeholders is expected:
- (i) the report of the main features of monitoring and reporting options and their costs findings will be discussed with manufacturers and Member States, including vehicle Registration Authorities, as well as the European Environment Agency;

<sup>11</sup> Source: for more details, see above mentioned AEA-Ricardo 2011 report.

<sup>12</sup> [http://ec.europa.eu/clima/policies/transport/vehicles/heavy/studies\\_en.htm](http://ec.europa.eu/clima/policies/transport/vehicles/heavy/studies_en.htm)

- (ii) a public (internet) consultation will collect stakeholders' views on the monitoring and reporting and first views on the standards on the basis of a published questionnaire;
- (iii) a further stakeholder meeting is foreseen to discuss main findings of the analysis.

Following the Commission Communication on low-emission mobility, a further more detailed consultation is expected in due time to discuss the details of options for standards.

All main categories of involved stakeholders will be invited to the meetings: industry representatives from HDV and component manufacturers, representatives from transport operators and the shippers/logistics' sector, NGOs, Member States (including authorities such as type approval authorities and registration authorities) and the EEA.

Bilateral meeting will also be held with interested parties.

#### **Will an Implementation plan be established?**

While it is expected that the future legislation will be in the form of a Regulation, the involvement of Member State authorities as well as industrial users will be sought through the stakeholder process to facilitate the timely and effective application of the eventual legislation.

As the monitoring process is expected to follow the same straightforward patterns in all Member States, the future legislation shall provide sufficient guidance through its provisions, thereby limiting margins of appreciation. Hence, an implementation plan is not deemed necessary.

### **D. Information on the Impact Assessment Process**

- The impact assessment process started end 2015.
- An inter-service steering group was set up for the development of the 2014 Strategy in 2011. It was re-activated in November 2015 with new nominees from a number of DGs. The steering group will meet as often as necessary, and will be consulted on all important documents.
- The following DGs designated representatives: Secretariat General, Legal Service, Energy, Environment, Growth, Transport and Mobility, Joint Research Centre, Employment, Competition, Research and Development, Economy and Finance, Justice, Taxation and Customs Union, Communication Networks Content and Technology.

### **E. Preliminary Assessment of Expected Impacts**

#### **Likely economic impacts**

Economic impacts related to the EU monitoring and reporting of HDV CO<sub>2</sub> emissions are not expected to be sizeable. However, as indicated in the impact assessment that underpinned the HDV Strategy "*A more transparent HDV market would contribute to an improved level playing field among HDV manufacturers and transport operators.*" This should foster competition to produce more energy efficient vehicles and innovation in the EU market (see entry below under heading on competition and innovation). The effects of more energy efficient freight and passenger road transport are expected to pass-through and spread to most sectors of the EU economy: lower fuel operating costs of transport will under the current competitive environment of transport trigger lower transport prices, and thereby reduce other sectors' costs for intermediate and consumer goods, eventually benefitting EU consumers. However, transport costs are generally a small share of overall product costs : the elasticity of output prices to increases in road transport prices have been assessed in the context of past legislation and vary significantly<sup>13</sup> across sectors.

The three options are not expected to have different economic impacts.

In the absence of methodology to assess such (marginal) quantitative impacts, this impact assessment will not be able to elaborate on this in quantitative terms. The only economic impacts expected to be quantified in the present impact assessment will be those related to the administrative burden (see below) for the key players involved in monitoring and reporting HDV CO<sub>2</sub> emissions. The ongoing external analysis is expected to provide input for the assessment of the latter impacts.

#### **Likely social impacts**

No expected appreciable impact from either option.

The possible impact on employment could be the limited number of jobs related to the monitoring and reporting

<sup>13</sup> See COM(96)339 final, Proposal of a Council Directive on the charging of heavy goods vehicles for the use of certain infrastructures, see in particular Annex 2 p 34, available under <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:51996PC0331&from=EN>

function in national authorities (options 1 and 3), vehicle manufacturers (option 2 and 3) and under all three options in the agency in charge of the EU monitoring (presumably the EEA) and the Commission. The latter impacts will be assessed in the ongoing study.

**Likely environmental impacts**

i) CO<sub>2</sub> emissions

As indicated in the impact assessment that underpinned the 2014 HDV strategy, the effectiveness of certification, monitoring and reporting of HDV CO<sub>2</sub> emissions in curbing HDV fuel consumption and CO<sub>2</sub> emissions "is expected to be real even though limited: this action would establish a reliable track record of whole HDV emissions, independent from each manufacturer's measurement, providing reliability and transparency to the market as to real vehicle performances. This would be expected to increase awareness among fleet operators on the most cost effective vehicles to operate, and influence decision making in purchasing new HDVs. While a precise quantification of this action's effect over time (this would apply only to new vehicles and only progressively affect the whole HDV fleet) on HDV fuel consumption and emissions in the EU is not possible (there is no reliable methodology for such an assessment), its impact is however not expected to be considerable in curbing HDV CO<sub>2</sub> emissions in view of the Transport White Paper's objectives. Emissions may only be reduced by a maximum of a few percentage points."

The current impact assessment will address only part of the above effects as the strategy impact assessment did not dissociate certification from monitoring and reporting: a large part of such effects lie with certification that will lead to increased awareness of individual HDV emissions. Monitoring and reporting such emissions will provide statistical evidence of this at an aggregated level (e.g. by category of vehicle, manufacturer, country) and thereby also contribute to increased transparency.

ii) Other emissions

Another limited impact may lie with other emissions of pollutants (exhaust gases, particulate matter). If increased vehicle efficiency and hence reduced fuel consumption leads to reduced emissions from other exhaust gases, this impact may be favourable. One should however not anticipate any straightforward impact on pollutant emissions: as indicated in the above mentioned impact assessment attached to the HDV strategy: "only negligible environmental impacts (related to other exhaust gases and PMs already regulated under Euro VI) can be expected. While the relationship between total non-CO<sub>2</sub> pollutant emissions and energy consumption may not be linear since pollutant emissions per kwh may vary, it seems reasonable to assume that pollutant emissions will slightly decrease. Quantitative estimates cannot be provided at this stage."

The current impact assessment will consider whether this analysis still holds. The three options are not expected to have any differentiated environmental impacts.

**Likely impacts on simplification and/or administrative burden**

No simplification can be expected as HDV CO<sub>2</sub> emissions are not currently monitored or reported.

An administrative burden is possible (on the top of the administrative burden attached to the certification of HDV CO<sub>2</sub> emissions under type approval legislation) for vehicle manufacturers in the second option on "self monitoring" under which manufacturers would be expected to report to a central monitoring agency (presumably the EEA), and likewise, in the third option under which the central monitoring agency would retrieve monitoring data from manufacturers, based on Vehicle Identification Numbers (VINs) of newly registered vehicles provided by national registration authorities.

The ongoing external analysis is expected to provide input for the assessment of such impacts, including their costs.

**Likely impacts on SMEs**

- Manufacturing industry. No expected impact on SMEs as HDV manufacturers on which part of the burden falls, particularly in the second option on "self-monitoring" and third option, are all very large international companies.
- Transport operators. Conversely, transport companies, most of which are small SMEs operating only a few trucks or buses, would benefit from the monitoring of emissions as this would provide more transparency on the most energy efficient HDVs, and they could take this into consideration in their purchase decisions, thereby realising fuel savings and reducing their operating costs.

Options are not expected to have differentiated impacts in this respect.

**Likely impacts on competitiveness and innovation**

Within the EU market differentiated sectoral impacts are expected.

- i./ Automotive manufacturing industry. As anticipated in the 2014 Strategy impact assessment, no material impacts are expected, even though, to some extent, comparability between manufacturers' vehicles energy efficiency may foster innovation and the industry's competitiveness on the EU internal market. Innovation would be fostered both at the level of component and vehicle manufacturers.
- ii./ Transport operators. The combined cost of vehicle purchase and operation would be expected to be reduced by improved comparability of the HDVs' energy performance, leading to improved performance of transport operators expected to be passed through to their customers through lower prices, as this is a very competitive industry.
- iii./ 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. In relative terms on the EU market this would only affect the competitiveness of companies operating in the same market if they have very different shares of transport costs in their product costs.

Only marginal impacts though are expected, under all three options, in this respect.

In the absence of methodology to assess such (marginal) impacts, it is not expected that this impact assessment will be able to elaborate on this in quantitative terms.

#### **Likely impacts on public administrations**

Under option 1 national public administrations would have to monitor and report HDV CO<sub>2</sub> emission data to the EU entity in charge of this. This may imply an additional burden in terms of IT data management systems and staff for the relevant national administrations. Option 3 would significantly reduce this burden on national administrations as they would only need to report registered vehicle identification numbers ("VIN") to the EU entity in charge. Option 2 would not trigger any additional burden on national administrations.

Under all three options: the EU agency in charge of the monitoring (assumed to be the EEA) and the Commission would need to devote additional resources to HDV CO<sub>2</sub> monitoring / reporting (IT systems, staff), on the top of resources already devoted to monitoring/reporting cars and vans CO<sub>2</sub> emissions.

The ongoing external analysis is expected to provide input for the assessment of such impacts, including their costs.

#### **Likely impacts on third countries, international trade or investment**

There is not likely to be any direct impact on third countries. Switzerland has in the past largely replicated EU car and light commercial vehicle Regulations and might continue to do so in the future. It is possible that other countries might take inspiration from the EU approach in this field.

Impacts on EU international trade and investment are expected to be marginal and differentiated among sectors of the economy:

- i./ Automotive manufacturing industry. As indicated in the competitiveness assessment (annex 10) of the 2013 impact assessment underpinning the 2014 HDV Strategy Communication, the EU HDV industry is highly competitive, has a positive trade surplus and specialisation index in HDV production and trade. If, as assumed above (under likely impacts on competitiveness and innovation), some slight improvements in innovation uptakes and the industry's competitiveness are possible, this could (marginally) benefit the EU HDV industry's international competitiveness and its global market penetration both through trade or Foreign Direct Investment (FDI) and overseas' production.
- ii./ Transport operators. While benefitting from improved competitiveness in the EU market, the industry of transport services would not be expected to significantly improve its international position (outside the EU) as differences in labour costs would not be affected, while more energy efficient vehicles would also be expected to be available to competitors in neighbouring countries (possibly exported or produced by HDV manufacturers based in the EU).
- iii./ Other sectors of the economy. The above mentioned competitiveness assessment took the view that the implementation of legislative measures to reduce HDV fuel consumption and CO<sub>2</sub> emissions may change the costs of intermediate products and hence also the costs of final products through changes in transport costs. For products offered on a global market, the change in transport costs due to measures aimed at reducing HDV CO<sub>2</sub> emissions may also affect the global competitive position of European companies. For both situations, however, transport costs are generally a small share of overall product costs. Direct or indirect impacts on competitiveness in the EU market through changes in the cost price of intermediate and final products are therefore assumed negligible.

Options are not expected to differ with respect to these impacts.

In the absence of any methodology to assess such international (marginal) impacts, it is not expected that this impact assessment will be able to elaborate on this in quantitative terms.