REDUCTION OF CO₂ EMISSIONS FROM HEAVY DUTY VEHICLES



cepPolicyBrief No. 2014-40

KEY ISSUES

Objective of the Communication: The Commission wants to reduce the CO₂ emissions from heavy duty vehicles (HDV).

Affected parties: Users and manufacturers of HDVs.



Pro: The collection and submission of VECTO data for all HDVs enables, for the first time, a comparison between the individual vehicle models of the HDV-manufacturers, the respective technologies for fuel consumption and the different vehicle bodies.

Contra: (1) The claim that price increases can be set off against savings in fuel consumption is untenable: no-one knows the exact level of additional cost to all vehicle manufacturers resulting from CO₂ limits.

(2) The fact, criticised by the Commission, that the nature of the EU ETS results in CO_2 reduction in those areas where it can be most cost effectively achieved, is not in fact an argument for but an argument against CO_2 limits: it is precisely for this reason that the EU ETS should be extended to include road transport.

CONTENT

Title

Communication COM(2014) 285 of 21 May 2014: A Strategy for Reducing CO₂ Emissions and the Fuel Consumption of Heavy Duty Vehicles

Accompanying Documents from the Commission services: SWD(2014) 159 and SWD(2014) 160

Brief Summary

In the absence of any indication to the contrary, page numbers relate to the Communication COM(2014) 285.

► Context and objectives

- Road transport is responsible for approx. 23% of all CO₂ emissions in the EU [(SWD)2014 160, p. 2].
- Heavy Duty Vehicles (HDV) are [SWD(2014) 160, p. 6]
 - passenger transport vehicles with more than 8 seats and a total weight of over 5 tonnes (buses) and
 - vehicles used for freight transport with a total weight of more than 3.5 tonnes (trucks).
- The CO₂ emissions from HDVs in the EU
 - make up 25% of total CO₂ emissions from road transport,
 - rose by 36% between 1990 and 2010 and
 - are still likely to be approx. 35% above the 1990 level in 2050.
- The EU has undertaken to reduce its greenhouse gas emissions by 20% by 2020 as compared with 1990 levels (Directive 2003/87/EC, Art. 1 and 28).
- Companies in sectors subject to the EU Emission Trading Scheme (EU ETS) can only emit greenhouse gases if they own emission rights ("certificates") (Directive 2003/87/EC, Art. 12 (2a) and (3)). This applies in particular with regard to energy producers, metal, paper and chemical companies as well as aviation.
- There are currently no rules on the reduction of CO_2 emissions by HDVs.
- The Commission also wants HDVs to contribute to achieving EU climate objectives. The aim is to reduce the CO_2 emissions from HDVs "in a cost-efficient and proportionate way" (p. 2).

▶ Market barriers to technologies for reducing fuel consumption

- Fuel consumption is the most important cost factor for users of HDVs (p. 3).
- Fuel-saving technologies − e.g. improvements in aerodynamics, tyres and engines − can reduce CO₂ emissions from HDVs by approx. 35%.
- Fuel-saving technologies are not used in new HDVs because
 - they are not offered as standard,
 - only a few purchasers of HDVs have the necessary data to be able to evaluate technologies or compare vehicles.
 - leasing companies, in particular, have no interest because not they but their lessees will benefit from the fuel savings.



► Measuring fuel consumption and CO₂ emissions

- In the EU there is no standard measuring procedure for CO_2 emissions from HDVs.
- Measures for reducing CO2 emissions from HDVs can only be undertaken once the emissions have been measured and monitored.
- Since 2009, the Commission, in cooperation with industry, has been developing a simulation tool to measure fuel consumption and the entire CO₂ emissions of HDVs (Vehicle Energy Consumption Calculation Tool, "VECTO"). It covers all emissions caused by the motor and transmission, aerodynamics and rolling resistance.
- The data collected by VECTO on fuel consumption and CO_2 emissions in relation to newly registered HDVs ("VECTO data") will be "provided, reported and monitored" (p. 8). For this, the Commission will, by the end of 2015,
 - amend the Directive on the type approval of vehicles (2007/46/EC)
 - to stipulate the methodology for determining fuel consumption and CO₂ emissions and
 - to oblige the Member States to certify the fuel consumption and CO₂ emissions of new HDVs,
 - oblige the Member States, by way of a new legislative act, to inform the Commission about the VECTO data.

▶ Measures for direct CO₂ reduction

- The certification and reporting of VECTO data alone will not "significantly curb CO₂ emissions" (p. 8).
 Medium-term measures are therefore also needed.
- The Commission is considering two options:
 - mandatory limits on average CO₂ emissions for newly registered HDVs (p. 8) and/or
 - the inclusion of all road transport CO₂ emissions in the EU ETS [SWD(2014) 160, p. 23 et seq.].
- The introduction of mandatory CO₂ limits for HDVs
 - is the "most apparent option" because it ensures "consistency" with legislation on car emissions [Regulation (EC) No. 443/2006; see cepPolicyBrief] and van emissions [Regulation (EC) No. 510/2011; see cepPolicyBrief] (p. 8),
 - is efficient because higher prices for HDVs can be offset against savings in fuel consumption [SWD(2014) 160, p. 33 and SWD(2014) 159, p. 6] and
 - is more likely to reduce CO₂ emissions of HDVs than the inclusion in the EU ETS because the EU ETS tends to result in CO₂ reductions in those areas where they can be most cost effectively achieved; these may be sectors other than the HDV sector [SWD(2014) 160, p. 29].
- Neither option is "necessarily mutually exclusive" (p. 8).

► Measures for indirect CO₂ reduction

- The Directive on road user charges (1999/62/EC) will be "reviewed" to make it easier to charge road users (p. 7)
 - for infrastructure costs based on the user-pays principle and
 - for costs incurred by the general population as a result of climate change ("external costs") based on the polluter-pays principle.
- The Commission wants to prepare an initiative for improved transparency and information on the CO₂ impact of freight and passenger transport.
- A review of cabotage restrictions will help to make road transport more efficient by increasing loading factors of vehicles.
 - Cabotage refers to commercial haulage operations carried out in a Member State by hauliers from another Member State.
 - It is only permitted in the EU as an exception [Regulation (EC) No. 1072/2009, Art. 8 et seq.; see cepPolicyBrief].

Statement on Subsidiarity by the Commission

Since climate change is a cross-border issue and there is a need to avoid any obstacles to vehicles within the internal market, measures are necessary at EU level. National regulations may cause "market fragmentation" and the loss of economies of scale. [SWD(2014) 159, p. 4]

Policy Context

The Commission announced that it would propose a strategy for fuel consumption and CO₂ emissions from HDVs in its Communication on a strategy for "Green Vehicles" [COM(2010) 186; see cepPolicyBrief]. The Commission called for a 60% reduction in CO₂ emissions in the transport sector by 2050 as compared with 1990, both in its Communication on a low carbon economy by 2050 [COM(2011) 112; see cepPolicyBrief] and in the Transport White Paper [COM(2011) 144; see cepPolicyBrief]. It reinforced this reduction target in its Communication on climate and energy policy targets for 2030 [COM(2014) 15; see cepPolicyBrief].

Options for Influencing the Political Process

Leading Directorate General: DG Climate Policy



ASSESSMENT

Economic Impact Assessment

Ordoliberal Assessment

The Commission's aim of including road transport in the reduction of environmentally damaging CO_2 emissions is basically appropriate because vehicle users have no incentive to emit less CO_2 in order to contribute to a better climate. In the case of external effects such as CO_2 emissions, the emitter does not take account of the impact of its actions on third parties in terms of the costs.

The mandatory collection and submission of VECTO data for all new HDVs enables HDV purchasers to compare, for the first time, the individual vehicle models of the HDV-manufacturers, the respective technologies for fuel consumption and the different types of vehicle body – e.g. cranes, cold storage facilities – as well as to compare the various combinations of individual components. By contrast with car models, individual HDV models are used in very different ways depending on their construction; as a result, fuel consumption and CO₂ output diverge significantly. In addition, comparability increases competition both between vehicle manufacturers and between body manufacturers.

The Commission's claim that certification and reporting of VECTO data alone will not "significantly curb CO₂ emissions" is misguided because fuel consumption, as the Commission itself points out, is the most important cost factor for HDVs. As a direct result of this, if the relevant data is available, vehicle purchasers will demand vehicles and technologies that reduce fuel consumption provided these actually do reduce their costs. Lower fuel consumption also reduces CO₂ emissions.

Although CO₂ limits for HDVs are in fact "consistent" with the existing legislation on cars and vans, the fundamental ordoliberal criticism of them still applies: mandatory requirements entailing sanctions for infringement should only be applied where market mechanisms for achieving an objective are not available. With the EU ETS, the EU is already using an instrument which enables a reduction of CO₂ emissions to be achieved, in line with policy, with accuracy and at minimal cost, and with less impact on the freedom of the individual to decide. Of the various modes of transport, so far only electric rail services, via the energy producers, and aviation are included in the EU ETS. From the perspective of intermodal transport, the inclusion of road transport in the EU ETS would be no less consistent with existing legislation on CO₂ reduction than the CO₂ limits favoured by the Commission.

The Commission's claim that higher prices for HDVs due to the introduction of CO₂ limits can be offset against savings in fuel consumption is too sweeping to be tenable: no-one, including the EU, knows the exact level of additional cost to all vehicle manufacturers resulting from CO₂ limits. In addition, HDVs have different bodies and are used in different ways. There would therefore have to be an individual CO₂ limit for every end-model to enable price rises to be offset against fuel savings based on a presumed typical pattern of use. This is not practicable however.

The fact, criticised by the Commission, that the nature of the EU-ETS results in CO₂ reduction in those areas where it can be most cost effectively achieved, is not an argument for but in fact an argument against the introduction of CO₂ limits. It is precisely for this reason that the EU ETS should be extended to include all modes of transport and thus also road transport including HDVs. From a climate perspective, it is irrelevant whether CO₂ emissions are reduced in road transport or elsewhere. Due to the nature of the EU ETS, CO₂ reduction is not only accurately targeted but is also achieved at the lowest possible cost. This system is therefore superior to any other climate protection measure.

In parallel, the existing fuel taxes should be reduced in the Member States so that there is no double taxation. "Upstream emission trading" which takes place at the first level of trade, i.e. refineries and importers of fossil fuels, represents a practicable approach for road transport. In addition, extending the EU ETS to road transport brings all vehicles into the climate protection measure. By contrast, the CO_2 limits favoured by the Commission would only apply to new vehicles.

Placing the burden of infrastructure costs on the user and that of "external costs" on the polluter is appropriate because prices should signal scarcity. They can only do so, however, if all relevant costs are actually incorporated into the pricing. External costs cannot in practice be calculated accurately, however, as this requires factual accuracy which is generally unavailable, such as, for example, the precise number of damaged parties and the economic valuation of the respective loss. It is therefore only possible to approximate the "external costs" for which polluters will be charged.

Impact on Efficiency and Individual Freedom of Choice

The announced review of the cabotage provisions should mean that restrictions on cabotage are eased – or even better, removed altogether – because this will reduce the number of unnecessary empty runs undertaken on the roads of a Member State by HDVs from other Member States and will therefore also reduce the CO₂ output of road transport at no additional cost. At the same time, this strengthens the internal market by opening up the domestic haulage market and allowing hauliers to offer their services in all Member States. The price of road haulage will tend to fall because, on the one hand, competition is increased and, on the other, the number of empty runs is reduced.



Impact on Growth and Employment

Both CO_2 limits and the inclusion of road transport in the EU ETS create incentives for research and development relating to HDVs with low CO_2 output and may have a positive effect on growth and employment as a result of increased innovation work. On the other hand, increased development costs result in higher prices for new HDVs which has a negative impact on growth and employment due to lower sales figures.

Impact on Europe as a Business Location

Negligible.

Legal Assessment

Legislative Competency

Unproblematic. The EU is empowered to issue environmental measures for the protection of the climate (Art. 192 TFEU). In addition, EU-wide standard CO_2 limits for HDVs serve to ensure the functioning of the internal market (Art. 114 TFEU).

Subsidiarity

Unproblematic. EU-wide standard CO₂ limits for HDVs can only be adopted at EU level.

Alternative Approach

Instead of imposing CO₂ limits on HDVs, the EU should extend the EU ETS to include all modes of transport and thus also road transport. At the same time, in order to avoid double taxation, existing fuel taxes in the Member States should be reduced accordingly.

Conclusion

The collection and submission of VECTO data for all HDVs enables, for the first time, a comparison between the individual vehicle models of the HDV-manufacturers, the respective technologies for fuel consumption and the different vehicle bodies. The claim that price increases can be set off against savings in fuel consumption is untenable: no-one knows the exact level of additional cost to all vehicle manufacturers resulting from CO_2 limits. The fact, criticised by the Commission, that the nature of the EU ETS results in CO_2 reduction in those areas where it can be most cost effectively achieved, is not in fact an argument for but an argument against CO_2 limits: it is precisely for this reason that the EU ETS should be extended to include road transport.