

Proposal to reduce CO₂ emissions from light duty vehicles

This concept paper briefly presents key issues and questions for the proposed legislation on CO₂ emissions reduction from light commercial vehicles. The main purpose of the paper is to help structure the Stakeholders meeting that will take place on 2 September 2008. It is expected that participants contribute according to the structure proposed in this paper. If stakeholders are willing to present their views in the presentation, we kindly ask to limit it to 10 minutes speech. Please inform us if you are willing to have a presentation in advance.

Background information

In the Communication on the revised Community Strategy to reduce CO₂ emissions from passenger cars and light-commercial vehicles of 7 February, 2007¹, the Commission stated that it would pursue an integrated approach with a view to reaching the EU objective of 120 g CO₂/km by 2012. It announced a legislative framework to achieve the EU objective, focusing on mandatory reductions of the emissions of CO₂ from cars to reach the objective of 130 g CO₂/km for the average new car fleet, and a further reduction of 10 g CO₂/km, or equivalent if technically necessary, by other technological improvements and by an increased use of biofuels. An increase in the fuel efficiency of light commercial vehicles to reach 175 g/km CO₂ by 2012 and 160 g/km CO₂ by 2015 is one of the measures, identified in the Communication. Other measures needed to bridge achieve the further reduction of 10 grams include minimum efficiency requirements for air-conditioning systems, tyre pressure monitoring systems, maximum tyre rolling resistance limits, gear shift indicators and increased use of biofuels.

In December 2007 the Commission adopted a proposal setting emission performance standards for new passenger cars² (currently in co-decision in the European Parliament and the Council). A legislative proposal on reduction of CO₂ emissions from vans will form a part of this legislative framework, complementing the proposed regulation on CO₂ and passenger cars.

For the development of the proposal and the impact assessment, the following issues appear to be most important:

1. General issues

The legislative proposal setting emission performance standards for vans and minibuses is being developed for achievement of the overall Community's goal to reduce GHG emissions from light duty vehicles. The proposal for a regulation on CO₂ and cars that has been designed to achieve the CO₂ emissions reduction targets for passenger cars provides a model legislative structure that has been developed taking into account the views of the stakeholders. The proposal on CO₂ and vans that is currently under development is similar to that on cars in that

¹ COM(2007) 19, 07.02.2007 Communication from the Commission to the Council and the European Parliament. Results of the review of the Community strategy to reduce CO₂ emissions from passenger cars and light-duty vehicles.

² COM(2007) 856

it addresses the CO₂ emissions from similar sources, it affects a very similar group of stakeholders, and it pursues very similar objectives.

1.1 Structure

For better administration purposes and possibility to integrate these two documents into one piece of legislation in the future it appears to be rational to maintain the same structure in the legislative proposal on CO₂ emissions reduction from vans and minibuses.

1.2 Scope

The Strategy on CO₂ emissions reduction referred to *passenger cars* and *light commercial vehicles*. Aiming to maintain consistency with Euro 5 and Euro 6 standards, the scope of the proposed regulation on CO₂ and cars is the same as that of Regulation (EC) No. 715/2007. This proposal covers vehicles of category M₁. To assure consistency, the scope of the legislative proposal on light commercial vehicles should be aligned with the Regulation setting the Euro 5 and Euro 6 standards as well. For that reason it appears to be most appropriate to include under the scope of the proposal vehicles of categories M₂, N₁ and N₂, with a reference mass not exceeding 2610 kg.

There appear to be cases in some Member states where vehicles were type approved as M vehicles but registered as N vehicles. This may have undesirable consequences in connection with the legislation on CO₂ from cars.

Q1. What is your opinion about the possibility to merge the proposal on passenger cars and the proposal on light commercial vehicles into one piece of legislation?

Q2. What is your opinion on the issue of overlapping of M and N vehicles?

2. CO₂ reduction targets

The Communication from the Commission on a reduction of CO₂ emissions from passenger cars and light commercial vehicles sets two targets for vans and minibuses. The first target of 175 g/km has been set for 2012, and the second target of 160 g/km for 2015.

2.1 Costs related to the implementation of targets

Existing observations suggest that the technology for N₁ vehicles closely follows that for M₁ vehicles. Therefore we consider that certain technologies implemented in cars to reach the 130 g/km target will be transferred to vans and minibuses to reach targets of 175 g/km and 160 g/km. The data on technology costs for cars will be used as the basis for the assessment of the technology implementation costs for light commercial vehicles.

2.2 Long-term targets

The Communication on the revised strategy on CO₂ from light-duty vehicles referred to a long term vision to set more ambitious objectives beyond the current Community target of 120 g/km. There is an ongoing discussion about the necessity to set a long term CO₂ emission reduction target for passenger cars. Since the Communication addresses both, passenger cars and light commercial vehicles, it is not possible to exclude vans and minibuses from the long-term target discussion. It is possible to set different targets for passenger cars and light commercial vehicles, however it appears that the preferred solution would be setting a common target.

2.3 Overall target

There are manufacturers producing both M and N type of vehicles, therefore it could be reasonable to set a single target for such manufacturers.

Setting an overall target would mean that manufacturers can compensate underachievement in one category (expressed in average g/km above target times total sales in that category) by an equivalent overachievement in the other category (expressed in average g/km below target times total sales in that category).

Q1. Do you possess any additional information on costs associated with technological improvements required to achieve the targets?

Q2. What are your views on the cost-effectiveness of the measure given current oil prices?

Q3. How can long-term emission reduction targets be set for light commercial vehicles?

3. Specific formulation of the target

In the case of the regulation on CO₂ emissions reduction from passenger cars three options of setting the target for manufacturers were analysed – a uniform target, utility based targets and percentage reduction based targets. At the end the utility based target has been chosen as the best option for passenger cars. Aiming to keep the two proposals consistent, there is a strong motivation to apply the same option (utility curve) in the proposed legislation on vans and minibuses as well.

It can be expected that application of the utility based target also for vans and minibuses would mean less complication for manufacturers producing both passenger cars and light commercial vehicles.

3.1 Utility parameters

The maximum payload, loading volume, footprint³ and mass have been considered as possible utility parameters for vans and minibuses. Maximum payload is defined by the manufacturer and can not be independently verified. Also, maximum payload and loading volume are not easily measurable parameters, thus only mass and footprint will be considered further. It appears that the footprint of a vehicle is more linked to its utility than mass. However in the case of passenger cars mass has been selected as utility parameter. It is appropriate therefore to include in the assessment both types of parameters.

3.2 Slope

If the utility based curve is applied in the legislative proposal on light commercial vehicles, a proper slope of the curve has to be defined in order to assure that targets will be achieved and that it will provide fair distributional effects on manufacturers. In the proposed regulation on CO₂ emissions reduction from passenger cars, the utility based function with 60% has been selected⁴. Application of various slopes has been considered for the regulation on vans and minibuses. Generally a higher slope of the mass-based limit function gives a more even

³ The impact assessment of the proposed Regulation on CO₂ from cars (SEC(2007)1723) noted that two definitions can be applied for footprint: either the total length times the total width (also called pan area), or the length between the front and rear wheels times the width of the car. Because data was only available for pan area, all modelling in the impact assessment for cars as far as footprint is concerned was based on the pan area definition. The same limitation applies also for light commercial vehicles.

⁴ This means that the slope of the limit value curve is 60% of what it would be if the trendline of the 2006 vehicle fleet had simply been scaled down to achieve the 2012 target.

distribution of costs over the different manufacturers. However the steeper slope brings in the danger of creating a perverse incentive to increase mass. The analysis of different options shows that a 60% slope can be considered safe to avoid perverse incentives. When selecting the utility curve slope for vans and minibuses, it is considered most appropriate to apply the same criteria as for cars, as identified in the Communication on the revised strategy: *'to ensure competitively neutral and socially equitable and sustainable reduction targets which are equitable to the diversity of the European automobile manufacturers and avoid any unjustified distortion of competition between automobile manufacturers'*.

Q1. Do you agree that mass and footprint are suitable parameters for the utility function?

Q2. Do you have any other observation on the specific formulation of the target?

4. Pooling

The proposed regulation on CO₂ and cars includes provisions on pooling, which allow manufacturers to form a pool in order to meet their targets. Possibility for pooling between manufacturers may be a good way to increase the cost effectiveness, in addition it can help addressing the problem of outliers. Analysis of sales data on vans and minibuses suggests that there are manufacturers producing and selling very limited numbers of light commercial vehicles. Therefore it is considered to be appropriate to include an option for pooling in the current proposal on CO₂ emissions reduction from light commercial vehicles. This option will allow for better consistency of two legislative proposals (passenger cars and light commercial vehicles)

Q.1 Do you have any observations regarding pooling of manufacturers?

5. Compliance mechanism

A robust compliance mechanism is necessary to ensure that the targets set in the proposed regulation are met. The proposed regulation on CO₂ and cars sets a penalty mechanism based on excess emission payments. If a manufacturer fails to meet its target in a given calendar year, it will be required to pay an excess emissions premium. The premium will be calculated by multiplying the number of g CO₂/km by which the manufacturer exceeded its target by the number of cars newly registered and by the excess emissions penalty for the year. The proposed regulation on vans and minibuses should contain analogous penalty mechanism.

It appears that the most obvious approach would be to calculate the penalty levels using the same formula as for passenger cars. Thus, in order to assure that manufacturers comply with the requirements of the regulation, the level of the excess premium would be set at a level no less than the marginal costs of technological vehicle efficiency improvement measures at the point of compliance.

Q1. Do you have any observations regarding the compliance mechanism?

6. Derogations

Small manufacturers producing a limited number of vehicles may be granted a right to apply for derogation. Such provision is included in the proposed legislation of CO₂ emissions reduction from passenger cars, with the aim to facilitate the compliance with the regulation for small-volume producers.

When the manufacturer is eligible for derogation, i.e. does not exceed a certain production threshold level and does not have a connection to another manufacturer, it can propose for the Commission's approval a specific emissions target which should be consistent with its emissions reduction potential. If the Commission is satisfied with the proposed target, the derogation can be granted to the manufacturer.

Inasmuch as the number of light commercial vehicles produced by certain manufacturers is very limited, a consistent approach would be to include provisions on derogation in the legislative proposal on light commercial vehicles.

Q1. Do you have any observations regarding the derogations for small volume manufacturers?

7. Further issues

The above text has addressed what appear to be the most important issues identified during the development of the proposal and impact assessment. If you have any other observations of issues that have not been mentioned, please bring them to our attention.

8. Next steps

An impact assessment accompanying the legislative proposal on CO₂ emissions reduction from light commercial vehicles will be finalised after the stakeholders meeting which takes place on 2 September 2008.

A legislative proposal setting CO₂ emissions standards for light commercial vehicles is planned for adoption by the Commission before the end of the year.