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COVER NOTE

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to:	Mr Uwe CORSEPIUS, Secretary-General of the Council of the European Union
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Subject:	Commission Staff Working Document Executive Summary of the Impact Assessment *accompanying the documents* Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EC) No 443/2009 to define the modalities for reaching the 2020 target to reduce CO_2 emissions from new passenger cars *and* Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) No 510/2011 to define the modalities for reaching the 2020 target to reduce CO_2 emissions from new light commercial vehicles

Delegations will find attached Commission document SWD(2012) 214 final.

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COMMISSION STAFF WORKING DOCUMENT

EXECUTIVE SUMMARY OF THE IMPACT ASSESSMENT

Accompanying the documents

Proposal for a regulation of the European Parliament and of the Council amending Regulation (EC) No 443/2009 to define the modalities for reaching the 2020 target to reduce CO2 emissions from new passenger cars

and

Proposal for a regulation of the European Parliament and of the Council amending Regulation (EU) No 510/2011 to define the modalities for reaching the 2020 target to reduce CO2 emissions from new light commercial vehicles

{COM(2012) 393 final}
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1. PROBLEM DEFINITION

1.1. The nature of the problem

Road transport is one of the few sectors with rapidly rising emissions and between 1990 and 2008 emissions from the sector increased by 26%. This trend is not sustainable in view of the EU's climate policy. According to the Commission's 'Roadmap for moving to a competitive low carbon economy in 2050'[1] and Transport White Paper[2], road transport has to significantly reduce its CO_2 emissions by 2050.

Light-duty vehicles (LDVs) are responsible for a significant part of overall transport emissions and emit around 13.5% of total EU CO_2 emissions and about 15% when the emissions from supplying the fuel are included. In view of the expected increase in the LDV fleet, a continuation of the effective application of mandatory CO_2 targets is necessary to ensure further reduction of road transport emissions of CO_2.

The two-step approach of the Regulations requires that the Commission proposes modalities of meeting the 2020 targets by end of 2012. Proposals to amend the Regulations should be "as neutral as possible from the point of competition, socially equitable and sustainable".[3] This necessitates updating the formulae in Annex I to the Regulations for the 2020 targets. In addition, the vans target for 2020 requires confirmation of feasibility. Modalities are taken to mean aspects of the implementation which impact on how the emission targets are achieved. The level of stringency of the Regulations for 2020 is determined by the target values established within them. The targets were established in the co-decision process and are not reconsidered in the review.

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1 COM/2011/0112 final

2 'Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system' , COM/2011/0144 final

3 Article 13(5) of Regulation (EC) 443/2009 and Article 13(1) of Regulation (EU) 510/2011

The two Regulations leave uncertainty for the period beyond 2020. However, the automotive industry works to planning cycles that suggest the need to know approximately ten years in advance the broad framework within which LDVs need to be designed, and a shorter period of around five years for more precise decisions on variants that will actually be produced. It is thus important to provide indications as to the future reductions early enough to allow for appropriate planning certainty.

1.2. How will the problem evolve without new EU action?

Without action the 2020 car and van CO_2 targets could not be implemented and no reduction beyond respectively 2015 and 2017 would be required. This is because neither 2020 target can take effect without legislation defining and implementing the modalities for 2020. This requires the amendment of the Regulations in the ordinary legislative procedure. Without further EU action it is likely there would be little additional CO_2 reduction from new LDVs. Further progress in fuel efficiency could not be assumed, as evidence from the EU and US indicates that in the absence of regulatory requirements or large fuel price increases, LDV fuel consumption improves at only a modest rate.

This 'do nothing' option forms the baseline scenario of the Impact Assessment and the modelling supporting it. In case of no new EU action the following impacts of implementation of the 2020 targets would not be realised:

- An approximately 25% reduction in car and van oil consumption, saving approximately €25bn in consumption annually. Around 25mtoe per year lower energy use in 2030, saving in total around 160 mtoe in the period 2020 to 2030. An estimated aggregate energy security benefit between 2020 and 2030 of €20bn.
- Avoided fuel use increases progressively from €27bn per year over the 2020 to 2025 period to €36bn per year over the 2025 to 2030 period. Avoided expenditure on fuel imports is substituted by spending on capital and technology which increases domestic demand. Input-output analysis suggests that this can be expected annually to increase GDP by around €12bn and expenditure on labour by around €9bn.
- Estimated fuel savings from implementation of the 2020 targets more than compensate the expected costs of compliance. The net cost to society ranges from around minus €80 to €230 per tonne of CO_2 avoided for cars[4] and minus €172 to €295 for vans. The range depends on the oil price which for the analysis is varied between $90 and $140 per barrel.

1.3. The stakeholders affected

The main stakeholder groups affected by the Regulations include the general population, vehicle purchasers, vehicle manufacturers, automotive component suppliers and fuel suppliers. The impact routes are primarily as follows:

- The EU population is increasingly affected by the impacts of climate change.
- Buyers of vehicles are affected by possible vehicle price increases and reduced running costs due to lower fuel consumption. Fuel savings outweigh vehicle cost increases.
- Vehicle manufacturers are affected by the obligation and need to introduce technical CO_2 reduction measures. This may increase production costs and affect their product

[4] Under cost scenario 2 with a 60% slope

portfolios. It will give them the opportunity to gain first mover advantage and the potential to sell advanced low CO_2 vehicles in other markets.

- Component suppliers are expected to benefit from higher demand for advanced technologies and the possibility to export them to other markets.
- Fuel suppliers are likely to see lower demand for transport fuels.
- Other users of fuel and oil are expected to benefit from lower prices.
- There will be reduced pressure on GHG emitting sectors other than transport to further reduce emissions to compensate for increased transport emissions.

2. ANALYSIS OF SUBSIDIARITY

The EU has already acted in this area when it adopted Regulations (EC) 443/2009 and (EU) 510/2011 based upon the environment chapter of the Treaty (cars on Article 175 of TEC[5] and vans on Article 192(1) of TFEU[6]). The single market also provides grounds to act at EU level rather than at Member State level so as to ensure common requirements across the EU and thus minimise costs for manufacturers.

3. OBJECTIVES

GENERAL

Provide for a high level of environmental protection in the European Union and contribute to reaching the EU's climate change targets while reducing oil consumption, thus improving the security of energy supply in the EU, stimulating innovation and boosting competitiveness of the EU industry.

SPECIFIC

Ensure the continued and effective application of the car and van CO_2 regulations particularly in respect of the 2020 targets.

OPERATIONAL

- *Ensure that the 2020 van CO_2 target is feasible.*
- *Ensure the environmental benefits of the 2020 light duty vehicle CO_2 targets are achieved cost-effectively.*
- *Ensure the modalities of achieving the 2020 targets do not have unacceptable social impacts.*
- *Ensure the modalities of achieving the 2020 targets do not have undesired competitiveness impacts for the EU automotive sector.*
- *Create sufficient certainty for the automotive sector with regard to future light duty vehicle CO_2 requirements.*
- *Minimise where possible the administrative burden and costs for SMEs of the Regulations.*

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5 Treaty of the European Communities amended by TFEU (see footnote 6)

6 Treaty on the Functioning of the European Union

4. POLICY OPTIONS

4.1. Identification of policy options

A broad approach has been taken to identifying policy options. These cover issues raised in the legislation, those arising with implementation and those assessed in the studies analysing possible approaches to improve the legislation's effectiveness. The following aspects are analysed:

a) 'Do nothing' option;

b) Confirmation of feasibility of the 2020 target for vans;

c) Within each modality of meeting the car and van targets different options are analysed:

– Different utility parameters, shapes and slopes forming the limit value curve
– Excess emissions premia (no change or adjustments)
– Derogations (no continuation, continuation or adjustments)
– Eco-innovations (phase-out or prolongation)
– Phase-in (no phase-in of the 2020 targets or inclusion of phase-in)
– Super-credits (no prolongation, prolongation or modification of the scheme)
– Banking and borrowing
– Combining car and van targets
– Mileage weighting
– Vehicle based limits

d) Simplification and reduction of administrative burden

e) Adaptation to the new test cycle

f) Form and stringency of legislation beyond 2020

4.2. Conclusions of the preliminary assessment of options

A preliminary assessment has been made of these issues, primarily based upon external studies and input from the stakeholders.

(a) 'Do nothing'

This option is equivalent to the baseline scenario and means the car and van 2020 targets are not implemented due to a lack of definition of the modalities to meet them. This option is discarded because it is counter to the general, specific and operational objectives.

(b) Confirmation of feasibility of the 2020 target for vans

The 2010 emissions data shows the reduction to be achieved to meet the 2020 target has reduced significantly without major technological change. Average CO_2 emissions in 2010 reduced for all van segments as compared to 2007 although the level of reduction differed between classes. The updated cost curves show greater reduction potential and lower costs

compared to the 2009 analysis. The timeframe available for the reduction is consistent with development times. As a result, it is concluded that the 2020 van target is feasible.

(c) Modalities of meeting the car and van targets

The modalities assessed are not alternatives to each other with the exception of phase-in and banking and borrowing which preferably should not be combined. Therefore, for each modality a set of alternative policy options is assessed against the objectives specified in section 3.

Certain options regarding the utility parameter, the slope of the limit value curve, changes to derogations and simplification are retained for further assessment. In addition, it is concluded that it may be desirable to continue with the eco-innovation scheme. With regard to the excess emissions premia these are currently higher than the van marginal costs and are, overall, consistent with the average car marginal cost. In view of the lower stringency of the van target compared to cars and a potential overlap between some larger cars and vans, it is concluded that the premia should continue at the current level.

Phase-in and super-credits are discarded from further analysis. The former is not seen as necessary in view of the current trajectory of new car emissions and the expectation that the overall target will be met in 2020. Furthermore, any additional intermediate targets would make the obligation on manufacturers more costly due to reduced flexibility. A phase-in ending later than 2020 would undermine the ambition of the Regulation and thus lead to lower CO_2 savings. In addition, it would undermine the regulatory certainty for the automotive industry keen to recoup earlier investments in CO_2 reducing technology. These arguments are even more pertinent for vans in case of which the 2020 target is easier and less costly to meet. Super-credits for low emitting cars are discarded for cars and vans based on their potential perverse impact on meeting the overall target. This approach undermines the effort needed from conventional vehicles by allowing them to emit more and reduces the overall cost-effectiveness of the policy. In addition, it runs counter to the objective of technology neutrality. However, these undesirable impacts can be limited with a low multiplier and capping the number of affected vehicles.

Further modalities not present in the current Regulations such as banking and borrowing, combining car and van targets, mileage weighting and vehicle based limits are also discarded from further analysis as either overly complex, running counter to the objectives of planning certainty and ensuring the environmental targets are achieved, adding to the administrative burden, imposing disproportionate compliance costs on some manufacturer or due to lack of sufficiently robust data on mileage of different car segments.

(d) Simplification and reduction of administrative burden

The potential simplification of the current Regulations and reduction of administrative burden are assessed for the following provisions: reduction of the number of modalities, simplification of the implementing measures, simplification of rules for SMEs and micro-SMEs. Pre-screening of policy options results in a reduction of the number of modalities. In addition, the implementing measures can mostly be simplified due to the review provisions set out in therein. However, the simplification of rules for SMEs by inclusion of a de-minimis threshold and reduction of the administrative burden of the derogation procedure by making it more flexible is retained for further analysis.

(e) Adaptation to the new test cycle

With regard to adaptation to the new test cycle, the Regulations already empower the Commission to adapt them to a new test procedure. However, since the revised test procedure is unlikely to be adopted prior to the coming into force of the amended Regulations this cannot be done at present. To minimise uncertainty, it would be possible to describe in outline the principles and procedure that will be used for adaptation of the legislation. This could potentially increase manufacturer certainty and thereby lower compliance costs.

(f) Form and stringency of legislation beyond 2020

With regard to the regulatory regime beyond 2020 it is considered desirable to publish a consultative communication. This would set out the Commission's analysis of alternative regulatory approaches and an illustration of the likely range of stringency that would be required for future CO_2 limits. Future changes to the regulatory approach and making the level of emission reduction mandatory would be carried out at a second legislative stage.

4.3. Options retained for further analysis

The following options are taken forward for detailed analysis.

Car specific options:

– Utility parameter – mass and footprint
– Utility function – linear
– Slope of the limit value curve – 60 to 100%
– Changes to derogations- 'de minimis' rule, amendment of the niche derogation
– Simplification and reduction of administrative burden connected to derogations

Van specific options:

– Utility parameter – mass and footprint
– Utility function – linear curve for mass and non-linear curve for footprint
– Slope of the limit value curve – 80 to100%
– Changes to derogations- 'de minimis' rule
– Simplification and reduction of administrative burden connected to derogations

5. ASSESSMENT OF IMPACTS

Policy options have been assessed on the basis of the objectives, ensuring they respond to the request that the amendments should be "as neutral as possible from the point of competition, socially equitable and sustainable".

Impact of options with regard to utility parameter

For cars, the analysis shows a small cost benefit of shifting from mass to footprint since light-weighting is under-incentivised with mass as the parameter. Mass gives a more even distribution over vehicle segments but as a result the relative price increase for smaller cars is higher. If footprint is used as the utility parameter, perverse incentives to change the design of the car are more limited provided that the limit function is not too steep. Footprint would

allow greater use of light-weighting as a compliance option, especially for potential future targets beyond 2020. A change of utility parameter would not meet the objective of planning certainty since it is highly probable that manufacturers have planned their compliance pathways to 2020 on the basis of continuation of the current parameter.

For vans, footprint seems a less desirable parameter than mass due to the difficulties for manufacturers implicit in a change within 3 years, the increased risks of perverse incentives, and the need to use a non-linear limit function. In addition, manufacturer costs and price increases are less evenly distributed. Finally, planning certainty is also compromised, especially in view of the short time gap between the two targets.

With regard to innovation, there is unlikely to be an impact on most routes to meet the 2020 targets for both cars and vans, with the exception of light-weighting. In this respect using mass as the utility parameter does not treat all options equally. The choice of car or van utility parameter is considered to be neutral as regards the competitiveness of the EU industry. Furthermore, it is not expected to have any impact on trade or SMEs.

For environmental impacts, the different utility parameters assessed have no direct impact provided certain assumptions are met. There are no social impacts other than higher relative price increases for smaller cars with mass. However, this does not apply to vans.

Impact of options with regard to slope

For cars a slope above 100% is undesirable as it gives a perverse incentive to manufacturers and average costs increase with increasing slope for both parameters. For mass, a slope below 100% based on 2009 data should avoid a serious risk of perverse incentives. The cost increase in absolute terms is fairly evenly distributed over the different vehicle segments. However, relative price increases are greater for small than large cars and a lower slope value reduces this effect. Lower slope also helps to compensate for the lack of mileage weighting.

For vans, the slope of the limit value curve preferable for a mass-based function is in the range 80-100% from the cost and distributional perspective. For footprint, the lowest cost occurs with 110% slope however such a steep slope is likely to give a perverse incentive to increase footprint, therefore, a slope around 100% seems preferable.

The car and van slopes are not expected to have any significant effect on innovation, competitiveness, trade or SMEs. Since there was no previous expectation of which slope would apply for 2020, planning certainty is not affected.

For environmental impacts, policy options affecting the slope were assessed as having a very minor impact. There are potential secondary and behavioural impacts caused by vehicle-km being slightly differently distributed across the fleet. Therefore, a lower slope for cars is desirable on environmental grounds. This effect is considered not relevant for vans. As regards social impacts, the slope of the car curve has a distributional impact on relative new car prices. As a result a lower slope is desirable. No such impacts are expected for vans which are mostly used for business purposes and are purchased based on their utility.

Derogations

It is considered to be desirable to update the reduction effort required from niche manufacturers to ensure further reductions beyond 2015. This is in line with the competitive neutrality objective since, due to the upper threshold of 300,000 registrations, manufacturers

covered by this derogation may hold up to 2.5% of the EU car market before being subject to the normal CO_2 regulatory regime. The niche CO_2 requirements would not have any direct SME impact. The environmental impacts will be positive since the manufacturers will be required to reduce their emissions.

Impacts of simplification and reduction of administrative burden

The introduction of a de-minimis threshold for small-volume manufacturers, or the exclusion of SME manufacturers, could be considered. Economic benefits would come from a reduced administrative burden for the company (estimated at around €25,000 per manufacturer) and the Commission (around €10,000 per application) linked to avoiding the need for a derogation procedure. There would be a marginal environmental impact of smaller emission reductions for both cars and vans. Social impacts are expected to be minor.

Simplification of the administrative procedure in these cases would permit a smoother assessment process. Simplification is not expected to have any significant environmental and social effects. Other than the benefits for the companies directly affected, the de minimis threshold is not expected to have any impact on competitiveness, trade, SMEs or innovation.

6. COMPARISON OF OPTIONS

The 2020 target of 147g/km for vans is confirmed as feasible.

Table 1 and 2 below summarise the assessment of the economic, environmental and social impacts of the different modalities.

Based on the analysis it is concluded that the following options should be preferred:

- Utility parameter should continue to be mass for both cars and vans.
- The limit value curve should continue to be linear.
- The slope of the curve should be around 60% for cars and 100% for vans.
- Derogation schemes may be adjusted to exclude the very smallest manufacturers. Furthermore the procedure should be simplified to reduce the administrative burden.
- The reduction effort for niche manufacturers should be updated to reflect the average effort required from the industry.
- Excess Emissions Premia should be maintained at €95/g/vehicle.

7. MONITORING AND EVALUATION

The core indicators of progress are linked to the evolution of the average new car and van fleets. They cover data relating to specific CO_2 emissions and utility. The latter is recorded in case a shift in utility requires future adaptation of the utility curve. Other utility parameters such as footprint or payload are monitored to assess their appropriateness.

In addition, the Commission will collect information regarding the number of derogation applications and the reduction targets proposed by the manufacturers, as well as information on the number of eco-innovation applications and granted eco-innovation credits.

Table 1 Comparison of impacts of different options for modalities – cars

Modalities	Options	Advantages	Disadvantages
Utility parameter	**Mass**	Regulatory certainty- no change from current Regulation. More even cost distribution between segments.	Greater risk of perverse incentives than for footprint. Not fully technology neutral since light-weighting is disadvantaged. Average additional manufacturer cost is about 2% greater than with use of footprint since light-weighting is not rewarded.
	Footprint	Average additional manufacturer cost is about 2% cheaper than with mass. Provides greater incentive for light-weighting.	No regulatory certainty- change from current Regulation. Less even cost distribution between segments. Adjustment costs linked to shift to another utility parameter.
Slope of the limit value curve	**Slope<100%**	Costs slightly lower overall. Avoides serious risk of perverse incentives. Compensates for lack of mileage weighting. Beneficial impact on overall CO_2 and pollutant emissions. More socially equitable (lower relative price increase for smaller cars).	Actual cost increase per vehicle less even between segments.
	Slope>100%	Actual cost increase per vehicle more even between segments.	Costs slightly higher overall. Increased risk of perverse incentives. Less socially equitable (higher relative price increase for smaller cars).
Derogations	**De minimis threshold**	Reduced administrative burden for SMEs and for the Commission.	Marginal reduction of emissions savings.
	Update Niche Derogation	More competitively neutral. Slightly higher CO_2 savings.	Higher cost for manufacturers benefitting from niche derogation.

Table 2 Comparison of impacts of different modalities - vans

Modalities	Policy options	Advantages	Disadvantages
Utility parameter	**Mass**	Regulatory certainty- no change from current Regulation. More even cost distribution between segments. Limited perverse incentives to increase mass.	Average additional manufacturer cost slightly higher than footprint, especially for slopes above 100%. Not fully technology neutral since light-weighting is disadvantaged.
	Footprint	Average additional manufacturer cost slightly lower for footprint for slopes above 80%. Provides greater incentive for light-weighting.	No regulatory certainty- change from current Regulation; adjustment costs can be expected to be higher due to 3-year gap between the targets. Requires a non-linear limit value function. Less even cost distribution between segments. The cost increase of changing to footprint especially high for some manufacturers. Easier to manipulate than mass but it can be limited by a shape and slope of the limit value curve.
Slope of the limit value curve	**Slope<100%**	Minimises risk of perverse incentive for both functions. Slopes 80-100% lowest costs for mass-based function. Costs lowest and most evenly distributed around 100% slope for mass-based function.	Slopes 60-80% highest costs for footprint-based function. Slopes below 80% lead to uneven distribution of costs between segments.
	Slope>100%	Lower costs for footprint-based function above 100%. More even distribution for footprint-based function between segments above 110% slope.	Increased risk of perverse incentives for both parameters. Highest costs and less even distribution between segments for mass-based function above 110% slope.
Derogations	**De minimis threshold**	Reduced administrative burden for SMEs and for the Commission.	Marginal reduction of emissions savings.