COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 7.2.2007
COM(2007) 19 final

COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT

Results of the review of the Community Strategy to reduce CO_2 emissions from passenger cars and light-commercial vehicles

{SEC(2007) 60}
{SEC(2007) 61}

1. INTRODUCTION

The EU is at the forefront of international efforts to combat climate change and must deliver the reductions in greenhouse gas emissions to which it has committed under the Kyoto Protocol. The Commission proposed in January 2007[1] that "*the EU pursues in the context of international negotiations the objective of a 30% reduction in GHG emissions by developed countries by 2020 (compared to 1990 levels)*" and that "*the EU should already now take on a firm independent commitment to achieve at least a 20% reduction of GHG emissions by 2020 (compared to 1990 levels)*". To avoid distortions, and for the sake of economic and social fairness, all sectors must contribute to the reduction effort.

Cars are an important part of the everyday lives of a large number of Europeans, and the automotive industry is a significant source of employment and growth in many regions of the EU. However, car usage has significant impacts on climate change, with about 12% of the overall EU emissions of carbon dioxide (CO_2), the main greenhouse gas, coming from the fuel consumed by passenger cars. Even though there have been significant improvements in vehicle technology – in particular in fuel efficiency which also means lower CO_2 emissions - this has not been enough to neutralise the effect of increased traffic and car size. While the EU as a whole has reduced its emissions of greenhouse gases (GHG) by just under 5% over the 1990-2004 period, the CO_2 emissions from road transport have increased by 26%.

The June 2006 European Council therefore unanimously reconfirmed[2] that "*in line with the EU strategy on CO_2 emissions from light duty vehicles, the average new car fleet should achieve CO_2 emissions of 140 g CO_2/km (2008/09) and 120 g CO_2/km (2012)*". The European Parliament called for "*a policy of strong measures to reduce emissions from transport, including mandatory limits for CO_2 emissions from new vehicles in the order of 80-100 g CO_2/km for new vehicles in the medium term to be achieved through emission trading between car manufacturers*"[3].

In the October 2006 Energy Efficiency Action Plan[4], the Commission recalled that, "*being determined to address energy efficiency and CO_2 emissions from cars, it will if necessary propose in 2007 legislation to ensure that the 120 g CO_2/km target is achieved by 2012 through a comprehensive and consistent approach, in accordance with the agreed EU objective*". In the January 2007 package on energy and climate, the Commission emphasised that "*further measures to tackle CO_2 emissions from cars will be outlined in the forthcoming Communication in order to reach through a comprehensive and consistent approach the target of 120 g CO_2/km by 2012. Options for further reductions after 2012 will also be explored*".

In the absence of effective action, the growth in emissions from passenger road transport will continue in the years to come, jeopardising the EU's efforts to reduce its emissions of greenhouse gases under the Kyoto Protocol and beyond, and leaving other sectors also sensitive to international competition bear the brunt of the effort. Conversely, getting to grips

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1 COM(2007) 2.

2 Renewed EU Sustainable Development Strategy, Council of the European Union, 8.6.2006.

3 European Parliament resolution on "*Winning the Battle Against Global Climate Change*" (2005/2049(INI)).

4 COM(2006) 545.

with car emissions will contribute to fighting climate change, reduce our reliance on imported fuel and improve air quality and thus the health of European citizens. Fuel efficiency improvements in vehicles combined with the increased use of alternative fuels, in particular biofuels, will be keys to achieving this.

On the fuel side, the Commission has proposed[5] the introduction of compulsory requirements aimed at the gradual decarbonisation of road fuels, through an amendment of the fuel quality directive[6]. Besides, it has recently reported[7] on the implementation of the biofuels directive, and it will shortly adopt a proposal to revise this directive. In this Communication, the Commission also proposes to rely on the increased use of bio-fuels as one element of the integrated approach to reduce CO_2 from cars. On the vehicle side, the Commission has identified a number of measures that could contribute to the achievement of the EU objective, in particular stricter fuel efficiency levels for passenger cars and light-commercial vehicles as well as other technological improvements. This Communication provides the basis for exchanges with other European Institutions and all interested parties on implementing a next stage in the Community strategy to reduce CO_2 emissions and improve fuel efficiency from light-duty vehicles with a view to reaching the EU objective of 120 g CO_2/km[8] by 2012. On the basis of the conclusions drawn from these discussions, the Commission will propose if possible in 2007 and at the latest by mid 2008 a legislative framework to the Council and European Parliament in order to reach this objective.

2. POLITICAL CONTEXT AND STATE OF PROGRESS

2.1. The need for action in the road transport sector

2.1.1. Road transport must contribute to tackling climate change

In spring 2005, the European Parliament and the European Council reaffirmed the EU objective that global surface temperatures should not rise by more than 2°C compared with pre-industrial levels in order to prevent dangerous and irreversible anthropogenic climate change. The European Council also underlined that to foster energy security of supply and a sustainable use of energy there was a need to enhance demand-side management and improve energy efficiency, in particular in the transport sector[9]. The recent review of the Transport White Paper[10] emphasises the need to promote a sustainable mobility that will foster competitiveness in the EU while reducing the environmental impacts of transport, whose costs are estimated at 1.1% of GDP.

Road transport is the second largest GHG emitting sector in the EU. It remains one of the few sectors whose emissions keep rising, thereby jeopardising the progress made by other sectors. This makes it harder for the EU to meet its Kyoto commitments and has negative repercussions on the competitiveness of certain sectors (e.g. energy intensive industries)

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5 COM(2007) 18.

6 Directive 98/70/EC of the European Parliament and of the Council of 13 October 1998 as amended relating to the quality of petrol and diesel fuels and amending Council Directive 93/12/EEC (OJ L 350, 28.12.1998).

7 COM(2006) 845.

8 Equivalent to 4.5 l/100km for diesel cars and 5 l/100km for gasoline cars.

9 Presidency conclusions of the 23/24 March 2006 European Council.

10 COM(2006) 314.

which are also sensitive to international competition than domestic activities such as road transport.

Looking only at the absolute emissions in the different sectors is not enough. The need for a rebalancing of the efforts taken up by the different sectors and their ability to reduce CO_2 emissions must also be assessed. While at first glance action in the road transport sector can appear more expensive than in other sectors, several studies conclude that efficiency measures in the transport sector can be more cost effective than some measures in other sectors, if measures altering behaviour of consumers are taken into account[11]. Furthermore a wide ranging notion of "global" cost effectiveness must be applied, that accounts notably for security of energy supply, sensitivity to international competition, affordability for consumers and positive rebound effects such as technological leadership deriving from ambitious targets. As CO_2 emissions and fuel consumption are closely linked, and as road transport accounts for 26.5% of total EU energy consumption, a reduction of CO_2 emissions from cars will have a considerable positive impact on the EU energy security.

Road transport is not included in the scope of the EU greenhouse gas emissions trading scheme (ETS) established by Directive 2003/87/EC: this scheme is based on the principle of direct emissions[12], which in the case of road transport would need to be applied at the level of individual owners and involve large administrative costs. Alternatively, an indirect approach, at the carmaker level, could be considered. However, inclusion at the present time would not allow the timely delivery of the objectives of the strategy (120 g CO_2/km by 2012) since any adaptations to the design of the EU ETS other than inclusion of aviation could only take effect from 2013 onwards, as indicated by the Commission in its recent Communication on the review of the ETS[13]. This timetable will ensure the preservation of a stable regulatory framework for the stakeholders already involved in the market, as well as sufficient lead-time for legislative adjustments to the scheme. The Commission will thus explore the possibility of including the road transport sector for the third period allocation.

In the light of this, action needs to be taken to ensure that road transport does not undermine, but contributes to the fight against climate change.

2.1.2. Improvements in light-duty vehicles are necessary

A wide range of factors influence the CO_2 emissions from passenger road transport, such as supply and demand for cars, individual mobility needs, the costs of car ownership, the availability of alternative public transport services etc. The High-Level Group on the competitiveness of the car industry (CARS21)[14] was convened in order to enhance the dialogue with stakeholders concerning the future needs and challenges of the automotive industry. In its December 2005 final report, the group endorsed the integrated approach and underlined the need to "*work towards a further reduction of CO_2 emissions from road vehicles*".

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11 "*Cost effectiveness of CO_2 mitigation in transport - An outlook and comparison with measures in other sectors*", CE Delft for the European Conference of Ministers of Transport, OECD, April 2006.

12 Such that the recipients of allowances would be the ones actually emitting the related CO_2.

13 See COM(2006) 676, paragraph 3.1.

14 "*A Competitive Automotive Regulatory System for the 21st Century*", CARS21 final report, 2006: http://ec.europa.eu/enterprise/automotive/pagesbackground/competitiveness/cars21finalreport.pdf

Beyond the EU, there are worldwide efforts to reduce the greenhouse gas emissions from road vehicles. The United States, Canada, Japan, Korea, China and Australia already have regulatory or voluntary approaches in place, some of which are now subject to a review aimed at delivering further progress in fuel efficiency and CO_2 emissions.

2.2. Progress achieved so far

The Community strategy has until now been based on three pillars, as proposed by the Commission in 1995[15] and subsequently supported by the Council and European Parliament[16]. This structure allowed for the comprehensive integration of measures addressing both supply (voluntary commitments) and demand (labelling and taxation), and was adopted after a wide ranging analysis of possible options to reduce CO_2 from cars.

2.2.1. First pillar: the car industry's voluntary commitments

The voluntary commitments undertaken by the European, Japanese and Korean car manufacturers associations relate to a target of 140 g CO_2/km by 2008 or 2009. In view of growing concerns regarding the progress made by the industry under this voluntary approach, the Commission has repeatedly underlined its readiness to consider all measures, including legislative ones, to ensure that the necessary CO_2 reductions are delivered.

2.2.2. Second pillar: consumer information

The labelling Directive[17] requires the display of a label on fuel consumption and CO_2 emissions on all new cars, the publication of national guides on the fuel efficiency of new cars, the display of posters at the dealerships and the inclusion of fuel efficiency information in printed promotional literature. The Directive is considered a useful tool in raising awareness but its impact has not been visible[18], with labels of strongly varying quality in different Member States.

2.2.3. Third pillar: the promotion of fuel efficient cars via fiscal measures

Taxation, third pillar of the strategy, can significantly contribute to lowering the costs of compliance with efficiency targets but its level of implementation so far has been disappointing. At the EU level, the July 2005 proposal from the Commission for a Council Directive[19] aimed *inter alia* at the inclusion of a CO_2 element in car taxes has not yet been adopted by the Council. At the national level, several Member States have adopted fiscal measures to promote the purchase of cars that emit less CO_2, but a significant effect of these measures on the EU average CO_2 emissions of new cars has not been demonstrated.

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15 COM(95) 689, Council conclusions of 25.6.1996, European Parliament resolution of 22.9.1997.

16 For the annual reports on the effectiveness of the strategy, see: http://ec.europa.eu/environment/co2/co2_monitoring.htm

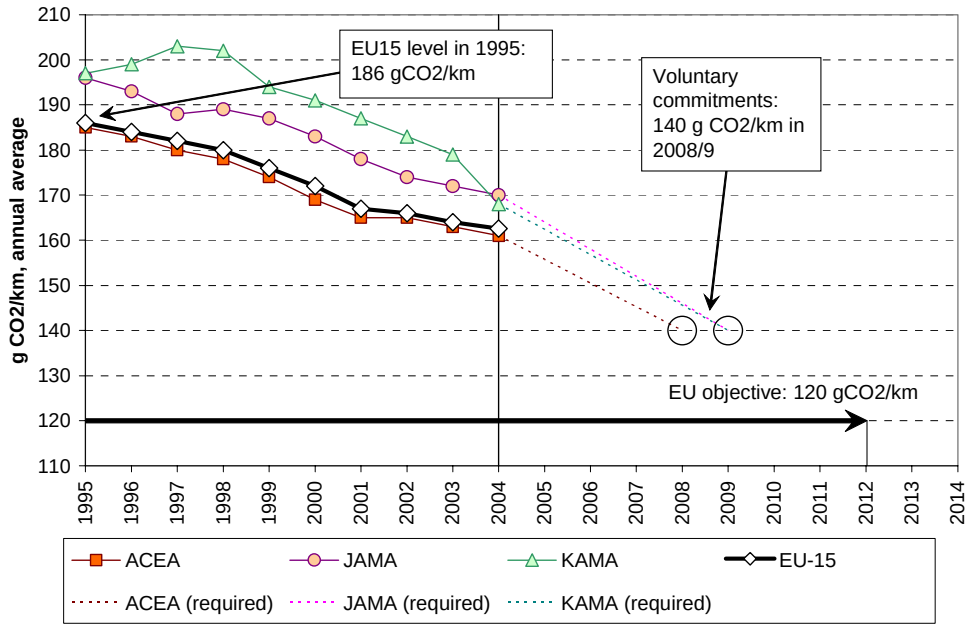
17 Directive 1999/94/EC relating to the availability of consumer information on fuel economy and CO_2 emissions in respect of the marketing of new passenger cars (OJ L 12, 18.1.2000).

18 "*Report on the effectiveness of the car fuel efficiency labelling directive 1999/94/EC, and options for improvement*", ADAC for the European Commission, March 2005.

19 COM(2005) 261.

2.2.4. Learning lessons from the current strategy

Figure 1 - EU 15 average new car fleet CO_2 emissions between 1995 and 2004



A number of issues can be highlighted based on the experience gained in the implementation of the current strategy[20]:

- Emissions from the average new car sold reached 163 g CO_2/km in 2004, 12.4% below the 1995 starting point of 186 g CO_2/km[21]. Over the same period, **new cars sold in the EU have become significantly bigger and more powerful**, while prices increased less than inflation.

- Investigations on the impact of the **limited measures adopted so far by Member States on the demand side have shown that improvements in car technology have delivered the bulk of the reductions**.

- The progress achieved so far goes some way towards the 140 g CO_2/km target by 2008/2009, but **in the absence of additional measures, the EU objective of 120 g CO_2/km will not be met at a 2012 horizon**. As the voluntary agreement did not succeed, the Commission considers necessary to resort to a legislative approach and underlines that in addition to the proposed legislation urgent action should also be taken by the public authorities to keep the emission reductions on track, also towards 2008/2009, for instance through fiscal incentives and green public procurement.

20 Preliminary data for 2005 point to limited further progress.

21 EU-15.

3. THE WAY FORWARD

In view of the numerous factors affecting road transport emissions, a package of measures is required.

3.1. Achieving the EU objective of 120 g CO_2/km

While this Communication focuses on CO_2 reductions through an integrated approach (fuel economy improvements in light-duty vehicles (passenger cars and light commercial vehicles), other technological improvements and use of bio-fuels), it does not prejudge any additional measures that the Commission may propose to tackle the climate change impacts of road transport. The recently reviewed EU transport policy includes initiatives to promote a shift to more sustainable transport modes where appropriate, notably in urban areas, and the establishment of an EU methodology for infrastructure charging covering externalities by 2008, as a complement to the recent review of the "Eurovignette" directive[22]. As foreseen in the recent Thematic Strategy on the urban environment[23], the Commission will provide guidance on sustainable transport plans. As regards fuel taxation, EU legislation already sets minimum levels of fuel excise duties.

The Commission has investigated a number of measures aimed specifically at reducing greenhouse gas emissions from light-duty vehicles. Further to a wide stakeholder consultation and based on an impact assessment, a strategy addressing both supply and demand is outlined below, aimed at reaching the Community objective of 120 g CO_2/km by 2012.

In line with the Energy Efficiency Action Plan, the Commission's approach shall deliver full environmental benefits while at the same time creating economic opportunities by encouraging innovation in most environmentally friendly cars and promoting a competitive automotive industry providing sustainable jobs in the Community. It thus provides the conditions of continuous improvements beyond the Community objective so as to meet the longer term needs of the EU to further reduce CO_2 in the transport sector.

The Commission underlines that fuel efficiency improvements can be brought about in different ways: if the current trend towards bigger and more powerful cars is pursued, technology is already available to meet the fuel efficiency challenges ahead, but manufacturers and subsequently consumers will have to bear additional production costs. Alternatively, concrete (fiscal) measures may be adopted to drive consumer demand towards fuel efficient cars: this would foster a more sustainable car market where manufacturers can compete on grounds of environmental performance and reduce significantly the compliance costs without jeopardizing the improvements in comfort and safety enjoyed by consumers over the past decade. Member States have an important responsibility, notably in their taxation policy, to make this alternative and more sustainable path a reality as early as possible: the earlier action is taken, the easier the CO_2 reduction target will be to deliver. Taxation schemes can in addition be designed in a revenue neutral way that would overall not result in an additional burden for consumers, but rather reward buyers of low-emitting cars and penalise the purchase of the less efficient vehicles.

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[22] Directive 1999/62/EC as amended by 2006/38/EC of the European Parliament and of the Council of 17 June 1999 on the charging of heavy goods vehicles for the use of certain infrastructures (OJ L 187, 20.7.1999).

[23] COM(2005) 446.

3.2. Supply oriented measures

The Commission will pursue its integrated approach with a view to reaching the **EU objective of 120 g CO_2/km by 2012**. This can be achieved through a combination of EU and Member States action. The Commission will propose a **legislative framework**, if possible in 2007 and at the latest by mid 2008, to achieve the EU objective of 120 g CO_2/km, focusing on mandatory reductions of the emissions of CO_2 to reach the objective of **130 g CO_2/km for the average new car fleet by means of improvements in vehicle motor technology**, and a further reduction of 10 g CO_2/km, or equivalent if technically necessary, by other **technological improvements and by an increased use of biofuels**, specifically:

a) setting minimum efficiency requirements for air-conditioning systems;

b) the compulsory fitting of accurate tyre pressure monitoring systems;

c) setting maximum tyre rolling resistance limits in the EU for tyres fitted on passenger cars and light commercial vehicles;

d) the use of gear shift indicators, taking into account the extent to which such devices are used by consumers in real driving conditions;

e) fuel efficiency progress in light-commercial vehicles (vans) with the objective of reaching 175 g/km CO2 by 2012 and 160 g/km CO2 by 2015;

f) increased use of bio fuels maximizing environmental performance.

The above will be measurable, monitorable, accountable and non double-counting the reductions of CO_2.

The Commission agrees that the legislative framework implementing the **average new car fleet target** will be designed so as 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.

The legislative framework will be **compatible with the overall objective of reaching the EU's Kyoto targets** and will be based on a **thorough impact assessment**. Such an impact assessment shall address the benefits and costs of different options as compared to the actual situation of average CO_2 emissions, taking into account latest available technology for environmental improvements in car technology.

3.3. Demand/behaviour oriented measures

Beyond the legislative framework, the Commission strategy to further reduce CO_2 emissions should encourage **additional efforts** by other means of road transport (heavy duty vehicles, etc.), **by the Member States** (CO_2 related taxation and other fiscal incentives, use of public procurement, traffic management, infrastructure, etc.) **and by the consumers** (informed choice as a buyer, responsible driving behaviour).

3.3.1. Taxation[24]

Car taxation is a powerful instrument to influence the purchase decisions of consumers. Taxes can be differentiated to support the market introduction of fuel efficient and low CO_2 emitting cars. This could greatly facilitate the efforts of car manufacturers to meet their obligations by bringing such vehicles to the market. The Commission has made a proposal for a Council Directive on passenger car taxation[25] which is currently before the Council and Parliament. **The Commission encourages again Member States to adopt this proposal as soon as possible and to adapt their car taxation policies so as to promote the purchase of fuel efficient cars throughout the EU and help manufacturers respect the upcoming fuel efficiency framework**, thus contributing their share to reducing the CO_2 emissions of cars. Taxes differentiated over the whole range of cars on the market, so as to gradually induce a switch towards relatively less emitting cars, would be an efficient way to reduce compliance costs for manufacturers.

Fiscal incentives[26] would also be a powerful way of encouraging the cleanest light-duty vehicle classes into the market. Such incentives should refer to a common EU definition applied across the Community, to avoid a fragmentation of the internal market, and cover all relevant emissions taking into account both air pollution and greenhouse gas emissions requirements. For this purpose, a **Light-duty Environmentally Enhanced Vehicle (LEEV) should be defined** as a vehicle that both meets the next stage of pollutant emission limit values as laid down in the relevant legislation, and stays below a certain level of CO_2 emissions. At present, this level should be the Community objective of 120 g CO_2/km. The definition of a LEEV should be subject to regular reviews in order to remain focused on the most advanced end of the new car fleet.

3.3.2. Consumer information

The Commission will adopt in 2007 an amending proposal to improve the effectiveness of the fuel efficiency labelling directive 1999/94/EC. This proposal will inter alia aim at extending the scope of the labelling scheme to light-commercial vehicles (N1), harmonising the design of the label and at introducing energy efficiency classes in order to better raise consumer awareness at the time of car purchase. Attention will also be paid to the definition of the LEEV (see 3.3.1) and to the possibility of indicating on the label annual running costs and where appropriate vehicle tax levels as a function of CO_2 emissions and fuel consumption.

In addition to consumer information, the way in which cars are marketed may also need to be adapted, so as to focus less on the dynamic performances of vehicles. To guarantee a level playing field, there is a need for coordinated action amongst the industry. Car manufacturers are invited to sign up before mid 2007 to **a voluntary agreement on an EU wide code of good practice regarding car marketing and advertising** aimed at the promotion of sustainable consumption patterns.

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[24] All selective tax measures that can distort competition and affect trade between Member States would require prior notification to the Commission for state-aid approval.

[25] COM(2005) 261.

[26] This kind of approach has been well-established to encourage early market introduction of cars that meet future air pollutant emission standards - see e.g. Directive 98/69/EC, and the proposal for a new Euro 5 standard - COM(2005) 683.

3.3.3. Ecodriving

A number of Member States already promote eco-driving through training or awareness campaigns. The Commission supports eco-driving dissemination through various projects[27] and it may consider the inclusion of eco-driving requirements in future revisions of the driving licence Directive[28]. However, eco-driving is a downstream measure subject to high uncertainties regarding its actual CO_2 savings potential. Member States are nonetheless invited to further promote eco-driving as a means to raise awareness about climate change impacts of car use.

3.4. Long-term vision

Finally, with a view to analysing the possibility of **setting more ambitious objectives** beyond the current Community target of 120 g CO_2/km at a later stage, research and development will be further promoted towards the development and demonstration of advanced CO_2 reduction technologies. The European Road Transport Research Advisory Council (ERTRAC) was established to mobilise all stakeholders, develop a shared vision, and ensure timely, co-ordinated and efficient application of research resources to meet the continuing challenges of road transport and European competitiveness. **The Commission will support research efforts towards reaching the ERTRAC research target**[29] **of "*Improvements in vehicle efficiency [that] will deliver as much as a 40% reduction in CO_2 emissions for passenger cars for the new vehicle fleet in 2020*"**. This would correspond to a new car fleet average of 95 g CO_2/km.

4. CONCLUSION

The EU must reduce its dependence on imported oil, reduce air pollution and has a leading role in fighting against climate change. To meet the commitments it has taken until 2012 and to go beyond, it must reduce greenhouse gas emissions from all sectors.

With emissions rising continuously despite technological advances, the passenger road transport sector deserves particular attention: measures are needed on the supply side, to improve regularly the performance of the transport systems and in particular the vehicles, and on the demand side, to encourage the shift to ever less consuming vehicles.

Although wider efforts will be needed to make sustainable mobility a reality, the proposed renewed strategy outlines a number of specific actions to reduce CO_2 emissions from light-duty vehicles. The Commission considers that it should be followed by implementation at all levels, so as to create and accelerate a trend towards new cars that emit less on average. Failure to act rapidly will outweigh quickly past efforts, and jeopardise or make more costly the near term achievement of the Community objective of 120 g CO_2/km and of further progress beyond this objective.

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[27] See e.g. Ecodriven at http://ec.europa.eu/energy/intelligent/projects/steer_en.htm

[28] Council Directive 91/439/EEC of 29 July 1991 on driving licences (OJ L 237, 24.8.1991), as amended.

[29] See ERTRAC Strategic Research Agenda, December 2004, available at: http://www.ertrac.org/publications.htm

Therefore the Commission will propose if possible in 2007 and at the latest by mid 2008 an EU legislative framework to reduce CO_2 emissions from light duty vehicles with a view to reaching the EU objective of 120 g CO_2/km by 2012. It will be accompanied by a thorough impact assessment further reflecting the extent to which Member States can facilitate compliance with mandatory targets by car manufacturers through the adoption of measures to address demand, notably in the field of taxation.

In 2010, the Commission will review the status of implementation and the potential for further measures to move beyond the stated EU objective.