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**REPORT FROM THE COMMISSION
TO THE EUROPEAN PARLIAMENT, THE COUNCIL, AND THE EUROPEAN
ECONOMIC AND SOCIAL COMMITTEE**

**Progress report on implementation of the Community's integrated approach
to reduce CO₂ emissions from light-duty vehicles**

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to reduce CO₂ emissions from light-duty vehicles**

1. INTRODUCTION

On 7 February 2007, the Commission adopted Communication COM(2007)19 final¹ outlining a comprehensive new strategy to reduce carbon dioxide emissions from new cars and vans sold in the European Union. Subsequently, Article 13 of Regulation (EC) 443/2009² requires the Commission to submit to the European Parliament and Council a report reviewing the progress made towards implementation of the Community's integrated approach to reducing CO₂ emissions from light-duty vehicles.

The present report provides a final evaluation of the pre-2007 strategy and reviews the progress made towards the different elements of the 2007 strategy.

2. FINAL EVALUATION OF PRE-2007 STRATEGY

Before 2007, the Community's strategy was based on three pillars, as outlined by the Commission in its Communication of 1995³ and subsequently supported by the Council and European Parliament⁴. This structure allowed for the combination of measures addressing both supply (voluntary commitments) and demand (labelling and taxation).

The pre-2007 strategy focused on targets for 2008 and 2009 and the data for these years have only recently become available. The statistics and monitoring data described in the following text show, as expected in the preparation of the 2007 Strategy, that the objectives of the pre-2007 strategy were only partly achieved.

First pillar: car industry voluntary commitments

The voluntary commitments undertaken by the European (ACEA), Japanese (JAMA) and Korean (KAMA) car manufacturer associations relate to average new car emission targets of 140 gCO₂/km by 2008 (ACEA target) or by 2009 (JAMA and KAMA target). The commitments specify that new passenger car CO₂ emissions will be measured according to Commission Directive 93/116/EC⁵, which is the basis on which the targets were

¹ 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-commercial vehicles <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52007DC0019:EN:NOT>

² Regulation (EC) 443/2009 of the European Parliament and of the Council of 23 April 2009 setting emission performance standards for new passenger cars, OJ L 140, 5.6.2009

³ COM(95) 689 A Community strategy to reduce CO₂ emissions from passenger cars and improve fuel economy.

⁴ Council conclusions of 25.6.1996, European Parliament resolution of 22.9.1997

⁵ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31993L0116:en:NOT>

established. Changes to the test procedure since the entry into force of that Directive need to be taken into account in the monitoring of the commitments by correcting the measured CO₂ emissions. The correction made is a 0.7 % downward adjustment and this correction factor had been applied in assessing the progress made by the manufacturing associations ACEA, JAMA and KAMA⁶.

Chart 1: Evolution of CO₂ emissions from new passenger cars by association (adjusted for changes in the test cycle procedure)

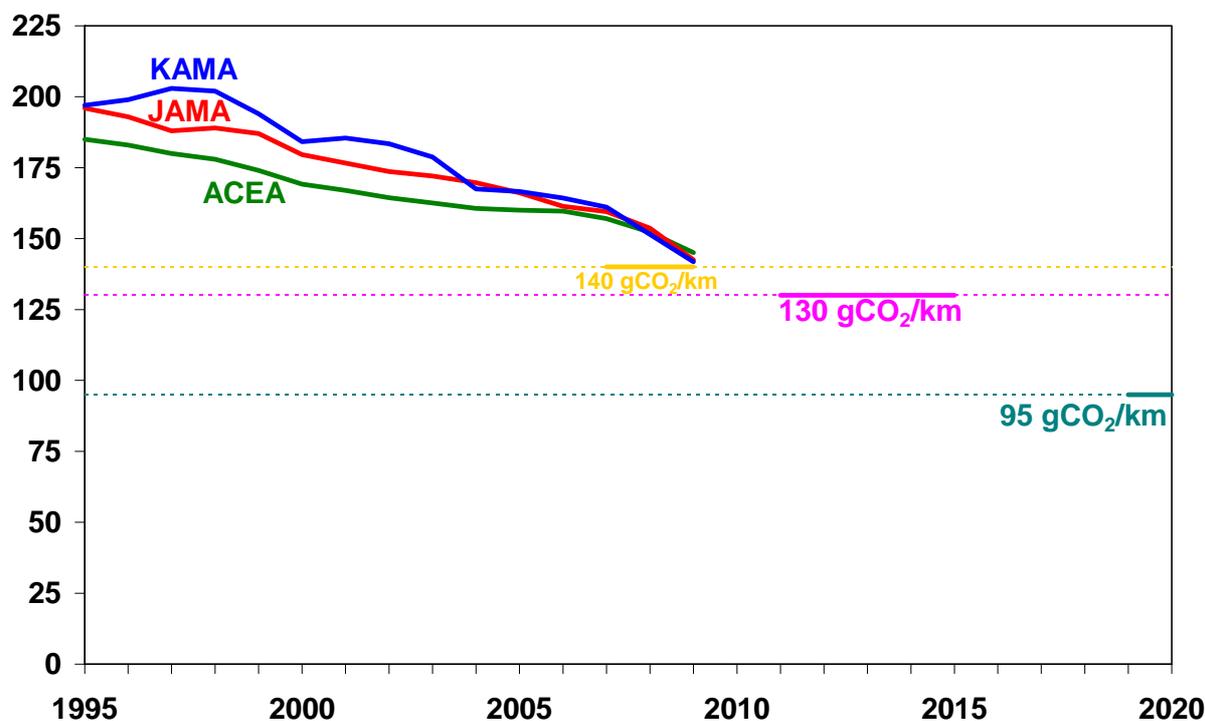


Table 1: Average CO₂ emissions from new passenger cars by association (adjusted for changes in the test cycle procedure)

gCO ₂ /km	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
ACEA	169.2	167.0	164.4	162.5	160.7	160.0	159.7	157.0	152.3	145.1
JAMA	179.6	176.6	173.7	172.0	169.7	166.2	161.4	159.5	153.7	142.6
KAMA	184.2	185.5	183.5	178.7	167.5	166.6	164.3	161.1	151.5	141.8

Based on the latest monitoring data⁷, it is now clear that the 2008 target for ACEA was not achieved. On the other hand JAMA and KAMA achieved significant reductions in CO₂ emissions during this period and were very close to reaching their 2009 target. The financial and economic crisis contributed to the observed decreases in 2009 due to a change of consumer behaviour.

⁶ More information related to the 0.7% correction can be found in COM(2002) 693 final and COM(2004) 78 final.

⁷ Monitoring system - the annual reports on the CO₂ emissions from new passenger cars: http://ec.europa.eu/environment/co2/co2_monitoring.htm

Second pillar: consumer information

This aspect is evaluated in section 3.9 since it also forms an element of the 2007 strategy.

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

This aspect is evaluated in section 3.10 since it also forms an element of the 2007 strategy.

3. PROGRESS OF IMPLEMENTATION OF THE 2007 STRATEGY

The 2007 strategy aimed at reaching the Community objective of an equivalent of 120 gCO₂/km by 2012 through a legislative framework addressing supply oriented measures. The package of measures listed the following elements:

- to reach an objective of 130 gCO₂/km for the average new car fleet by means of improvements in vehicle motor technology;
- setting minimum efficiency requirements for air-conditioning systems;
- the compulsory fitting of accurate tyre pressure monitoring systems;
- setting maximum tyre rolling resistance limits in the EU for tyres fitted on passenger cars and light commercial vehicles;
- the use of gear shift indicators, taking into account the extent to which such devices are used by consumers in real driving conditions;
- fuel efficiency progress in light-commercial vehicles (vans) with the objective of reaching 175 gCO₂/km by 2012 and 160 gCO₂/km by 2015;
- increased use of biofuels maximizing environmental performance.

Beyond the legislative framework, the Commission's strategy to further reduce CO₂ emissions should have encouraged additional efforts for other means of road transport (heavy duty vehicles, etc.), actions by Member States (CO₂ related taxation and other fiscal incentives, use of public procurement, traffic management, infrastructure, etc.) and by consumers (buyers' informed choices, responsible driving behaviour).

The package of measures listed the following demand/behaviour oriented elements:

- taxation;
- consumer information;
- ecodriving.

3.1. Achievement of the EU objective of 120 gCO₂/km in 2012

While evaluation of the progress of Strategy implementation is set out in the following sections, a straightforward assessment of the achievement of its 2012 objective is not possible. In the process of its implementation, the timeframe and the overall ambition of the Strategy

have been amended. The main element of the Strategy, Regulation (EC) 443/2009⁸, enters fully into force only in 2015. Also many of the additional implementing measures have different dates for entry into force, usually later than 2012. Furthermore, a new element of a long-term perspective, i.e. the 2020 target, was included in the CO₂ from cars regulation and subsequently in the proposal for an equivalent regulation for light commercial vehicles. This longer-term vision should compensate for a delay of short-term reductions. Therefore, it is clear that despite the progress in implementing the Strategy and an expected further decrease of CO₂ emissions, even prior to full entry into force of all measures, it is unlikely that the objective of an equivalent of 120 gCO₂/km will be achieved in 2012.

The following sections of this report focus on more detailed information on progress with each of the elements of the strategy.

3.2. Reaching 130 gCO₂/km for new passenger cars

This objective is implemented by Regulation (EC) No 443/2009⁸. The fleet average to be achieved in the period 2012-2015 by all new passenger cars (M1 category vehicles) registered in the EU is 130 gCO₂/km. Due to a phase-in mechanism, the 130 gCO₂/km target only enters into full force in 2015⁹. A limit value curve implies that heavier cars are allowed higher emissions than lighter cars while preserving the overall fleet average. This is consistent with the Strategy's goal that the legislative framework should ensure competitively neutral and socially equitable reduction targets. A second target of 95 gCO₂/km announced in the Strategy as a target for further consideration is included for 2020. The modalities of reaching this target are to be defined by 2013.

Table 2: Average CO₂ emissions from new passenger cars registered in the European Union (not adjusted for changes in the test cycle procedure)¹⁰

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
gCO ₂ /km	172.2	169.7	167.2	165.5	163.4	162.4	161.3	158.7	153.6	145.7

According to the EU monitoring data, the manufacturers are on track to meet the targets set in Regulation (EC) No 443/2009. The average specific CO₂ emissions from new passenger cars registered in the EU27 in 2009 were 145.7 gCO₂/km. While part of the reductions in 2008 and 2009 might have been due to the financial and economic crisis as well as the design of the scrappage schemes¹¹ implemented in several Member States, the decreasing trend since 2000

⁸ Regulation (EC) No 443/2009 of the European Parliament and of the Council of 23 April 2009 setting emission performance standards for new passenger cars as part of the Community's integrated approach to reduce CO₂ emissions from light duty vehicles;

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009R0443:EN:NOT>

⁹ The target of 130 gCO₂/km is phased-in from 2012 to 2015 where only 65% of the new fleet should comply with the target in 2012, 75% in 2013, 80% in 2014, and 100% as of 2015.

¹⁰ Specific emissions of new passenger cars in this table are not adjusted as in Table 1 and Chart 1 because Regulation (EC) No 443/2009 requires the use of figures according to Regulation (EC) No 715/2007.

¹¹ http://ec.europa.eu/enterprise/sectors/automotive/files/projects/report_scrapping_schemes_en.pdf The decrease of CO₂ emissions from passenger cars was achieved at extremely high costs during the crisis. The study from IHS Global Insight *Assessment of the Effectiveness of Scrapping Schemes for Vehicles: Economic, Environmental and Safety Impacts* concluded that: *In general, if the sole reason for scrapping schemes was emissions reduction then we would have to conclude (as do most other studies) that they are an expensive mechanism for emissions abatement – at least in terms of the general 2009 scheme design parameters. ...*

is evident. The monitoring system also indicates that there has been some downsizing of the car fleet as the average engine power, vehicle mass and engine capacity slightly decreased in 2009. This may also result from the adoption of the CO₂ from cars Regulation encouraging manufacturers to start preparing for compliance with the new CO₂ standard.

The data available for registrations of new passenger cars indicate that the average specific CO₂ emissions of 65% of new passenger cars registered in 2009 were below 130 gCO₂/km. This means that on average the 2012 target was already met in 2009. This is, however, only the assessment of the European average. A detailed assessment of manufacturers and their distance to interim targets set out in Regulation (EC) No 443/2009 for the period 2012-2014 is not possible with available data from the existing monitoring systems established pursuant to Decision (EC) 1753/2000. For more information on the 2009 data, see the monitoring report for 2009¹² which elaborates on these aspects in more details.

3.3. Air-conditioning systems

Directive 2006/40/EC of the European Parliament and of the Council of 17 May 2006 relating to emissions from air conditioning systems in motor vehicles and amending Council Directive 70/156/EEC¹³ aims at reducing direct emissions of specific fluorinated greenhouse gases from the air-conditioning systems fitted to passenger cars (M1 category) and light commercial vehicles (N1, class I).

By 2011 the Commission will present a proposal to reduce fuel consumption and CO₂ emission impacts of mobile air conditioning systems. A public consultation in preparation of the proposal was held in 2008 and its results are available on the Commission's website¹⁴. Currently the Commission is developing an appropriate testing procedure for mobile air-conditioning systems.

3.4. Tyre pressure monitoring systems

Low tyre pressure can increase fuel consumption and CO₂ emissions by 4%, reduce tyre lifespan by 45% and can cause accidents. Fitting tyre-pressure monitoring systems (TPMS) should contribute to both greater fuel efficiency and safety.

Article 9 of Regulation (EC) No 661/2009¹⁵ provides for the mandatory equipping of all M1 category vehicles (passenger cars) with TPMS. All new car models should be fitted with TPMS by November 2012 and all new cars by November 2014. The systems will alert the driver when the tyre pressure falls by 20% from its normal warm running pressure.

A second phase of TPMS requirements is currently under discussion with Member States. This would require an earlier alert (perhaps when the tyre pressure has fallen by 15% from its

allocating the entire net financial cost of the scrapping schemes purely to CO₂ reduction leads to a cost estimate of €1100 per tonne CO₂ saved.

¹² http://ec.europa.eu/environment/air/transport/co2/co2_monitoring.htm

¹³ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006L0040:en:NOT>

¹⁴ http://ec.europa.eu/enterprise/sectors/automotive/documents/consultations/2008-future-regulation/index_en.htm

¹⁵ Regulation (EC) No 661/2009 of the European Parliament and Council of 13 July 2009 concerning type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units intended therefor;

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009R0661:EN:NOT>

normal warm running pressure). If agreed, the second phase would come into effect some three years after the first phase, and would increase the potential CO₂ savings.

3.5. Tyre rolling resistance limits for new passenger cars

Regulation (EC) No 661/2009¹⁵ requires all new car models to be equipped with low rolling resistance tyres (LRRT) by November 2013. This will be extended to all new cars by November 2014. A second phase, with stricter rolling resistance limits, will apply for new car models from November 2017 and all new cars from November 2018.

Expected fuel savings from the increased use of fuel efficient tyres which will be achieved by the combination of tyre rolling resistance limits (Regulation (EC) No 661/2009) and the labelling scheme (Regulation (EC) No 1222/2009, see section 3.9) are estimated at between 2.4 and 6.6 Mtoe (million tonnes of oil equivalent) in 2020 depending on the speed of market transformation. The CO₂ savings from all vehicle types are expected to range from 1.5 to 4 million tonnes per year.

3.6. Gear shift indicators

Article 11 of Regulation (EC) No 661/2009 requires all vehicles of M1 category with a reference mass not exceeding 2 610 kg and vehicles to which type-approval is extended in accordance with Regulation (EC) 715/2007 to be equipped with gear shift indicators. All new car models should have gear shift indicators by 2012 and all new cars by 2014.

The technical CO₂ reduction potential of gear shift indicators is estimated at 6% in case of 100% utilization rate¹⁶. However, it must be recognised that the real reductions will be lower than this, depending on the degree to which drivers respond to the indicator.

3.7. Reaching 175 (160) gCO₂/km for new light commercial vehicles

On 28 October 2009 the Commission adopted a new legislative proposal (COM/2009/0593 final)¹⁷ to reduce CO₂ emissions from light commercial vehicles (vans). The proposal is closely modelled on the legislation on the CO₂ emissions from passenger cars, including two steps of emission reduction.

If adopted, the effect of the Regulation will be evident only in the years after 2012 which is beyond the target date of the 2007 Strategy.

3.8. Increased use of biofuels

Directive 2009/28/EC¹⁸ sets binding targets for Member States to achieve a 10% share of renewable energy in the transport sector by 2020. It requires national action plans that establish estimated trajectories for the development of renewable energy sources including the transport sector and along with Directive 98/70/EC relating to the quality of petrol and diesel

¹⁶ Estimate by TNO, quoted in ACEA position during public consultation on gear shift indicators.

¹⁷ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52009PC0593:EN:NOT>

¹⁸ Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC;

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009L0028:EN:NOT>

fuels¹⁹, establishes sustainability criteria for biofuels, which include minimum greenhouse gas savings on life cycle basis compared to petrol and diesel.

Directive 98/70/EC was revised in 2009²⁰ and introduced a requirement on fuel suppliers to reduce the greenhouse gas intensity of energy supplied for road transport by 6% by 2020 (Low Carbon Fuel Standard) and thus optimise biofuels' contribution to the 2007 strategy. The CO₂ emissions reduction possibility of vehicles running on biofuels is also recognised in Regulation (EC) No 443/2009 temporarily allowing for a 5% reduction in reported emissions from vehicles designed to run on a mixture of petrol with 85 % ethanol (E85) under certain conditions, including compliance with biofuel sustainability criteria.

Based on Eurostat data, the EU27 share of biofuels in the total final consumption of petrol and diesel for transport was 3.5% in 2008 (10.1 Mtoe), up from 2.6% in 2007. Biodiesel accounted for 81% of total biofuel use compared with 18% for ETBE and ethanol. There remains some uncertainty over the actual greenhouse gas savings delivered by land-using biofuels because of the greenhouse gas emissions arising from indirect land use change. Without taking account of these emissions, the net greenhouse gas savings achieved in the EU from biofuels placed on the market and consumed in 2007 were calculated as 14.0Mt CO₂-eq.²¹ The Commission is currently reviewing the impact of indirect land-use change on greenhouse gas emissions.²² This will be addressed in a report and possible legislative proposal.

3.9. Consumer information

Directive 1999/94/EC aims at ensuring that information related to the fuel economy of new passenger cars offered for sale or lease in the Community is made available to consumers in order to enable them to make an informed choice.

Fuel economy labels for all new cars have to be displayed at the point of sale. The point of sale has to display the official fuel consumption and CO₂ emission data of all new passenger car models displayed or offered for sale or lease. A guide on fuel economy and CO₂ emissions is prepared each year. All promotional literature must contain the official fuel consumption and specific CO₂ emission data for the passenger car model to which it refers. In addition, in a number of Member States the authorities or other organisations maintain Internet websites which display the official fuel consumption and CO₂ emissions of new passenger car models offered on their national markets, often with a possibility to compare different models or identify best-in-class vehicles.

A number of Member States link their labels to the CO₂-based vehicle taxation and include the costs of fuel. Increasingly, Member States revise their labels to include some form of colour-coded scheme helping to understand car performance. Moreover, some countries provide additional information relating to the cost of running a car and related vehicle tax.²³

¹⁹ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31998L0070:EN:NOT>

²⁰ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:01998L0070-20090625:EN:NOT>

²¹ COM(2009) 192 final

²² Public consultation available at: http://ec.europa.eu/energy/renewables/consultations/2010_10_31_iluc_and_biofuels_en.htm

²³ <http://www.europarl.europa.eu/activities/committees/studies/download.do?language=fr&file=31259>

The Directive is considered a useful tool in raising awareness and possibly helping the manufacturers to sell more fuel-efficient cars but it is difficult to objectively assess its direct impact. The Directive is scheduled for revision to make the scheme more effective, in particular, to improve the readability and understanding of the Directive's tools, and ensure easier and wider access to the mandatory information.

In order to improve consumer awareness, in certain Member States voluntary codes of conduct or guidance for the use of environmental statements in car advertisements are in place. These initiatives are usually coordinated by consumer groups or advertising associations and aim at ensuring that promotional material is in compliance with EU and national legislation.

Additional consumer information will be provided by a tyre labelling scheme which will enter into force in 2012 as required in Regulation (EC) No 1222/2009²⁴. The fuel efficiency (rolling resistance), wet grip and external rolling noise performances of tyres will be displayed by means of a grading (A-G scale). It aims at encouraging consumers to purchase tyres which meet even lower limits than those prescribed by the mandatory requirements.

Expected fuel savings from the increased use of fuel efficient tyres which will be achieved by the combination of tyre rolling resistance limits (Regulation 661/2009, see section 3.5) and the labelling scheme (Regulation 1222/2009) are estimated at between 2.4 and 6.6 Mtoe (million tonnes of oil equivalent) in 2020 depending on the speed of market transformation. The CO₂ savings from all vehicle types are expected to range from 1.5 to 4 million tonnes per year.

3.10. Taxation

In 2005, the Commission presented a proposal for a Directive²⁵ that would require Member States to restructure their passenger car taxation systems. Among other issues, the proposal aims to promote sustainability by restructuring the tax base of both registration taxes and annual circulation taxes so as to include elements directly related to CO₂ emissions of passenger cars in those Member States that apply such taxes. The proposal aims only to establish an EU structure for passenger car taxes and not to harmonise tax rates or oblige Member States to introduce new taxes. Although the proposal has not yet been adopted, more than half of Member States have in the meantime amended their car taxation schemes and introduced a CO₂-related element²⁶.

In 2007, the Commission presented an amendment to the Energy Taxation Directive²⁷ that aims at reducing the distortions in fuel taxation in the EU and at further approximating the taxation of petrol and diesel (the so called "commercial diesel proposal"). The proposal addressed fuel taxation for both, private and commercial transport use. It aimed at reducing distortions in the internal transport market: hauliers involved in international activities or located in or near the border of a low taxing country take advantage of the significant

²⁴ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009R1222:EN:NOT>

²⁵ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52005PC0261:EN:NOT>

²⁶ see Taxation trends in the European Union at http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_info/economic_analysis/tax_structures/2010/2010_full_text_en.pdf and the ACEA Tax Guide

²⁷ http://www.acea.be/index.php/news/news_detail/acea_tax_guide_2010/

²⁷ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52007PC0052:EN:NOT>

differences in national excise duties on diesel fuel by filling up in Member States with the lowest taxes, sometimes making detours (fuel tourism) which are prejudicial to the environment. Consequently, the Commission proposal aimed at narrowing these differentials and thereby reducing environmental damages. As far as private use is concerned, the proposal introduced the principle that non-commercial diesel and unleaded petrol should, in principle, be taxed at the same level and at least as high as commercial diesel.

Based on the impact assessments and supporting studies, both proposals would contribute to the reduction of CO₂ emissions from passenger cars by influencing consumer choice and behaviour via the costs of operating a vehicle. However, these proposals have not yet been adopted.

The Commission is currently considering a general revision of the Energy Taxation Directive²⁸ in the context of the Europe 2020 Strategy, that would support the EU's objectives to combat climate change and ensure a more sustainable and resource-efficient economy.

In 2009 the Commission financed an external study on the taxation of company cars²⁹. Company cars (passenger light-duty vehicles) account for roughly 50% of sales of new passenger cars in the EU. The study concluded that CO₂ emissions are boosted by incentives to buy fuel and larger cars. The estimates in the report lay in the range of fuel consumption and CO₂ emissions from car transport increasing by 4 to 8%. The study concluded that schemes for company car taxation implemented by Member States seem to work against the goal of reducing CO₂ emissions from passenger cars and road transport.

3.11. Ecodriving

In 2009 the Commission financed an external study on the *Impact of Information and Communication Technologies on Energy Efficiency in road transport*³⁰ which estimated potential savings of fuel via ICT based systems. The study examined three different types of systems (eco-solutions, advanced driver assistance systems, and traffic management solutions) with regards to their impact on CO₂ reduction. ICT enhanced ecodriving demonstrated an energy saving potential of up to 15%. This could be achieved by providing the driver real time information about fuel consumption, energy-use efficiency and appropriate gear selection together with additional upcoming preview information from enhanced map data including road slope, curvature and road attributes such as speed limits and stop signs. The main barrier is the issue of driver compliance and thus high uncertainties regarding actual CO₂ savings which might be overcome by systems that automatically implement fuel efficient driving. Other promising systems are "pay as you drive" schemes, platooning and advanced cruise control.

Fuel-efficient driving, through the provision of driver training (eco-driving), is likely to have a positive impact on CO₂ emission reductions in existing vehicles but the uncertainty of driver compliance remains an important barrier. It is expected that the fuel efficient driving styles and patterns are likely to have a limited impact on emission reductions in the longer-term due

²⁸ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32003L0096:EN:NOT>

²⁹ COMPANY CAR TAXATION: Subsidies, Welfare and Environment
http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_info/economic_analysis/tax_papers/taxation_paper_22_en.pdf

³⁰ http://ec.europa.eu/information_society/activities/esafety/doc/studies/energy/energy_eff_study_final.pdf

to the deployment of advanced vehicle technologies. These new technologies are expected to increasingly automate eco-driving techniques, reducing the potential benefits of operational measures. For example the current generation of hybrid vehicles already automate gear changes, retrieve brake energy and prevent unnecessary idling, and tyre pressure monitoring systems which automatically warn drivers if tyres need to be inflated will become compulsory in the future.

4. SUMMARY CONCLUSIONS

The strategy presented in COM(2007)19 final aimed at reaching the Community objective of 120 gCO₂/km by 2012 via the legislative framework. While we have observed significant decreases in the average CO₂ emissions from new passenger cars, especially in 2008 and 2009, the 2012 goal of the Strategy is unlikely to be achieved. It is clear that the 2009 reductions of CO₂ emissions are in part due to the economic crisis as well as the deployment of new technologies by vehicle manufacturers, and there is no guarantee that this year's strong decrease will continue once the economy recovers.

Moreover, as set out in section 3.1, the timeline of the Strategy was amended by the European Parliament and the Council during the co-decision process to adopt Regulation (EC) No 443/2009 by shifting the date of full entry into force of the Regulation to 2015, and including a 2020 target. The timeline going beyond 2012 is also set for other measures implementing the Strategy.

The Commission expects that the targets for 2012-2015 specified in Regulation (EC) No 443/2009 will be achieved and that the average specific CO₂ emissions from the new light-duty fleet will fall substantially by 2015 due to the regulatory measures announced in the Strategy.

In summary, despite a low probability of achieving the 2012 target, the Strategy and its implementing measures have played an important role in driving decrease of CO₂ emissions from light-duty vehicles.

Table 3: Progress of implementation of the Strategy to reduce CO₂ from light-duty vehicles

Reaching 130 gCO ₂ /km for new passenger cars	✓
Efficiency requirements for air-conditioning systems	In progress
Fitting of accurate tyre pressure monitoring systems	✓
Tyre rolling resistance limits	✓
Gear shift indicators	✓
Reaching 175 (160) gCO ₂ /km for new light commercial vehicles	In progress
Increased use of biofuels	✓

Taxation	Limited progress
Consumer information	Limited progress
Ecodriving	Limited progress

5. NEXT STEPS

5.1. MID-TERM ACTION

The Clean and Energy Efficient Vehicles strategy³¹ sets out a strategy for encouraging the development and uptake of clean and energy efficient ("green") vehicles. All future legislative proposals aiming at reducing CO₂ emissions from new passenger cars and light commercial vehicles should be based on the principles that all reductions have to be measurable, monitorable and accountable.

The specific actions linked to the scope of the Strategy foreseen by the Commission in the timeline 2010-2020 include review of modalities of reaching the 2020 target of 95 gCO₂/km set out in the cars legislation, and possibly modalities of the long-term target as proposed in the draft regulation on CO₂ from light commercial vehicles. In addition, the Commission is committed to propose a new test-cycle to reflect more accurately the real world driving conditions as well as the specific CO₂ emissions and fuel consumption related to it.

The Commission is also planning to look into the possibility of measurement and certifications of CO₂ emissions from heavy duty vehicles. Should such methods be agreed and approved, the Commission will consider implementing efficiency standards for new heavy duty vehicles.

The Commission will also further develop its life cycle analysis of energy use in vehicles. It will consider whether this well to wheel approach can be integrated in long term targets for vehicles.

5.2. LONG-TERM VISION

The Commission's preliminary work on the decarbonisation issues over longer time horizon indicates that, to be compatible with the 2°C objective, by 2050 the range of domestic CO₂ reductions needed from the EU economy will have to amount to roughly 70%³² as compared to 1990 levels. The transport sector will have to make significant contribution to the reduction effort. Contrary to that, GHG emissions from road transport have increased by 26% since 1990.

The EU must improve its resource efficiency and energy security, reduce air pollution and maintain its leading role in fighting against climate change. With aggregate transport related CO₂ emissions steadily rising despite technological advances, the road transport sector deserves particular attention. Wider efforts will be needed to make sustainable mobility a

³¹ http://ec.europa.eu/enterprise/sectors/automotive/competitiveness-cars21/energy-efficient/index_en.htm
³² COM(2010)265final <http://ec.europa.eu/environment/climat/pdf/2010-05-26communication.pdf>

reality. The strategy discussed in this report primarily focuses on vehicles being placed on the market, while an important aspect is the way that they are subsequently used.

The implementing legislative measures of the Strategy have extended its timeline by including a long-term target for 2020. Such a long-term vision is necessary in view of the scale of the emission reductions needed and the planning periods for the industry. This enables industry to prepare for the next steps in CO₂ reduction and a similar target was therefore included in the Commission proposal for a regulation setting CO₂ emission standards for light commercial vehicles.

To improve planning certainty for the automotive sector while ensuring that CO₂ reductions from light-duty vehicles continue to take place, the Commission considers, based on a thorough impact assessment, to also propose a target for passenger car emissions to be reached by 2025. Among other options, the Commission will assess the feasibility of the target suggested by the European Parliament of reaching 70 gCO₂/km by 2025 as indicated in its Resolution of 24 October 2007 on the Community Strategy to reduce CO₂ emissions from passenger cars and light-commercial vehicles (P6-TA(2007)0469)³³. Further reduction steps shall also be considered for light commercial vehicles. The consideration of long term targets beyond 2020 will have to take into account the possible market penetration of alternative energy, especially electricity.

³³ <http://www.europarl.europa.eu/sides/getDoc.do?type=TA&language=EN&reference=P6-TA-2007-0469>