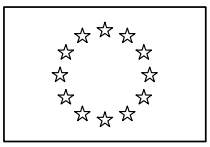


COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, xxx
SEC(2007) 77

COMMISSION STAFF WORKING DOCUMENT

Accompanying the

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

A Competitive Automotive Regulatory Framework for the 21st Century

Commission's response to the CARS 21 High Level Group Final Report

Impact Assessment Report

[COM(2007) 22 final
SEC(2007) 78]

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY

This impact assessment confirms that the European automotive industry is a major contributor to the Community Growth and Jobs strategy and currently faces considerable changes in its operating environment. The industry interacts with several important areas of Community policy, such as environment, energy and transport. The impact assessment concludes that a forward-looking, holistic policy framework for the automotive industry should be put in place. It should take into account the interactions between industry and various Community policy areas while providing the automotive industry with predictability and planning certainty with regard to future regulatory developments. It also concludes that such a regulatory framework should be reviewed and adapted on a regular basis through continuous dialogue with all relevant stakeholders.

This report concludes that the current internal market policy of the Commission concerning the production and placing on the market of new vehicles through the Whole Vehicle Type Approval System has worked well and should be expanded to cover all vehicle categories. It refers to the continued concerns of citizens and enterprises regarding the type-approval and registration of vehicles previously registered in another Member State and identifies the need to continue striving towards improving the internal market concerning vehicle distribution and the provision of maintenance and repair information.

The impact assessment concludes that, in line with the CARS 21 High Level Group recommendations, there are possibilities to simplify the *acquis communautaire* in the automotive area and reduce the administrative and compliance cost for industry by replacing 38 EC Directives with their corresponding UN/ECE regulations and introducing self- and virtual testing for 25 EC Directives and UN/ECE regulations.

The impact assessment concludes that the automotive industry operates on a global basis and notes that much of the demand increase for the vehicles in the next decade will come from extra-EU markets. Consequently it underlines the importance of strengthening the international automotive regulatory environment through the UN/ECE and identifies trade policy instruments as being of great importance to contributing to the industry's future competitiveness particularly in terms of improving market access. The report identifies the automotive industry as being one of the main contributors to R&D in Europe and concludes that continued co-operation between the Community and industry in research is highly desirable.

The impact assessment indicates that the current Community framework under the Thematic Strategy for Air Pollution to reduce harmful emissions from vehicles has proved to be effective and that the gradual tightening of emission limits through the Euro standards should be continued. While the Community strategy to reduce CO_2 emissions from cars has yielded tangible results since 1995, we raise questions over the cost-effectiveness of reducing future CO_2 emissions on the basis of vehicle technology alone: the impact assessment suggests that an integrated approach involving all relevant stakeholders should be considered instead and proposes that the Review of the Community policy to reduce CO_2 emissions from cars should take into account the comparative costs of achieving reductions from different measures and different sectors of the economy.

Finally, the report concludes that significant progress has been made in the area of road safety and propose future initiatives to further improve road safety.

2. INTRODUCTORY NOTE

The Communication on a "Competitive Automotive Regulatory Framework for the 21st Century" follows on from the CARS 21 High Level Group convened by the Commission in 2005. The 22 members of the High Level Group represented the key stakeholders of the European automotive industry at the highest level with the objective to "make recommendations for the short-, medium-, and long-term public policy and regulatory framework for the European automotive industry, which enhance global competitiveness and employment while sustaining further progress in safety and environmental performance at a price affordable to the consumer."[1]

This Communication presents the Commission's assessment of and policy response to the CARS 21 High Level Group conclusions and communicates its proposed approach to the European Council and Parliament[2].

Given the Communication's aim of creating a consistent policy framework as well as the sheer number of policy areas and stakeholders involved, this impact assessment remains general in nature. In the light of initiatives in the automotive sector which are already under way and the number of policy areas involved, the impact assessment also makes reference to other policy documents, legislative proposals and impact assessments. Measures that are still in planning will be assessed individually and realised through specific legislative proposals, communications and other implementing actions, which will be accompanied by detailed impact assessments.

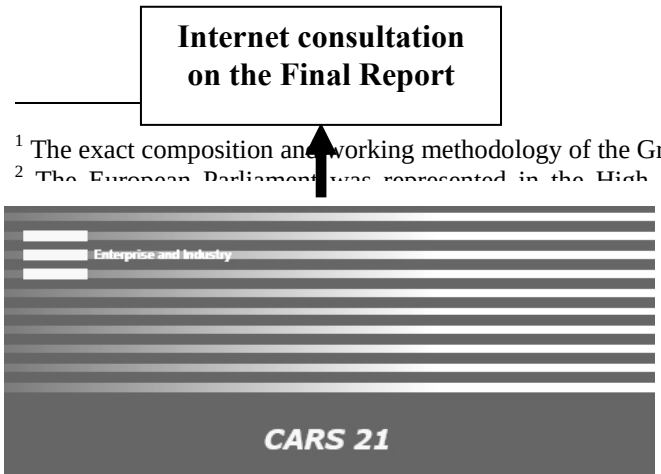
3. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

3.1. Organisation and timing

The Commission services were intensively involved in the CARS 21 High Level Group and in the preparation of the Final Report. Formally, the Commission was represented in CARS 21 by 3 Commissioners whose portfolios are most directly linked to the automotive industry's activities: Vice President Verheugen (DG Enterprise and Industry), Vice President Barrot (DG Transport and Energy) and Commissioner Dimas (DG Environment).

The work of the CARS 21 Group was organised as follows:

Figure 1: The CARS 21 process



Milestones

2005	
13 January	Commission Vice-President Mr Verheugen launches CARS 21
21 February	Sherpa meeting

[1] The exact composition and working methodology of the Group is out

[2] The European Parliament was represented in the High Level Gr ce, the C

DG Trade, DG Internal Market, DG Competition and DG Research actively participated in the CARS 21 process by providing inputs into the Group's discussions and into the development of the final report. Prior to the adoption of the final report its contents and recommendations were verified and approved by all the above-mentioned Commission services.

3.2. Stakeholder consultation

The CARS 21 High Level Group was a stakeholder Group by its nature and brought together the main stakeholders: the Commission, the European Parliament, a number of Member States, vehicle manufacturers, automotive suppliers, the automotive dealers and repairers, the fuel industry, environmentalists, trade unions and consumers.

The composition of the CARS 21 High Level Group was as follows:

Figure 2: Members of the CARS 21 High Level Group

MEMBERSHIP OF THE CARS 21 HIGH LEVEL GROUP	
European Commission	
▪ **Günter Verheugen, Chairman**	Vice-President of the Commission, Commissioner for Enterprise and Industry
▪ **Jacques Barrot**	Vice-President of the Commission, Commissioner for Transport
▪ **Stavros Dimas**	Commissioner for Environment
Member States	
▪ **Wolfgang Clement**	Federal Minister for Economy and Employment, Germany
▪ **Margaret Beckett**	Secretary of State for Environment, Food and Rural Affairs, United Kingdom
▪ **François Loos**	Minister-delegate for Industry, France
▪ **Martin Jahn**	Deputy Prime Minister, Czech Republic
▪ **Pietro Lunardi**	Minister for Infrastructure and Transport, Italy
European Parliament	
▪ **Garrelt Duin**	Member of the European Parliament (PSE/DE), Joint Chairman Forum for the Automobile and Society
▪ **Malcolm Harbour**	Member of the European Parliament (EPP/UK), Joint Chairman Forum for the Automobile and Society
Industry	
▪ **Armand Batteux**	President of the European Association of Automotive Suppliers
▪ **Lewis Booth**	Chairman Ford of Europe and Executive Vice President Ford of Europe and Premier Automotive Group
▪ **Wilhelm Bonse-Geuking**	President of the European Petroleum Industry Association
▪ **Louis Schweitzer**	Chairman Renault SA
▪ **Leif Johansson**	President of AB Volvo and Chief Executive Officer Volvo Group
▪ **Sergio Marchionne**	Chief Executive Officer Fiat S.p.A.
▪ **Bernd Pischetsrieder**	President of the European Automobile Manufacturers Association and Chief Executive Officer Volkswagen AG
Trade Unions, NGOs and Users	
▪ **David Baldock**	Director of the Institute for European Environmental Policy

▪ **Peter Scherrer**	Secretary General of the European Metalworker's Federation
▪ **Max Mosley**	President of the Fédération Internationale de l'Automobile
The following persons joined the Group after its work had commenced	
▪ **Joan Trullén**	Deputy Minister for Industry, Spain
▪ **Jürgen Creutzig**	President of the European Council for Motor Trades and Repairs

As has been outlined in Figure 1 the stakeholders met regularly at both political and working levels throughout 2005.

In the process of preparing the CARS 21 Final Report and this Communication, the Commission engaged in additional consultations with Member States, EU institutions, European business and other stakeholders:

- An internet consultation was held in the spring of 2005 for which 32 contributions were received. The contributions from stakeholders can be found on: http://ec.europa.eu/enterprise/automotive/pagesbackground/competitiveness/stakeholder_consultation/contributions.htm

- A public hearing was held on 26th April 2005 at which numerous stakeholders were present. The 19 presentations given at the hearing can be found on: http://ec.europa.eu/enterprise/automotive/pagesbackground/competitiveness/cars21_hearing/index.htm

- The European Parliament held a hearing on the CARS 21 process on 6th October 2005
- Following the adoption of the CARS 21 final report, the Commission launched a further public consultation in 2006 on the results of CARS 21 and the conclusions contained in the final report. The 34 contributions received can be found on: http://ec.europa.eu/enterprise/automotive/pagesbackground/competitiveness/cars21_finalreport_consultation/contributions.htm. A summary of the results of this consultation can be found in Annex 1 of this impact assessment.

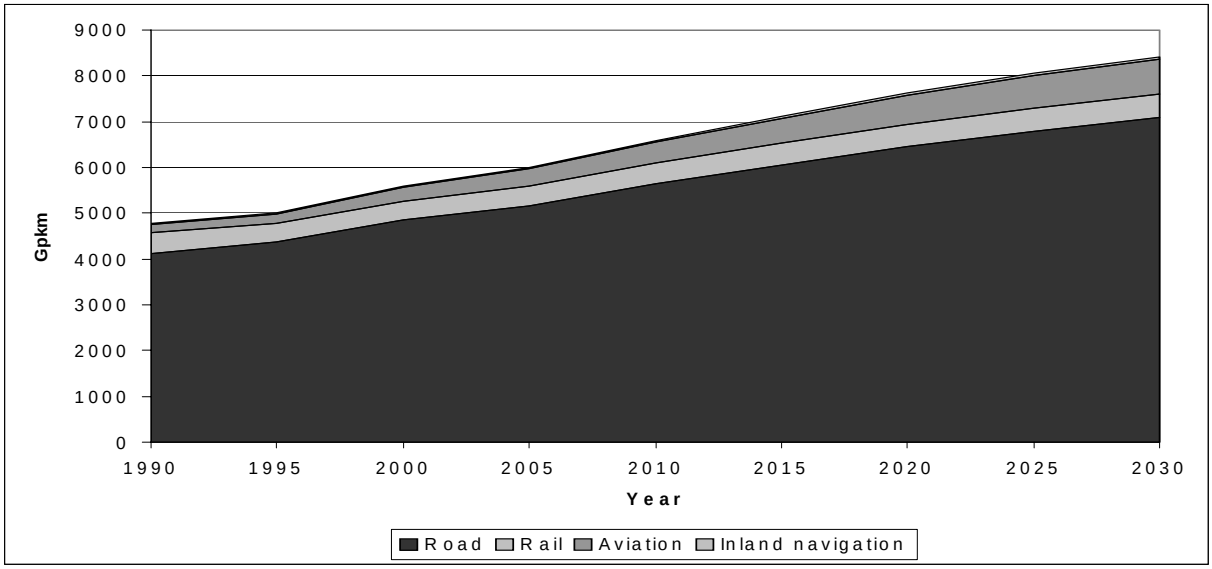
4. OVERALL CONTEXT AND PROBLEM DEFINITION

4.1. The automotive industry in Europe

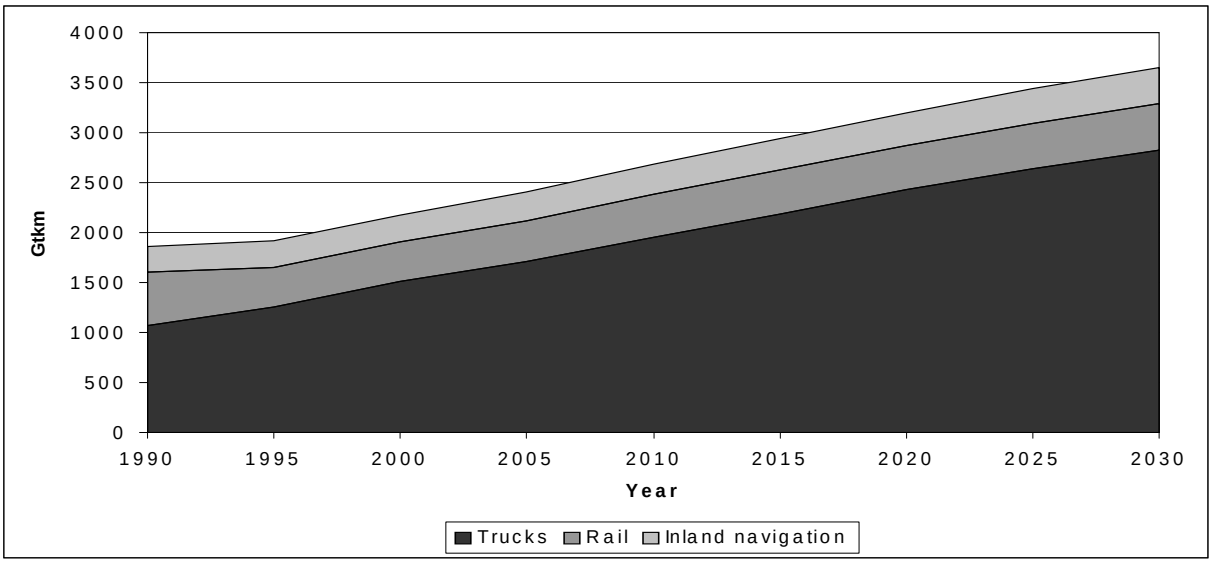
First and foremost the automotive industry and its products play an enabling role in European life. The mobility provided by vehicles has become a prerequisite for the functioning of European society and economy: in 2005 the road transport sector accounted for ca. 86% of passenger transport activity and ca. 70% of freight transport activity in Europe.

Figure 3/4: Role of road transport in European passenger and goods transport (1990-2030)

Passenger transport activity 1990-2030



Freight transport activity 1990-2030



Source: European energy and transport: Trends to 2030 – Update 2005 DG Energy and Transport

From an economic policy perspective the automotive industry is at the heart of the discussion about European industry and the need to ensure its global competitiveness. The automotive industry plays a substantial role in the European economy and is an important contributor to the **Growth and Jobs (Lisbon Agenda)** agenda of the European Union:

- *it accounts for about 7% of the Union's total manufacturing output. The total value added produced by the motor vehicle industry in the EU-25 was about €118 billion in 2002*[3]*;*

[3] Eurostat

- *vehicle and equipment manufacturers provided employment for over 2,2 million Europeans in 2004[4] and support an additional 10 million indirect jobs in both large companies and SMEs. The industry accounts for ca. 7% of total European manufacturing employment. It increasingly generates research-intensive employment drawing on a skilled workforce consequently contributing to modern education and training systems and new organisational methods (the modular supply-chain and its management of the European vehicle industry being one of its key strengths);*

- *the automotive industry acts as a major system integrator and consequently generates significant economic and innovation activity in a large number of other important industries, both in the manufacturing sector (e.g. steel, chemical, electronics, glass, rubber, metals, information and telecommunication systems) and the service sector (e.g. sales, maintenance, insurance, finance, logistics);[5]*

- *the automotive industry has a complex value chain and about 2/3 of the value-added in vehicle production comes from automotive suppliers while the retail and repairs sector comprises 350,000 small and medium sized enterprises with a turnover of 520 billion EUR and employing about 2.5 million people;*

- *it invests over € 20 billion in Research and Development annually, making it the largest private R&D investor in Europe. Around 20% of all European manufacturing R&D is undertaken by vehicle manufacturers. Its linkage within the domestic and international economic structures makes it a major driver for the development and diffusion of new technologies and innovations throughout the economy;*

- *The vehicle industry is investment intensive: the automotive industry has consistently sustained high levels of investment in fixed capital, plant and equipment. In comparison to other manufacturing sectors, its capital intensity is inferior only to mining, oil refining, chemicals, paper and basic metals;[6]*

- *Characterised by large manufacturers and suppliers as well as a high number of small and medium-sized companies located in Europe and outside, the automotive industry is a reflection of an increasingly globalised economic environment. The automotive industry plays a substantial role in driving international trade: in 2004, automotive products accounted for ca. € 78 billion of extra-EU exports and ca. € 32 billion extra-EU imports with a positive trade balance of ca. € 46 billion.[7] This, combined with the industry's production location presence in all main world markets, reflects the automotive industry's contribution to fostering the position of European industry as a key economic actor worldwide;*

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[4] Idem
[5] European Competitiveness Report 2004, Chapter 4
[6] Idem
[7] Eurostat

- *An important source of fiscal revenues: in 2003, the combined total income from the road sector reached €346 billion, representing 8% of the European Union's total general government revenues.*

The automotive sector's underlying role within the European economic structure also means that it has considerable interaction with other aspects of European society and is expected to contribute to the achievement of various other societal goals:

- **Environmentally sustainable development:** Passenger cars are responsible for 12% of Europe's greenhouse gas emissions[8] and for a significant part of pollutant emissions. The automotive industry has signed a voluntary agreement with the European Commission to reduce new car CO_2 emissions to 140 grams per kilometre in 2008.[9] The gradual tightening of pollutant emission limits through the Euro standards have led to a reduction of 70-90% in NOx and particulate matter emissions from vehicles. There is a clear trend towards adopting tighter emissions standards in line with the Thematic Strategy on Air Pollution. In addition to the above, EU policies concerning the recycling of vehicles[10], REACH[11], noise and mobile air conditioners[12] bear a relevance to the automotive industry;

- ***Energy policy:*** *the road transport sector uses mainly petrol and diesel fuel to power vehicles and is 98% dependent on products derived from oil which is largely imported. Reducing energy consumption in road transport through improved energy efficiency[13], diversifying the types of energy used and reducing dependence on imported fossil fuels[14] are all important priorities for the Commission, and the automotive industry clearly has a role to play in facilitating the achievement of the energy policy objectives;*

- **Road safety:** Noteworthy progress has been made in improving European road safety: during the last 30 years traffic on European roads has tripled while the number of casualties has halved during the same period. This has largely been as a result of improved occupant protection in vehicles.

4.2. Challenges

[8] European Climate Change Programme
[9] The commitment made by the European Automobile Manufacturers Association (ACEA) has been recognised by the European Commission in the Recommendation of 5 February 1999 on the reduction of CO_2 emissions from passenger cars (1999/125/EC). Similar commitments have been signed by the Japanese and Korean automobile associations (JAMA and KAMA) with the objective of reducing new car emissions to 140 grams per kilometre in 2009.
[10] Directive 2000/53/EC, OJ L 269, 21.10.2000, p. 34–43.
[11] Registration, Evaluation, Authorisation and Restriction of Chamicals
[12] Directive 2006/40/EC, OJ L 161, 14.06.2006, p. 12
[13] See Energy Efficiency Action Plan: COM/2006/545/Final
[14] See e.g. Directive 2003/30/EC on the use of renewable fuels

The vehicle industry is one of the drivers and beneficiaries of the same globalisation processes which will impact the entire European economy in the decades to come. The rapid opening of global markets, intensified division of labour and the ensuing increase and diversity in the movement of capital worldwide are altering the environment in which the automotive industry operates. The automotive industry is global in its activities and the future is likely to be characterised by the emergence of new global competitors and increased international competition. Most of the demand increases for automotive products will come from rapidly developing external markets where production costs are lower than in Europe while the industry's home market is likely to experience relatively slow growth.

The general domestic challenges facing the automotive industry are relatively similar to those in the rest of the manufacturing sector[15]. The automotive industry in Europe is trying to increase its production efficiency and address problems related to capacity utilisation. The sector still has relatively high fixed costs and operates on a market usually characterised by intense price competition[16]. This has led the vehicle industry to begin taking important and often difficult steps to optimise its cost-base and production processes.

Recent efforts by automotive companies (particularly in the United States and to a lesser extent in Europe) to seek productivity improvements and reduce costs has attracted significant attention and has raised concerns regarding the future of automotive manufacturing in developed, mature economies. There are fears that automotive production could be transferred to locations in fast-growing emerging markets as the industry searches for a lower cost base and markets which are likely to experience fast growth in the future[17].

While the industry is undoubtedly adjusting to a changed operating environment, it should be pointed out that much of the current restructuring process is a reaction to structural problems which have existed in parts of the industry for some time. Many of the challenges are related to comparatively low productivity levels, high labour costs and labour market regulations. High fixed costs, structural overcapacity and recent record prices in global commodity markets combined with aggressive price competition among manufacturers, have led many automotive companies to focus on their long term competitiveness through reducing costs and improving internal efficiency. This in turn has an impact on the supply sector whose relationships with the OEMs[18] are usually close and highly specialised.

In terms of production location, the increased focus on cost management has been an important reason for automotive companies' investments into new capacity in the new Member States. In the light of existing production overcapacity in the European market, this has created fears of an inevitable reduction in automotive-related employment in the EU-15.

In the medium term it appears probable that vehicle assembly for the European market will largely be conducted in Europe. The automotive industry and its supply chain are becoming increasingly global yet the characteristics of demand remain relatively distinct in different

[15] For more details see: COM (2005) 474 final: Implementing the Community Lisbon Programme: A policy framework to strengthen EU manufacturing - towards a more integrated approach for industrial policy.

[16] It should be noted that the challenges faced by companies in different segments of the market can vary substantially.

[17] As vehicles are the second most expensive consumer good (after housing), demand for the automotive industry's products is sensitive to overall economic growth.

[18] Original Equipment Manufacturers: companies responsible for the final assembly of the vehicle

markets and most international automotive companies keep a significant proportion of their production *in situ*.

Automotive companies are currently adapting themselves to a changing operating environment and increased competitive pressures on the European market. The policy interactions with industry should seek to improve the framework conditions for vehicle production and carefully analyse the cost and competitiveness as well as the benefit impacts of future regulatory activity.

The CARS 21 High Level Group was set up to systematically review the regulatory environment in which the automotive industry operates in order to recommend a way forward through a policy framework which seeks to achieve a high level of protection of the public interest while at the same time minimising the costs entailed for economic operators.

5. ASSESSMENT OF INDIVIDUAL POLICY AREAS

5.1. Better Regulation:

5.1.1. Problem definition: What is the effect of the overall policy framework on the industry's competitiveness? What methodology should be used for developing policy and legislative proposals?

The strategies pursued and actions undertaken by individual companies largely determine the ability of the automotive industry to face the challenges of a changing world. The role of public policy is to address concerns of general interest: these mainly relate to regulating the market, protecting the health and security of citizens and safeguarding the natural environment. At the same time public policy should seek to create an environment in which industry can thrive.

Given the vehicle industry's societal role and economic importance, it interacts with many key areas of European life and hence European policy. Apart from the obvious link to competitiveness and industrial policy, the automotive industry is an important consideration in the internal market policy, transport and energy policy, environmental policy, trade policy and research. There are stringent requirements in areas such as safety (Pedestrian Protection[19]), clean air (Euro emission standards[20]), reduced greenhouse gas emissions (industry CO_2 commitment) and vehicle recycling (End-of-Life Vehicles[21]).

Prior to (and during) the CARS 21 High Level Group, industry put forward the view that regulatory demands necessitate the development of new, and often costly, environmental and safety features for vehicles. Industry has also expressed concern that it encounters rules and procedures which can have an impact on overall competitiveness through potentially creating a high cumulative cost of legislation.[22] Given the complexity and time involved in the planning, development and production of a vehicle, industry also asked the Commission to look into improving the predictability of the overall regulatory framework so to improve planning certainty for industry.

[19] Directive 2003/102/EC.
[20] Directive 98/69/EC.
[21] Directive 2000/53/EC.
[22] Before the setting up of CARS 21 industry suggested that the demands of the regulatory framework can add as much as €5000 to the average retail price of a vehicle.

The Commission shares the view that a good policy approach has to be comprehensive and well co-ordinated: the establishment of the CARS 21 Group provided a good opportunity to investigate the effect on the regulatory environment on the competitiveness of the industry in a holistic manner.

5.1.2. Policy Objective

Ensuring that the overall automotive policy framework is coherent and takes into account the interaction between different policy areas

5.1.3. Policy options

A. The existing regulatory framework of the automotive industry

On the basis of the regulatory review conducted during the CARS 21 process, the Commission can conclude that the existing regulatory environment for the automotive industry works reasonably well. The view initially held by industry that the automotive industry's competitiveness suffered from the cumulative cost of regulation and that a considerable part of this legislation was unnecessary was not confirmed by the CARS 21 Group. Rather, the Group concluded that the existing type-approval system was to be maintained and that most of the EU and UN/ECE legislation in this area was necessary in order to guarantee a high level of safety and environmental protection.[23]

The automotive industry is testimony to the policy success of the European internal market[24] and has grasped the opportunities offered by the Union's enlargement policy[25]. The Commission's renewed Lisbon Strategy[26], the mid-term review of the European Transport Policy White Paper[27] and the strategy for external competitiveness ("Global Europe: Competing in the World")[28] all focus on facilitating increased economic activity and enhancing competitiveness. The research and innovation framework at Community level has been developed together with all stakeholders and the automotive industry is an active participant in European research programmes. Automotive-related Community policies on air pollution[29], greenhouse gas emissions[30] and road safety[31] have contributed to progress in all these areas.

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[23] See section 5.3. of this impact assessment

[24] See section 5.2. of this impact assessment.

[25] For more details on the impact of enlargement, see: "Enlargement, Two Years After – An Economic Success" COM (2006) 200 final, which identifies an overall positive effect of enlargement on the European economy in both the old and new Member States. As for the automotive industry, it has been channelling most of its European new-plant investments into the new Member States and has been an important driver of economic growth in the region.

[26] "Working Together for Growth and Jobs: a New Start for the Lisbon Strategy" – COM (2005) 24.

[27] European transport policy for 2010: time to decide, COM (2001) 370 final. The mid-term review of the European Commission's 2001 Transport White paper was completed in 2006, COM (2006) 314 final

[28] COM(2006) 567 final

[29] For more details on the Thematic Strategy on Air Pollution, see COM (2005) 446.

[30] For more details on the Community policy on CO2 emissions, see, http://europa.eu.int/comm/environment/co2/co2_home.htm

[31] For more information on road safety, see: Mid term review of the European Road Safety Action Programme: COM (2006) 74 final.

The Commission is implementing its Better Regulation initiative[32], which underlines that co-ordinated, predictable and continuous policy frameworks should be based on a policy-making culture, which relies on continuous dialogue, consultation and overall coherency. The CARS 21 Group represented an attempt by the Commission to implement its better regulation policy and fine tune the existing regulatory framework so that it might deliver additional benefits to the competitiveness of industry without entailing trade offs with other objectives of the overall strategy. There is a direct link between policy options A and B as the latter is directly derived from principles included in the former.

B. The fine tuning of the existing automotive regulatory framework in light of the review conducted in CARS 21 so as to help achieve coherent policy interaction between different policy areas and provide predictability for industry

The Commission believes that public policy should be predictable while correctly reflecting the increasingly complex demands of society and anticipating trends in world markets. The setting up of the CARS 21 High Level Group was an attempt to initiate a comprehensive regulatory and policy review by bringing together all the main stakeholders to advise the Commission on future policy options[33]. The mandate of the Group was to identify complementary and consistent policies and "to make recommendations for the short-, medium-, and long-term public policy and regulatory framework for the European automotive industry that enhances global competitiveness and employment while sustaining further progress in safety and environmental performance at a price affordable to the consumer."

The CARS 21 Group considered all the policy areas affecting the automotive industry in a holistic manner and recommended pursuing an integrated, co-ordinated policy approach in the future. The Commission Communication on a "Competitive Automotive Regulatory Framework for the 21st Century" attempts to establish this framework by outlining the direction in which the Commission intends to steer future automotive policy.

The adoption of a co-ordinated and integrated approach helps place the automotive industry into the overall policy framework. It should enhance the consistency on future regulatory activity in the automotive sector and provide industry with predictability and planning certainty for their products. This in turn should help the automotive industry to integrate likely regulatory requirements into their product planning and research. By further reinforcing the Commission's commitment to Better Regulation principles, this policy approach should also help ensure that policy-making is evidence-based developed by using impact assessments and stakeholder consultations.

Furthermore, by attempting to pursue a policy approach which reflects the situation in individual industrial sectors, the Commission believes that the cost of legislation can be kept to a minimum. The review mechanism proposed in the Communication should help ensure that the regulatory framework is updated regularly to reflect the speed at which the global economic and technological environment is changing while also providing the European Parliament and Council with a regular update on the status of changes in automotive regulations at the UN/ECE and the comitology process.

[32] For more information, see COM (2005) 535: Implementing the Community Lisbon Programme: A strategy for the simplification of the regulatory environment and COM(2006) 691 final: A strategic review of Better Regulation in the European Union

[33] See Commission press release IP/05/31 from 13 January 2005.

5.1.4. Expected impact

The automotive industry is a mass manufacturer of highly complicated products involving a complex supply chain and long product development periods. This leads to a highly rationalised production process with a heavy focus on planning, cost optimisation and control of the product development process. Adopting a forward-looking regulatory framework which outlines possible future initiatives in different policy areas should provide industry with predictability and planning certainty which the latter can incorporate into product development cycles and the planning of research and development. The adoption of a co-ordinated policy framework which has been developed in close consultation with all relevant stakeholders should also help ensure that the cumulative cost of regulation is kept low and that there are no contradictions between different policy actions.

The reinforcement of the Commission's commitment to Better Regulation principles such as the quality of legislation, simplification, impact assessments, stakeholder consultations, lead times and choice of instruments should help ensure that future policy is co-ordinated and evidence-based.

Finally, the high level political consensus achieved in the CARS 21 is likely to lead to more consensual policy-making. The adoption of future policy or legislative proposals in the automotive field should become smoother as all the main stakeholders have agreed on the regulatory framework and therefore know what to expect in the future.

5.2. Internal Market:

5.2.1. Problem definition: Is the functioning of the internal market effective? What options, if any, are available to improve its functioning?

The foundation of a successful European automotive industry is its home market. A large home market enables industry to attain economies of scale and scope as well as to benefit from learning curve effects early in the product life cycle. Of particular significance to European automotive companies is the fact that the large European market also opens new opportunities for secondary products and services which generate substantial revenues. Approximately 50% of the European vehicle manufacturers' sales in 2005 came from Europe.[34]

Given the importance of the internal market to the European automotive industry and the fact that this is one of the primary European policy areas interacting with the automotive industry, the Commission (supported by input from the CARS 21 Group) has conducted a review of its functioning. It mainly covered areas relating to the Whole Vehicle Type Approval System[35] although the Community's internal market policy also interacts with vehicles once they have been placed on the market[36], vehicle distribution[37], the provision of vehicle repair information, design protection[38] and taxation and fiscal incentives[39].

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[34] Refers to per unit sales. Source: ACEA.
[35] Council Directive 70/156/EEC, OJ L 42, 23.2.1970, p. 1–15.
[36] C 1996/143/04, OJ C 143, 15.05.1996, p. 4-16.
[37] Commission Regulation (EC) No. 1400/2002 of 31st July 2002 on the application of Article 81 (3) of the Treaty to categories of vertical agreements and concerted practices in the motor vehicle sector.
[38] COM (2004) 582 final

5.2.2. Policy Objective

To further improve the functioning of the internal market.

5.2.3. Policy options

A. The existing regulatory framework for the internal market

Whole Vehicle Type Approval System

The European Union has played a central role in making a well-functioning European automotive market a reality. The internal market policy for motor vehicles currently regulates three categories of vehicles (passenger cars, motorcycles and tractors) on a mandatory basis. It is based on the EC Whole Vehicle Type-Approval system[40] whereby vehicles and components can only be placed on the market if they have been produced in accordance with a type, which has been approved beforehand by the competent authorities of a Member State. Following approval they then automatically gain access to the rest of the Community. The Commission is glad to note that this system has proven highly effective and successful: it ensures conformity with requirements in terms of safety and environmental protection while also providing industry with legal certainty regarding the compliance of their products. This has stimulated vehicle trade inside the Community and there is a relatively strong customer loyalty for European brands[41]. The success of the current system was reflected by the CARS 21 Group, which unanimously recommended that not only should the type-approval system be maintained but that its benefits should also be extended to cover more automotive products (e.g. light commercial vehicles, buses and trucks).

The type approval system does not yet apply to all vehicle categories and the internal market in this area is not yet complete. The Commission has adopted a proposal for a new Framework Directive for the approval of motor vehicles[42] to extend the EC Whole Vehicle Type Approval System to all vehicle categories on a mandatory basis. The CARS 21 Group unanimously welcomed this review of the Framework Directive, which currently under examination by Council and the European Parliament and concluded that its entry into force is "a matter of priority for the competitiveness of the industry." The adoption of the new framework directive by the European Parliament and Council will complete the introduction of the internal market for light commercial vehicles, buses and trucks enabling the benefits of the internal market to be extended to these vehicle categories.[43]

Vehicles already on the market

The registration procedure of vehicles is not harmonised at Community level. Different procedures are applied and different documents required in the various Member States. However, national rules must comply with a number of principles under Community law. The

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[39] COM(2005) 261 final

[40] Detailed information about the functioning of the Whole Vehicle type-approval system can be found on: http://ec.europa.eu/enterprise/automotive/pagesbackground/regulatoryframework.htm

[41] Detailed information about the situation on the European vehicle market can be found in the 2004 European Competitiveness Report pp. 180-191.

[42] COM (2003) 418 final

[43] Detailed information about the new Framework Directive and the current status of its adoption can be found on:
http://ec.europa.eu/enterprise/automotive/pagesbackground/whole_vehicle/unofficial_consolidated_coreper.pdf

Commission has adopted an interpretative Communication on procedures for the type-approval and registration of vehicles previously registered in another Member State,[44] which provides information on the legal principles applicable under Community law.

The Commission is aware that there are still a number of problems associated with the free movement of motor vehicles within the EU beyond the type-approval stage. Many citizens and enterprises frequently complain about problems concerning roadworthiness and registration procedures and disappointment is expressed when it is not possible to register a motor vehicle which was previously lawfully registered in another Member State. Furthermore, cross-border trade in new and second hand motor vehicles between a vehicle retailer established in one Member State and a (potential) customer established in another Member State still suffers from practical problems when vehicles must be driven from one Member State to another. The Commission is currently in the process of updating its interpretative communication on procedures for the type-approval and registration of vehicles previously registered in another Member State with the aim of helping Member States and citizens to better understand their rights and obligations with regard to the registration of motor vehicles previously registered in another Member State.

Motor vehicle distribution

The Commission believes that the internal market should also be a reality in the downstream segments of the automotive value chain, particularly with regard to the distribution of vehicles. The policy framework on motor vehicle distribution is already in place: the Commission has adopted Regulation 1400/2002 on motor vehicle distribution[45] and is committed to its enforcement at least until the period of validity provided for in Regulation 1400/2002 has not expired (i.e. until 31 May 2010). The continued enforcement of Regulation 1400/2002 should continue to allow consumers to benefit fully from the Single Market and enhanced competition in the Community. The Commission aims to ensure that it is applied throughout the Community so as to allow consumers to benefit fully from the Single Market and enhanced competition in the Community.[46]

Access to technical repair information

In the light of the increasing complexity of vehicles it has become imperative that all vehicle repairers in the Community have access to the appropriate technical repair information. The Commission is committed to creating an environment which will allow any vehicle to be effectively serviced at any repair shop in the EU. This commitment follows a clear mandate from the European Parliament as laid down in Article 4 of Directive 98/69/EC[47].

The Commission has introduced the relevant provision in its Euro 5 proposal[48] requiring that vehicle repair and maintenance information is provided through web-sites in the OASIS format, which has been developed by a technical committee of stakeholders. This obliges

[44] C 1996/143/04, OJ C 143, 15.05.1996, p. 4-16.
[45] Commission Regulation (EC) No. 1400/2002 of 31st July 2002 on the application of Article 81 (3) of the Treaty to categories of vertical agreements and concerted practices in the motor vehicle sector.
[46] Detailed information on the Block Exemption Regulation and the recent Commission study on this subject can be found on:
http://ec.europa.eu/comm/competition/sectors/motor_vehicles/overview_en.html and
http://ec.europa.eu/comm/competition/car_sector/distribution/block_exemption_final.pdf
[47] OJ L 350, 28.12.1998, p. 1–57.
[48] COM (2005) 683 final

vehicle manufacturers to provide unrestricted, standardised repair and maintenance information to independent repairers thus helping to move towards the Commission's eventual aim of any vehicle being able to be repaired in any workshop in the EU.

As outlined in the Euro 5 impact assessment[49], the benefits of the proposal are manifest. The proper flow of this information should create beneficial competition in the sector which will give consumers greater and freer choice of when and where to repair their vehicles. Access to this information in a reasonable and non-discriminatory manner is not only useful for routine maintenance, but can be crucial for motorists in more isolated or remote areas where there may be no choice of repairer, or when travelling from an area where one marque of vehicle may be common to an area where that is not the case. Access on reasonable terms to this information for small and medium-sized enterprises in the sector is vital as they cannot afford the myriad specialised tools and dedicated information services available to a distributor. Roadside assistance organisations, which need access to repair information in order to perform even simple tasks such as helping motorists with battery replacement, will benefit and in turn will be able to provide the service expected of them by motorists in difficulties.

Design Protection and spare parts

The Commission has adopted a proposal to liberalise the market for spare parts[50]. The aim of the proposal is to complete the internal market through the process of liberalisation begun and partially achieved in Directive 98/71/EC[51], so as to increase competition and offer consumers greater choice as to the source of spare parts used for repair purposes. The proposal also aims to maintain the overall incentive for investment in design.

Taxation and fiscal incentives

The Commission has proposed a directive on passenger car related taxes[52] to the European Parliament and Council. The proposal deals only with registration taxes and annual circulation taxes. It introduces three main measures:

- the gradual abolition of registration taxes over a five to ten year long transitional period
- the establishment of a registration tax and annual circulation tax refund system to avoid the double payment of these taxes
- the introduction of a CO_2-based element in the tax base of both the registration tax (pending its abolition) and the annual circulation taxes.

The Commission has also proposed an Article as part of the Euro 5 proposal that limits the granting of fiscal incentives with the aim of avoiding undue distortions in the internal market. The Commission services have issued Staff Working Paper on fiscal incentives for Motor Vehicles in advance of its Euro 5 proposal

B. Reviewing options to further improve the functioning of the internal market

[49] SEC (2005) 1745
[50] COM (2004) 582 final
[51] Directive on the legal protection of designs and patterns.
[52] COM(2005) 261 final

The internal market in the automotive sector is functioning relatively well and any improvements to its operation are likely to come from promoting initiatives, which have already been launched. Any refinement to the internal market policies at this stage are therefore likely to be the reinforcement and continuation of the of the policy framework already in place.

The CARS 21 Group confirmed that the current Whole Vehicle Type Approval System has proved to be a success and supported the Commission's proposal for a new Framework Directive to extend this system to cover more automotive products (e.g. light commercial vehicles, buses and trucks). The Commission can therefore welcome the unanimous support of the CARS 21 Group for this proposal and in its Communication urges the European Parliament and Council to adopt the proposal as soon as possible.

On the basis of numerous complaints received from citizens and enterprises, the Commission can conclude that there remain problems relating to the free movement of motor vehicles within the EU beyond the type-approval stage. Although the CARS 21 Group did not consider this issue in detail, the Commission will update its interpretative communication on procedures for the type-approval of vehicles previously registered in another Member State[53]. The objective of the new communication will be to provide guidance concerning the rules applicable to the registration of vehicles purchased in another Member State in the light of recent case-law of the Court of Justice concerning Articles 28 and 30 of the EC Treaty, as well as in the light of recent legislation in the area of motor vehicle registration.

The CARS 21 Group had an exchange of views on the Commission's proposal to liberalise the market for spare parts[54]. The Group did not reach a consensus on this issue although the principle that intellectual property rights should be enforced globally was endorsed by all members. The Commission's position on this issue is one of "no policy change" and discussions on the Commission's proposal will continue in co-decision process of the European Parliament and Council where the Commission encourages the co-legislators to adopt the proposal.

The CARS 21 Group discussions raised the issue of diverse vehicle-related taxation regimes in the Member States being a significant barrier to an effectively functioning internal market with registration taxes, in particular, being considered a clear obstacle to the freedom of movement of cars. Concerns were also raised regarding different interpretations and implementations of the rules in different Member States (e.g. the End of Life Vehicles Directive), which can lead to market fragmentation and negative consequences for the single European market[55]. The CARS 21 Group welcomed the Commission's proposal for a directive on passenger car related taxes and the Communication urges the European Parliament and Council to adopt the proposed directive.

5.2.4. Expected impact

A large home market enables industry to attain economies of scale and scope, benefit from learning curve effects early in the product life cycle and increases expertise in production. This in turn should lead to diminishing unit costs that make domestic products more

[53] C 1996/143/04, OJ C 143, 15.05.1996, p. 4-16.
[54] COM (2004) 582 final
[55] For Commission action on the ELV Directive, please see Section 5.6. of this impact assessment.

competitive on foreign markets. A large domestic customer base provides feedback for innovative products which helps future product development. Of particular significance to European automotive companies is the fact that the large European market also opens new opportunities for secondary products and services which generate substantial revenues.

All stakeholders represented in CARS 21 agreed that the existing type-approval system is effective. It ensures conformity with safety and environmental protection requirements while providing industry with legal certainty regarding the compliance of their products. The single market has also offered additional opportunities to vehicle manufacturers by stimulating vehicle trade inside the Community. Passenger car import and export figures for Germany, the U.K., France and Italy (the main vehicle producing countries of the EU) between 1997 and 2005 show a strong trend of increasing intra-Community trade in cars[56]. In terms of car prices, reports by DG Competition indicate that in the last couple of years, the EU price index for cars is increasing at a significantly slower rate than headline inflation (an increase of 0.8% compared to 2.4% for headline inflation between May 2005 and May 2006; an increase of 0.4% compared to 1.9% for headline inflation between May 2004 and May 2005) and that car prices are showing a longer term trend towards price convergence in the EU (although differences still exist and convergence in the euro zone remains greater than in the EU as a whole)[57]. It should be borne in mind, however, that a range of other factors also influence car retail prices in different member states of the EU (e.g. taxation, distribution systems) and that several segments of the vehicle market are currently characterised by intense price competition. The Commission has no reason to believe that its proposed extension of the Whole Vehicle Type Approval System to other vehicle categories would not extend the benefits of this system and there appear to be no drawbacks to pursuing this policy[58].

Updating the interpretative Communication should help Member States and citizens to better understand their rights and obligations with regard to the registration of motor vehicles previously registered in another Member State. This also leaves the Commission in a good position to pursue any further action on this issue in the future.

Access to technical information should help create beneficial competition in the sector which will give consumers greater and freer choice of when and where to repair their vehicles. As concluded in the Euro 5 impact assessment, the expected benefits of the proposal will therefore exceed any incurred costs for manufacturers to make any changes required and they will be able to recoup those costs through charges for the information[59].

The expected impact of the proposed directive on passenger car related taxes is to improve the functioning of the internal market by removing existing obstacles (double payment of registration taxes, market fragmentation) and to promote sustainability by restructuring the tax base of both registration and annual circulation taxes by including elements directly relating to CO_2 emissions from passenger cars.

5.3. Regulatory simplification:

[56] Eurostat
[57] For more information on car prices see: http://ec.europa.eu/comm/competition/car_sector/price_diffs/
[58] For discussion on type-approval.
[59] See Euro 5 impact assessment for more details.

5.3.1 Problem definition: **Is there scope for reducing administrative requirements and regulatory costs through simplification without reducing the level of protection provided?**

The automotive industry is one of the most regulated industries in Europe and is regulated by two sets of regulations. Legislation concerning the type-approval of motor vehicles is one of the most sizeable bodies of legislation in the Community, covering some 56 different directives while in addition the Community has also acceded to more than 100 vehicle-related regulations adopted under the auspices of the United Nations Economic Commission for Europe (UN/ECE)[60], which are applicable as alternatives to corresponding Community legislation[61].

The automotive industry has been calling for a review of automotive legislation for some time so as to assess the overall regulatory burden and bring automotive regulations up-to-date with technological advances in vehicle development. The Commission (supported by the CARS 21 Group) undertook an assessment of the automotive regulatory framework as part of the Commission's better regulation policy, where the automotive regulatory review is one of the initiatives, to simplify and, where possible, streamline and reduce the amount of legal texts in force.

5.3.2. Policy Objective

To simplify automotive legislation and pursue the internationalisation of the automotive regulatory environment

5.3.3. Policy options

A. The current regulatory framework

The Community has acceded to more than 100 vehicle-related regulations adopted under the auspices of the United Nations Economic Commission for Europe (UN/ECE) which are applicable as alternatives to corresponding Community legislation. This provides a certain flexibility to manufacturers but can also create legal uncertainty to the extent that the two sets of legislation are not always updated in parallel to the needs of technical progress.

This situation is not causing the automotive industry significant problems in terms of operating on the European market but retaining the existing framework may represent missing an opportunity to achieve a simplification in the regulatory environment. Policy option A (i.e. the current environment) does, however, lay the basis for policy option B as the latter is a response to the Better Regulation initiative which has been already been launched by the Commission which has identified the automotive industry as a potential area for regulatory simplification.

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[60] In the framework of the 1958 and 1998 UN/ECE Agreements, these Regulations concern the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions.

[61] It should be noted that the UN/ECE regulations largely cover areas related to the type-approval of vehicles and do not cover areas such as the setting of emission limits.

B. The identification of ways in which to simplify the automotive regulatory environment.

The replacement of EC Directives with their UN/ECE equivalents

The CARS 21 Group reviewed the *acquis communautaire* as part of the Commission's better regulation policy to simplify and, where possible, reduce the amount of legal texts in force. The aim of this exercise was to ascertain whether the administrative burden on industry can be reduced through streamlining and simplifying the legislation and identifying redundant elements.

In line with this approach, the CARS 21 Group conducted a systematic review of Community and UN/ECE legislation in the area of motor vehicle type-approval. The objective of the Group was to determine whether the present regulatory system of the automotive industry contained provisions that render cars unnecessarily expensive and which should be abolished. In order to investigate this, the CARS 21 Group examined in detail the 56 EU Directives which relate to the type-approval of motor vehicles.[62] In the course of its examination, the Group reached the conclusion that most of the existing directives were needed in order to guarantee a high level of safety and environmental protection. It concluded that one directive could be repealed[63] and that **38 directives[64] could be replaced by UN/ECE Regulations** without any loss in the level of safety and environmental protection. The Group also recommended that an open mind should be kept regarding the possible simplification of labelling requirements under UN/ECE regulations.

Increasingly the success of the European industry depends as much on its ability to compete in "extra-European" markets as in Europe itself. Most of the future demand increase for vehicles will come from outside Europe and the Commission believes that moving towards global technical requirements would contribute to achieving a level playing field in all major automotive markets, reduce regulatory costs for manufacturers and allow for increased product standardisation of vehicles and components for different markets thus maximising economies of scale. Furthermore, the Commission is believes that the European Union should remain a global leader in developing high-quality technical requirements at the international level.

The introduction of self- and virtual testing

The CARS 21 Group investigated whether self-testing and virtual testing could be introduced as an integral part of the type-approval system in a way which could reduce administrative and regulatory compliance costs for industry while retaining the equivalent safety and quality performance of vehicles. Initially the areas considered were those in which tests are relatively simple in order to test the functioning of this system at minimum risk.

The Commission has already put forward a general provision in the new Framework Directive enabling vehicle manufacturers to act as testing laboratories provided the type-approval authority has confirmed the existence of the necessary competence. In the light of the work done by the CARS 21 Group, the Commission has identified 25 EC Directives and UN/ECE

[62] The list of the directives is contained in Annex I of the CARS 21 final report. For information on the detailed assessment of the different directives, please see Annex II of the CARS 21 final report.
[63] Directive 72/306/EEC on diesel smoke.
[64] These concern passenger cars, buses, light commercial vehicles, trucks and trailers. `

Regulations where the necessary technical provisions could be introduced for using self- and virtual testing so as to reduce regulatory compliance costs for industry by making administrative procedures less costly and time-consuming. Such provisions will be introduced in areas where tests are simple and do not have a critical effect on the safety or environmental performance of vehicles.

To ensure that the co-legislators are fully informed about the development on international standards the Commission services will outline developments at the UN/ECE through an annual working paper.

5.3.4. Expected impact

The introduction of self-testing is expected to shorten lead times of the complete homologation process and consequently reduce costs for vehicle manufacturers. Greater freedom in performing in-house testing is expected to provide manufacturers with more flexibility in the production and development process, which is expected to lead to the reduction of the administrative burden and ease the process of introducing new cars on the market.

The evolution from hardware-based vehicle development to a software-based one is nowadays a fact. Following the development of the computer-aided design and production, computer-aided testing and the simulation of existing conventional test requirements have become an integral part of the technical development process of the vehicle. Derived from the experience of conventional tests, the simulation procedures evolving from them and the progressing validation steps accompanying the development, will enable manufacturers, with the help of the virtual development tools, to increasingly evaluate the compliance of vehicles and their components with regulatory requirements.

Virtual testing procedures are computer simulations with which it can be proven that a vehicle or vehicle component presented for testing will meet the requirements of legislation without use of a real vehicle or a real vehicle component. It is expected that with less reason to develop hardware, regulatory compliance costs will be reduced. To illustrate the effect of virtual testing on the type-approval procedure, industry has provided examples of what the system could contribute in terms of cost savings:

Table 2: Illustration on three cases of the advantages of virtual testing versus real testing

	Cost virtual testing	Cost real testing
Forward vision (Directive 77/649/EEC)	0	Availability of a prototype for 1 day; 16 man hours
Indirect vision (Directive 2003/97/EC)	0	Availability of a prototype for 1 day; 16 man hours
Wash/ Wipe (Directive 78/318/EEC)	0	Availability of a prototype for 1 day; 16 man hours
Total	0	Availability of prototype for 3 days; 48 man hours

Source: ACEA

The introduction of self- and virtual testing is expected to reduce the administrative burden of the type approval procedure. Self- and virtual testing is expected to make the type approval process less costly and time-consuming, better adapted to the changing technology and thus favourable to enhancing the competitiveness of the automobile sector without compromising the safety and environmental performance of vehicles.

The replacement of 38 EC Directives with corresponding UN/ECE Regulations can be expected to be beneficial for industry as international harmonisation provides manufacturers with legal certainty across a wide number of countries and helps equalise mandatory technology content and hence cost-competitiveness of all automotive products regardless of where they are produced. The increased adoption of global standards is expected to play an important role in levelling the international competitive playing field. The possibility of building the same vehicles and components for different markets is expected to reduce inventory related costs to manufacturers and help achieve economies of scale.

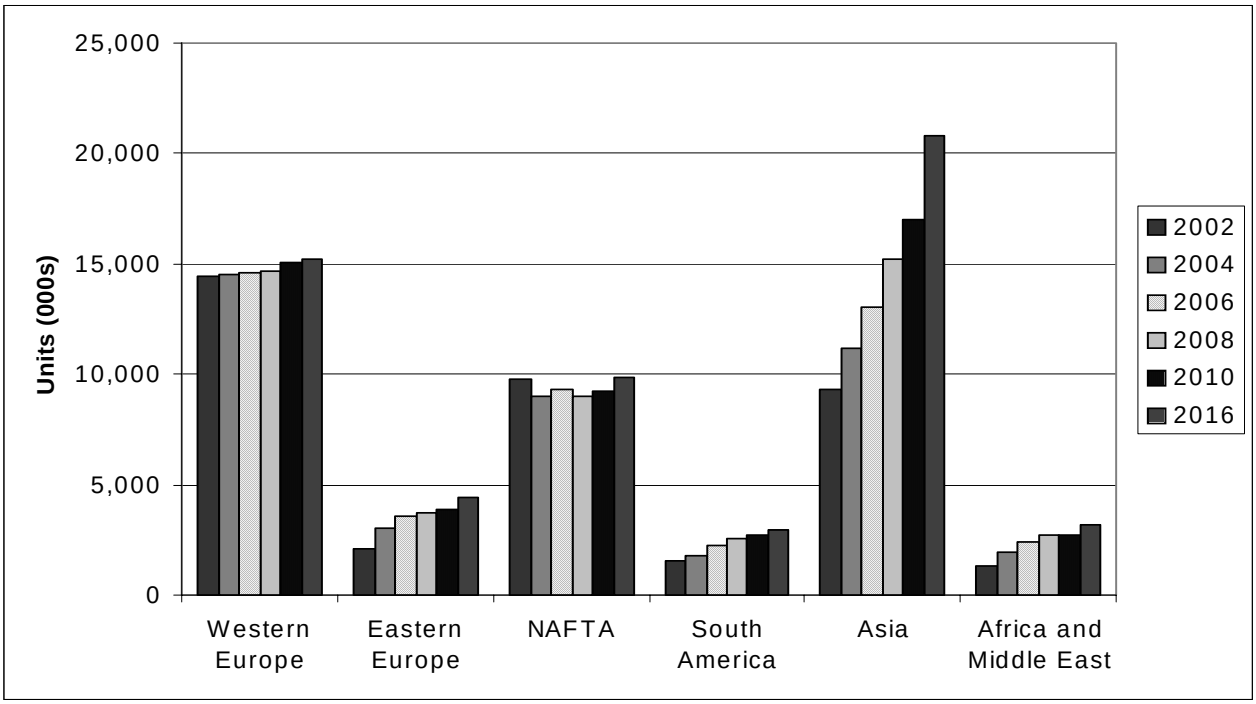
A wide application of UN/ECE Regulations will enable the automotive industry to speed-up the international type approval process. This improvement of the business and regulatory framework is expected to reduce the regulatory costs and help enhance the competitiveness of the industry.

5.4. Trade policy

5.4.1. Problem definition: What is the contribution of trade policy to enhancing the global competitiveness of the automotive industry and can its contribution be improved?

Given the future outlook of global demand growth for automotive products no strategic policy approach to the industry can ignore the fact that the ability to compete on overseas markets will be an important long-term determinant vis-à-vis the competitiveness of European automotive companies. Most of the global demand increase for the industry's products over the next decade will come from rapidly developing economies (e.g. China, India, Russia etc.) and European industry has already begun to prepare itself for the expected mass motorisation in emerging markets through increasing capacity in these locations. The European industry currently holds a strong position and a significant presence in major markets and should be well-positioned to benefit from the foreseen increases in demand.

Figure 5: Global demand and demand forecast for passenger cars (2002-2016)



Source: Global Insight

The Community already has a robust trade policy framework in place and the main challenge of trade policy in the automotive context is to assess how existing trade policy impacts the competitiveness of the industry and whether the fine tuning of any actions could improve the contribution of trade policy to the automotive industry's global competitiveness.

5.4.2. Policy Objective

To contribute to a fair global operating environment for the European automotive industry

5.4.3. Policy options

A. The existing trade policy framework

With the adoption of its recent Communication "Global Europe: Competing in the World"[65] the Commission has focused on the establishment of a clear link between external trade policies and the Growth and Jobs Agenda.

This new approach includes Europe's commitment to keep multilateral WTO negotiations at the centre stage of the international trading system while developing a new generation of free trade agreements. The Communication also outlines a new relationship with China, the strengthening of the Community strategy on Intellectual property and renewing the EU market access strategy. The Commission's approach to trade policy also underlines the importance of achieving effective co-operation with other Community policies.

[65] For a more detailed outline of the Commission's approach to external aspects of competitiveness, see the Global Europe: Competing in the World, A Contribution to the EU's Growth and Jobs Strategy (COM(2006) 567 final).

The EU itself is one of the most open economic environments in the world and has firmly committed itself to embracing the process of globalisation. The main policy challenge for the future is to gain reciprocal openness from its global partners and to promote a fair operating environment in third markets with regard to both European automotive exports and conditions for local production.

The priorities described above largely reflect the main issues being faced by the European automotive industry internationally and the Commission believes that its trade policy is supportive of the automotive industry's global competitiveness. This is further reinforced by the Commission's focus on the harmonisation of international technical regulations.

B. Reviewing areas which the Community trade policy could further take into account so as to contribute to the global competitiveness of European industry

As stated above, the overall trade policy framework of the Commission is generally aligned with the need to improve industrial competitiveness and deliberations in the CARS 21 Group closely reflected the external trade policy priorities of the Commission. The CARS 21 Group considered the main trade-related areas impacting the industry with improved market access being the critical focus of attention.

The Commission concluded that multilateral negotiations provide an opportunity to improve market access for European industry and the Commission will seek to achieve this, if and when, these are continued. There was unanimous agreement on the need for increased pursuit of bilateral or regional approaches (through Free Trade Agreements or similar arrangements) in trade relations with third countries, as appropriate. This is particularly evident with regard to Asian markets (e.g. India, Malaysia, Thailand, Indonesia, Philippines, Singapore etc.), as the European industry's global competitors have focused on similar agreements in the region. This has created the risk of European industry being exposed to discrimination. The Commission believes action in this area should be focused and yield tangible gains: the Commission will use its impact assessment tools to evaluate potential FTAs in advance, will concentrate on markets where real potential exists and will conclude FTAs when they offer real improvement in market access. Industry should provide the Commission with input for such evaluations.

Industry also faces significant non-tariff barriers to trade (such as standards and marking requirements which are not in line with international practices), which can be at least as important as tariff barriers in their impact. These should preferably be dealt with in the same framework as tariff barriers so as to avoid the offsetting of the benefits achieved. The Commission is committed to enhancing and widening regulatory governance on the international level, in particular through the UN/ECE framework (as discussed in section 6), in order to further the development of a level regulatory playing field worldwide.

Discussions in the CARS 21 Group confirmed the Commission's view that the EU should promote and enforce intellectual property rights globally as the automotive industry has serious concerns about the enforcement of intellectual property rules in some areas of the world. Given that technological leadership and high quality product positioning is one of the competitive advantages of European industry the Commission will continue its policy of promoting and enforcing intellectual property rights globally through existing international agreements

The CARS 21 Group devoted some time to the discussion of market access to China and operating conditions there as the Chinese market exemplifies most of the concerns described in this chapter. In the light of China's accession to the World Trade Organisation, the Group concluded that significant unresolved problems remain. In particular, these relate to rules and regulations regarding investment, ownership and corporate governance conditions, local content requirements and the protection and enforcement of intellectual property rights. The Commission has given serious consideration to this issue and adopted, at the end of 2004, a Communication entitled "Strategy for Enforcement of IPR in Third Countries" [66]. Since then, the Commission has substantially increased its work in this field, creating specific dialogues with some of the key partners, such as China, Russia or the Ukraine, introducing the issue at the WTO/TRIPs Council, shifting technical assistance resources to enforcement and establishing reinforced co-operation with countries sharing our concerns, such as the USA and Japan. Over the last year the European Commission has conducted a wide consultation with EU businesses which also identified Turkey, several ASEAN and Mercosur countries as well as Chile as priorities for action. The Commission is determined to get commitments fulfilled and rules enforced, up to and including the right we have to seek redress through the WTO.

Concerns about the Chinese market are not only highly relevant in the light of China's potential to become the world's largest automotive market in the future. They also matter because similar concerns may arise in other large emerging markets and the Commission will continue to closely monitor business and regulatory developments in important markets, particularly those of emerging economies, with a view to ensuring non-discriminatory market access for both trade and investment in and by the sector. More specifically, the Commission has already requested the setting up of a WTO Dispute Settlement Panel to resolve outstanding issues related to the treatment of imported vehicle parts by China and will continue to closely monitor business and regulatory developments in other world markets.

The Commission can also continue its policy of ensuring that IPR are promoted and enforced globally through existing international agreements and will include comprehensive IP provisions in future bi-lateral agreements.

5.4.4 .Expected impact

Implementing the Community trade policy should result in improved market access for the European automotive industry, which should in turn promote increased exports and improve global competitiveness. In particular, the pursuit of bi-lateral trade approaches where appropriate should help ensure that European industry is not discriminated against on markets (particularly in Asia) where its international competitors have either concluded, or are pursuing, bi-lateral trade arrangements.

By looking at local business environments and operating conditions in rapidly developing markets (e.g. China) trade policy can also improve the conditions in which European companies engage in production activities in these countries and allows the Commission to base its policy actions on solid evidence. The Commission hopes that its request to establish a WTO Dispute Settlement Panel in relation to the treatment of imported vehicle parts will prove to be an effective process in terms of ensuring that China abides by its WTO membership obligations.

[66] COM (2004) 749

By promoting international harmonisation of automotive technical regulations, trade policy can enhance the industry's competitiveness by reducing non-tariff barriers to trade (e.g. labelling requirements) which in turn should reduce costs for industry and improve access to third markets. The EU's automotive co-operation with Russia, for example, is largely based on the two parties common commitment to the UN/ECE framework.

By establishing effective IPR protection, policy can help industry take advantage of its innovative capacity and ensure that it is in a better position to turn innovation into commercial success.

5.5. Research and Development

5.5.1. Problem definition: How, and in what areas, can Community- and automotive industry research complement each other to mutual benefit?

The importance of research to the competitiveness of automotive companies is reflected in the volume of investment which the vehicle industry channels into R&D: with approximately € 20 billion (ca. 5% of the sector's turnover)[67] invested into research and product development the automotive industry is the **largest industrial R&D investor in Europe in absolute terms**. The importance of automotive R&D is not limited to the vehicle industry alone: in addition to being a major driver of new technologies its linkages with other sectors of the economy give it a key role in the diffusion of innovations.

European vehicle producers and suppliers are among the largest R&D investors in Europe as shown in Figure 6 below.

Figure 6: Top 20 industrial R&D investors in Europe, 2005

Rank	Company	ICB Sector	Country	R&D Investment 2005 €m
			Top 1000 Companies	**112 876,47**
			number of companies for calculation	*1000*
1	DaimlerChrysler	Automobiles & parts (335)	Germany	5 649,00
2	Siemens	Electrical components & equipment (2733)	Germany	5 155,00
3	GlaxoSmithKline	Pharmaceuticals (4577)	UK	4 564,13
4	Volkswagen	Automobiles & parts (335)	Germany	4 075,00
5	Sanofi-Aventis	Pharmaceuticals (4577)	France	4 044,00
6	Nokia	Telecommunications equipment (9578)	Finland	3 978,00
7	BMW	Automobiles & parts (335)	Germany	3 115,00
8	Robert Bosch	Automobiles & parts (335)	Germany	2 931,00
9	AstraZeneca	Pharmaceuticals (4577)	UK	2 864,51
10	Ericsson	Telecommunications equipment (9578)	Sweden	2 729,95
11	EADS	Aerospace & defence (271)	The Netherlands	2 367,00
12	Philips Electronics	Leisure goods (374)	The Netherlands	2 337,00
13	Renault	Automobiles & parts (335)	France	2 264,00
14	Peugeot (PSA)	Automobiles & parts (335)	France	2 151,00
15	BAE Systems	Aerospace & defence (271)	UK	2 108,88
16	Bayer	Chemicals (135)	Germany	1 886,00
17	Alcatel	Telecommunications equipment (9578)	France	1 792,00
18	Finmeccanica	Aerospace & defence (271)	Italy	1 746,00
19	Boehringer Ingelheim	Pharmaceuticals (4577)	Germany	1 360,00
20	Fiat	Automobiles & parts (335)	Italy	1 318,00

Source: DG Research

[67] ACEA

The industry's global competitive environment is largely behind this research intensity. The automotive industry is the largest sectoral R&D investor world-wide (see Figure 7 below) and for global vehicle producers high levels of sustained R&D investment are a pre-requisite for retaining competitiveness.

Figure 7: Sectoral aggregate R&D investment globally in 2004

The largest sectors by aggregate R&D investment from the world top *Scoreboard* companies, in 2004

Rank	Sectors	Total R&D investment (€ m)	Sector share (%)	R&D Investment /company (€ m)
1	Automobiles & Parts (65)	58516	19.0	900.3
2	IT Hardware (169)	57351	18.6	339.4
3	Pharmaceuticals & Biotechnology (121)	56028	18.2	463.0
4	Electronic & Electrical Equipment (78)	34652	11.2	444.3
5	Software & Computer Services (80)	19625	6.4	245.3
6	Chemicals (80)	15656	5.1	195.7
7	Aerospace & Defence (24)	11718	3.8	488.2
8	Engineering & Machinery (68)	9015	2.9	132.6
9	Health (36)	6343	2.1	176.2
10	Telecommunication Services (18)	6329	2.1	351.6
11	Diversified Industrials (18)	5891	1.9	327.3
12	Oil & Gas (23)	4279	1.4	186.0
13	Personal Care & Households (15)	3646	1.2	243.1
14	Media & Entertainment (13)	3624	1.2	278.7
15	Food Producers (15)	3162	1.0	210.8
	Total 15 Sectors (823)	295835	95.8	359.5
	Rest of 16 Sectors (119)	12813	4.2	107.7
	TOTAL 942 companies	308648	100,0	327.7

Note: The number of companies (from the top 942) operating in each sector is given in brackets, after the name of each sector. The 942 companies are spread across 31 sectors.

Source: DG Research

Given that ground-breaking innovation could significantly alter the automotive industry's future products and the link between automotive research and areas of strategic interest for the Community (e.g. energy, environment and safety), the Commission would like to ensure that the research and development co-operation with the automotive industry is as effective as possible. The CARS 21 Group provided a good opportunity to review the interaction between Community research and private automotive research.

5.5.2. Policy Objective

Encourage increased research and development into areas of strategic interest

5.5.3. Policy options

A. The current framework for R&D

The automotive industry is an active participant in European research initiatives and the cornerstones of automotive industry-related R&D are in place. The 7th Framework Programme (FP 7) [68] has created a dedicated theme for "Transport, including aeronautics" and has sought to improve administrative procedures linked to Community R&D financing. In

[68] For more information on FP 7, see: http://ec.europa.eu/research/fp7/home_en.html

addition the Commission has also (in FP7), under the Information and Communications Technologies theme, proposed continuing research in the area ICT for mobility, environmental sustainability and energy efficiency, building on the research conducted under the 5th and 6th Framework Programmes.

Industry-led Technology Platforms play an important role in identifying research needs. The "Vision of road transport in 2020" and the Strategic Research Agenda developed by the European Road Transport Research Advisory Council (ERTRAC)[69] have been central to defining the direction of future R&D efforts in the area of road transport. The automotive value chain also participates a large number of technology platforms (such as embedded systems, innovation in materials, renewable energy, nanotechnologies, smart systems integration etc.).

The Commission believes that it is necessary to focus European research in FP7 on both incremental research (e.g. **technologies for clean and energy efficient thermal engines, integrated safety systems**) and on breakthrough technologies (e.g. **hydrogen and fuel cells, development of rechargeable hybrids, 2nd generation biofuels**). The main objective of the "Transport" theme will be twofold: i) to develop greener, safer and more secure transport systems; ii) to secure and further develop the leading role of the European industries in the global market. Furthermore, the Commission believes in the importance of creating lead markets in areas relevant to the automotive sector: hydrogen and fuel cells, biofuels etc. could be potential candidates for the lead market initiative proposed by the Commission[70].

The research under the ICT theme focuses on systems for safer and more efficient mobility of people and goods and on raising Europe's capacity for sustainable growth. On longer term, the goal is to achieve mobility in Europe that is virtually accident-free, efficient, adaptive, clean and comfortable, and to strengthen the competitiveness and technological leadership of Europe's automotive and supplier industries.

B. Continuing to focus on research co-ordination in strategic areas

In terms of research and development, the discussions in CARS 21 pointed largely to the fact that existing co-operation should be continued. Thus, in its Communication, the Commission recommends the continuation of established research collaboration. In particular, however, the CARS 21 Group suggested concentrating on the strategic areas of clean fuels as well as intelligent vehicles and roads. Furthermore, the Group held discussions on the possibility of the automotive industry to participate in the Joint Technology Initiatives which are under preparation by the Commission with particular focus being placed on Hydrogen and Fuel Cells[71]. Discussions between the industry and the Commission on setting up of this technology initiative are currently ongoing.

5.5.4. Expected Impact

[69] ERTRAC is an industry-led platform with representatives of the Member States, the Commission and other related stakeholders involved.

[70] For more information on the Commission's lead market initiative, see COM (2006) 502 "Putting knowledge into practice: A broad-based innovation strategy for the EU."

[71] For detailed information on this initiative, see https://www.hfpeurope.org/, which is the homepage of the European Hydrogen and Fuel Cell Technology Platform

The automotive industry is an active partner in Community research and development. The broad aims of such co-operation are the pursuit of strategic research priorities as outlined in the different technology platforms and ensuring that limited R&D resources are spent as effectively as possible. The establishment of a Joint Technology Initiative with the participation of the automotive industry is expected to add a new research instrument for long-term research co-operation is areas of strategic importance where, among other criteria, there is evidence of market failure and Community value-added.

5.6. Environmentally sustainable development

5.6.1. Problem definition: Does the current policy framework enable the automotive industry to contribute to Europe's sustainable development goals cost-effectively?

Environmental protection is an important priority for the Commission. Modern industrial societies have an obligation to ensure that increased prosperity does not come at the expense of the natural environment or human health while innovative products with high environmental standards could be better placed for fierce global competition. Passenger cars emit 12% of Europe's greenhouse gases while the transport sector remains one of the few sectors where emissions are still rising. EU policies on waste and noise also interact with the automotive sector. Increased energy (cost and supply) and environmental concerns are likely to play an important role in the debate on the shape and functioning of future vehicles.

Automotive-related environmental policy can have a significant impact on the industry's competitive performance and cost structures as well as the affordability of vehicles for European consumers. It is therefore important that environmental policy measures not only contribute to the achievement of the Community's environmental goals but also take into account compatibility with providing new market opportunities and/or achieving technological or quality leadership. The challenge in defining an environmental policy for the automotive sector lay in developing a framework which is able to strike an appropriate balance between the achievement of environmental objectives and the safeguarding of the industry's competitiveness.

5.6.2. Policy Objective

Further promote environmentally sustainable road transport

5.6.3. Policy options

A. The existing policy framework for environmental sustainability

The two main environmental policy areas linked to the vehicle industry are the Thematic Strategy on Air Pollution[72] and the Community Strategy to reduce CO_2 emissions[73]. Under the Thematic Strategy on Air Pollution the main regulatory levers governing the environmental performance of vehicles are the Euro vehicle emission limits for light- and heavy duty vehicles[74] while the voluntary agreements signed between the Commission and the

[72] COM (2005) 446.
[73] http://europa.eu.int/comm/environment/co2/co2_home.htm
[74] See Directive 98/69/EC (OJ L 350, 28.12.1998, p. 1–57), and Directive 2005/55/EC (OJ L 275 , 20.10.2005 p. 1–32).

automotive industry to reduce average new-car CO_2 emissions to 140 grams/ km by the end of 2008/ 2009[75] are currently the main policy tools for reducing greenhouse gas emissions.

Pollutant emissions

The European Union's policy to systematically reduce pollutant emissions from vehicles has already brought significant improvements in air quality: since the adoption of the first Euro emission limit standards **reductions of approximately 70-90% for NOx and particulate matter emissions** have been achieved. The Commission intends to continue the tightening of Euro emission limits for light- and heavy duty vehicles in line with the Thematic Strategy on Air Pollution and has adopted a proposal for **Euro 5**[76] emission limits to reduce pollutant emissions from passenger cars and light-duty vehicles. The adoption of the proposal will lead to a further 80% reduction in particulate emissions from diesel vehicles and a 20% and 25% reduction of NOx emissions from diesel and petrol vehicles respectively while the Commission estimates that the manufacturer cost of this proposal will be € 51 and € 377 for petrol and diesel cars respectively. Furthermore, the Commission has contributed, together with the European Parliament and Council, to further NOx emissions reduction **(Euro 6)** from passenger cars and light-duty vehicles (it is estimated that this policy will bring the NOx emissions level of diesel vehicles down to 80 mg/km at a manufacturer cost of € 213 (see Euro 5 and Euro 6 impact assessments respectively).

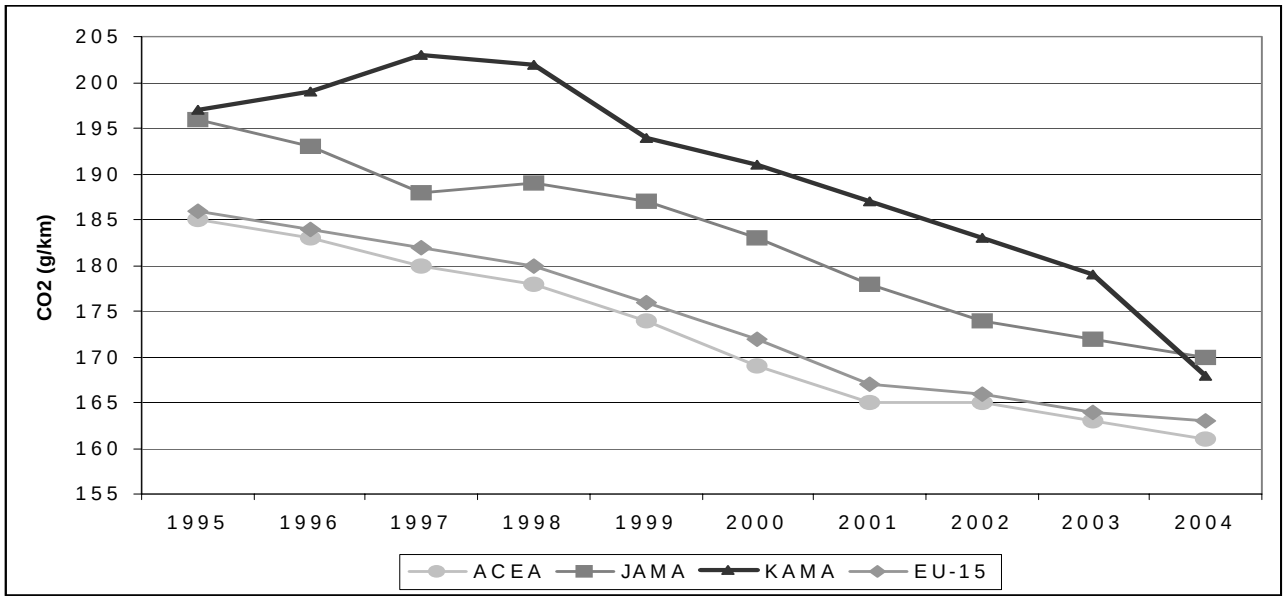
The Commission has also adopted a proposal for a Directive on the promotion of clean road transport vehicles by public procurement[77] which aims at improving air quality (particularly in cities) and should support the market introduction of clean vehicles.

CO_2 emissions:

The Community's strategy to reduce CO_2 emissions from passenger cars and improve fuel economy is currently based on three pillars: the voluntary commitments of the automobile industry on fuel economy improvements, fuel-economy labelling of cars and the promotion of car fuel efficiency by fiscal measures. Improvements in the fuel efficiency of vehicles have led to a decrease of 12.4% in the CO_2 emissions of new passenger cars between 1995 and 2004 while the contribution of other pillars has been limited[78].

Figure 8: Evolution of CO_2 emissions from new passenger cars

[75] The commitment made by the European Automobile Manufacturers Association (ACEA) has been recognised by the European Commission in the Recommendation of 5 February 1999 on the reduction of CO_2 emissions from passenger cars (1999/125/EC, OJ L 040, 13.02.1999, p. 49-50). Similar commitments have been signed by the Japanese and Korean automobile associations (JAMA and KAMA) with the objective of reducing new car emissions to 140 grams per kilometre in 2009.
[76] COM (2005) 683 final
[77] COM (2005) 634
[78] COM (2006) 463 final



Source: European Commission (Communication on the effectiveness of the CO_2 from cars strategy)

The existing voluntary agreements will expire in 2008/2009 and the Commission is currently preparing a review of the Community strategy to reduce CO_2 emissions from cars. Detailed information on this review is available: http://ec.europa.eu/environment/co2/co2_home.htm.

The Commission has recently also proposed a phase-out of certain fluorinated greenhouse gases from mobile air conditioning systems (MACs)[79] which has been adopted by the European Parliament and Council.

B. Ensuring that the automotive industry continues to contribute to environmental policy objectives cost-effectively

The Commission believes that the system of Euro emissions limits has worked well and has sought to strengthen it further through the Euro 5 and 6 proposals. In the future, the Commission intends to continue reducing pollutant emissions from heavy-duty vehicles and will come forward with a proposal for **Euro VI** emission limits for heavy duty vehicles.

Environmental policy measures normally imply additional cost to vehicles. The CARS 21 Group expressed concern that such measures can have a significant impact on the affordability of vehicles for European consumers, slow down the market penetration of newer environmentally-friendlier vehicles and introduce costs which consumers are not willing to pay for. The CARS 21 Group therefore suggested that the Commission base the development of future environmental protection measures on thorough cost-effectiveness assessments and take into account their compatibility with providing new market opportunities and/or achieving technological or quality leadership for European industry.

During the CARS 21 Group the automotive industry expressed serious concern that the Community CO_2 policy in particular has not been based on principles of better regulation or cost-effectiveness: the Community strategy to reduce CO_2 emissions from passenger cars

[79] Directive 2006/40/, OJ L 161, 14.06.2006, p. 12-18

relies almost exclusively on comparatively expensive[80] vehicle technology measures to provide quantitative reductions while no impact assessment was conducted when the Community target of 120g/km by 2012 was set.

The CARS 21 Group therefore considered a more integrated and holistic approach to reducing CO_2 emissions which would involve a larger number measures and relevant stakeholders (i.e. vehicle manufacturers, oil/ fuel suppliers, customers/drivers, public authorities) as opposed to continued reliance of vehicle manufacturers alone. The Group recommended that the ongoing review of the Community strategy on CO_2 and cars offers an opportunity to implement a more cost-effective and comprehensive approach and evaluated the principles and possible measures which could be considered as part of the revised strategy.

Measures such as the contribution of intelligent transport systems, the avoidance of traffic congestion, the reduction of unnecessary travel, the promotion of alternative modes of transport (incl. public transport), teleworking and the promotion of walking and cycling should also play an important role in the reduction of CO_2 emissions. The Commission will, in the framework of the i2020 Intelligent Car Initiative[81], pursue the development of Information and Communications Technologies' (ICT) based technologies and applications for cleaner and more energy efficient mobility, including tools for environmentally friendly driving.

To gain an understanding of the costs involved in reducing CO_2 emissions from cars, the Commission commissioned a study[82] to investigate the CO_2 reduction potentials and costs of different measures. The results of this study have been summarised in the table below.

Table 1: Comparison of options with respect to abatement costs (€ per tonne of CO_2-eq. avoided) and total reduction potential

[80] See below
[81] COM (2006) 59 final
[82] Review and analysis of the reduction potential and costs of technological and other measures to reduce CO_2 emissions from passenger cars (SI2.408212)

		Retail price excl. tax per vehicle [€][1]	GHG abatement costs in [€/tonne CO_2-eq.]				Total annual reduction in [Mtonne/y]	
Oil price			**25 €/bbl**	**36 €/bbl**	**50 €/bbl**	**74 €/bbl**	**2012**	**2020**
Technical options at the vehicle level[2]	- 140 g/km in 2012	245	--	--	--	--	--	--
	- 135 g/km in 2012	570	166	143	114	65	3.0	5.1
	- 130 g/km in 2012	960	187	164	135	86	6.8	21.4
	- 125 g/km in 2012	1410	209	186	157	108	10.6	37.7
	- 120 g/km in 2012	1940	233	210	181	132	14.4	54.1
Fuel efficient air conditioning systems[3]		33 / 19	68 / 90	48 / 66	24 / 37	1.5	1.0	2.7
Options reducing vehicle resistance	- Low rolling resistance tyres	49	139	109	73	15	2.4	5.3
	- TPMS	58	5	-20	-50	-98	2.0	9.6
	- Low viscosity lubricants	20	181	150	113	53	2.0	9.6
CNG[4]	- compared to 2008 petrol	2030	400	356	302	208	2.4	7.3
	- compared to average 2008 vehicle	1450	347	312	268	193	2.1	6.4
Biofuels[5]	- Brazilian ethanol	12 ± 2 €/GJ	52 / 136	16 / 90	-28 / 34	-103 / -63	3.1 - 4.0	3.1 - 4.0
	- European ethanol	19 ± 6 €/GJ	196 / 656	137 / 564	65 / 451	-58 / 257		
	- Biodiesel	18 ± 3 €/GJ	158 / 426	111 / 355	53 / 268	-47 / 118		
N_1-vehicles[6]	- 15 g/km reduction	410	6	-16	-44	-91	1.2	2.2
	- 30 g/km reduction	1620	63	41	14	-34	2.4	7.0
	- 45 g/km reduction	3850	131	108	88	34	3.7	11.7
	- 60 g/km reduction	7240	206	184	156	109	4.9	16.5
Fuel efficient driving	- new drivers	0	-35	-50	-69	-100	1.8	5.5
	- GSI	17	-26	-50	-78	-128	1.5	4.4
	- existing drivers (lessons)	100	-2	-21	-45	-85	4.0	9.1
	- existing drivers (lessons + GSI)	135	-7	-26	-49	-89	6.0	13.7

[1]) Retail price excl. tax is input for abatement cost calculation.

[2]) Average results for the scenarios where various targets are applied per manufacturer without trading

[3]) Policy scenario compared to baseline, data for 2010 and 2012.

[4]) For natural gas imported from outside Europe with 4000 km transport distance. Abatement costs for scenario assuming additional market share growing to 10% in 2012 and beyond.

[5]) Abatement costs assessed for high reduction % / low fuel cost assumption resp. low reduction % / high fuel cost assumption, based on fuel production costs, for additional 1% replacement of fossil fuels.

[6]) Costs compared to 2012 business as usual baseline.

As outlined above different measures to reduce greenhouse gas emissions from cars carry different costs and reaching the 120 g CO_2/km target by 2012 on the basis of technical options at the vehicle level alone would add an additional € 1940 to the retail price of an average car (excluding taxes the inclusion of which would raise this cost to € 2450). Given that the equivalent of achieving 120 g/km by 2012 would be ca. 11 Mt (megatons) of CO_2 saved from a total road transport emissions of 892 Mt[83], the Commission believes that it should carefully examine the different options available to achieve the necessary reductions so as to establish some proportionality between the costs and benefits.

In a low oil price scenario (€ 25/barrel) this implies a greenhouse gas abatement cost of € 233 ton/ CO_2-equivalent while in a higher oil price scenario (€ 50/barrel) the cost would be reduced to € 181 ton/ CO_2-equivalent. Alternative supply-side measures to reduce CO_2 from road transport are either in a similar cost range (European-produced biofuels, improved fuel consumption in light-commercial vehicles) or significantly cheaper (imported biofuels, fuel efficient air conditioning systems, reduced vehicle and engine resistance factors). Demand-side measures such as fuel-efficient driving, CO_2 based taxation schemes for passenger cars, options for improved energy or CO_2 labelling and public procurement proposals can also be highly cost-effective when compared to vehicle technology costs (e.g. all options examined for eco-driving show a negative € ton/CO_2-equivalent value) and have the added advantage of stimulating consumer demand towards energy-efficient vehicles. The challenge of the integrated approach is to create an optimal basket of measures to achieve the Community's aims cost-effectively while also considering effects on individual stakeholders.

[83] In 2003. From: The Second European Climate Change Programme, Final Report of the transport Working Group ECCP review, which can be found on: http://forum.europa.eu.int/Public/irc/env/eccp_2/library?l=/eccp_transport_measures&vm=detailed&sb=Title

Furthermore, the market price of CO_2 under the European Emissions Trading Scheme was € 12.40 per ton of CO_2 on October 13th 2006 implying that the reduction of greenhouse gas emissions by means of vehicle technology is significantly more expensive than achieving equivalent reductions from other sectors of the economy. This also applies vis-à-vis sectors not included in the Emissions Trading Scheme: for example, an evaluation of CO_2 emission reduction in the household and services sector[84] concluded that in the household sector there is potential to reduce 161 Mtons of CO_2 equivalent at a price of less than € 50/ton (of which 83 tons at a negative cost, 12 tons at € 0-€20 and 66 tons at € 20-€50) while in the services sector a reduction of 80 Mtons could be achieved at a negative cost. In the light of this, the Commission will consider the inclusion of the road transport in the Emissions Trading Scheme as this mechanism may offer a highly cost-effective option to reduce CO_2 emissions from road vehicles.

Finally, reaching the 140g CO_2/ km target in 2008/9 (compared to the 2002 baseline) through vehicle technology would translate into an additional retail price increase for cars of € 1200. The revised strategy would enable to take into account the average fleet tailpipe emissions in 2008 so as to enable the actual cost implications of the future strategy to be determined on the basis of the situation when the voluntary agreements expire in 2008/ 2009.

The Commission will shortly put forward a Communication to the European Parliament and Council on the results of the review of the Community strategy to reduce CO_2 emissions from cars on the basis of the integrated approach in which the details of the future CO_2 policy for cars will presented. Applying the integrated approach should enable to achieve the Community's policy objectives more cost-effectively, allow the inclusion of measures which cover the whole vehicle fleet and enable a fairer distribution of the policy's cost between different stakeholders. Furthermore, the Commission will also investigate different policy measures available to achieve CO_2 reductions and ensure that the CO_2 reduction policy from cars interacts with the overall context of the EU's climate change strategy, maintains the flexibility of companies to innovate and takes into account the differences in the product portfolios of different vehicle producers.

The Commission also notes that there may exist a need to work towards a better reflection of real-life emissions during the emissions' testing process and will consider possible actions which could be taken in this area.

In the light of the focus which some automotive manufacturers are placing on the development of hydrogen technology the Commission notes the need to establish a regulatory framework for vehicles using hydrogen as a fuel and will aim to come forward with a proposal for a Regulation on motor vehicles using hydrogen as a fuel to ensure the safe use of this technology.

The Commission intends to, during the next revision of the End-of-Life Vehicles Directive,[85] address the issue of non-harmonised implementation of this directive across the Member States as well as to pursue a holistic approach to tackle noise issues, which would involve all relevant stakeholders and systems (e.g. traffic management, driver behaviour, vehicle and tyre technology, road surfaces).

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[84] "Economic Evaluation of Sectoral Emission Reduction Objectives for Climate Change: Economic Evaluation of CO_2 Emission Reduction in the Household and Services Sectors in the EU", 2001

[85] Directive 2000/53/EC, OJ L 269, 21.10.2000, p. 34–43

Finally, Global Technical Regulations on test procedures for measuring emissions from heavy-duty vehicles and on on-board diagnostic systems have been adopted in 2006 while discussions are underway on a GTR on off-cycle emissions. The aim of these GTRs is to harmonise emissions testing methods and measurement globally and ensure that real-life emissions conditions are better reflected in testing procedures. The Commission will also seek to look at ways through which to better ensure that the emissions testing process for passenger cars also takes better account of real-life emissions.

5.6.4. Expected impact

The impact of introducing Euro 5 and Euro 6 emission limits has been described in section 5.6.3. of this impact assessment.

The Commission hopes that the adoption of the integrated approach to CO_2 emissions would offer the following advantages:

- it allows for progress in reducing CO_2 across the entire automobile fleet. Less than 10% of all vehicles in Europe are new in any given year; by including measures which have an effect on the emissions' performance of the entire vehicle fleet (e.g. lower carbon content fuels, driving behaviour) the integrated approach affords greater opportunities to reduce CO_2 emissions in a shorter timeframe and to a greater extent;
- it is based on a cost-effective combination of measures, thus allowing for a fairer distribution of the policy's economic cost among the industries (automotive industry, oil industry) and other stakeholders involved;
- it allows to exploit synergies between the Community renewable fuels policy and the Community strategy to reduce CO_2 from cars hence contributing to Europe's energy security as well as to sustainable development;
- it would create a meaningful relationship between demand- and supply side measures thus helping to alleviate a situation where the efforts undertaken by car manufacturers are undermined by consumers and driver behaviour which currently does not place a high value on the environmental characteristics and performance of a vehicle.

Without any prejudice to its conclusions, the Commission believes that investigating the possible inclusion of road transport in the Emissions Trading Scheme would at the very least be undertaken in order to evaluate a measure which could potentially offer a highly cost-effective way to reduce road transport CO2 emissions.

The Commission's proposal on hydrogen technology is expected to provide greater legal certainty and improved safety with regard to the use of this fuel and the Commission hopes that this will contribute to the penetration of hydrogen-powered cars on the European market in the future.

5.7. Road Safety:

5.7.1. Problem definition: **Does the current policy framework enable the automotive industry to contribute to increased safety on European roads cost-effectively and what can be done to improve it.**

Noteworthy progress has been made in improving European road safety: during the last 30 years traffic on European roads has tripled while the number of casualties has halved during the same period. This has largely been achieved through a combination of improved occupant

protection by vehicle manufacturers, more stringent EU legislation for crash test standards and improved consumer information and awareness (e.g. through the EuroNCAP programme[86]).

Figure 9: Road accidents: number of people killed per million inhabitants, EU-15 (1970-2000)

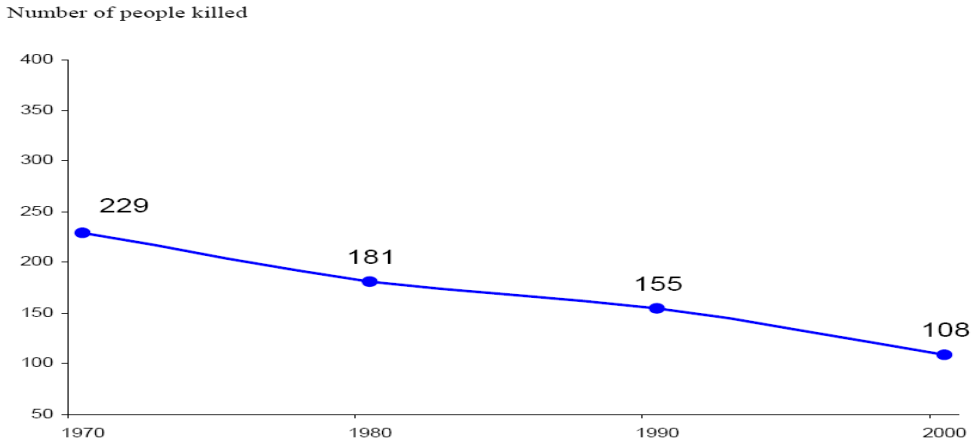

Figure 1b : Road accidents number of people killed per million inhabitants, EUR-15, trend 1970-2000

Source: DG Energy and Transport

However, the ever greater mobility enjoyed by Europeans still comes at a high price: latest estimates show that about 41,600 people were killed on European roads in 2005. This represents a 17.5% improvement over 4 years from the 50,000 road deaths in 2001[87]. The Commission's commitment to reducing the number of casualties on European roads has been outlined in the Commission 2001 White Paper on Transport Policy[88] and subsequently in the European Road Safety Action Programme[89]. The Commission's stated aim is to achieve a 50% reduction in deaths[90] on European roads by 2010.

The CARS 21 Group provided an opportunity to assess the current and possible future contribution of the European vehicle industry to the Commission's ambitious road safety objectives. The CARS 21 Group was a good forum in which to identify and agree on individual measures which could be considered by the Commission in the future so that industry would be provided with planning certainty and predictability vis-à-vis future vehicle technology-related road safety measures.

5.7.2. Policy Objective

Further enhance safety on European roads

5.7.3. Policy options

[86] The European New Car Assessment Programme.
[87] Mid term review of the European Road Safety Action Programme: COM (2006) 74 final.
[88] European transport policy for 2010: time to decide. COM (2001) 370 final. The mid-term review of the European Commission's 2001 Transport White paper was completed in 2006, COM (2006) 314 final.
[89] COM (2003) 311 final
[90] Compared to 2001 implying a target of 25,000 by 2010.

A. Existing policy framework on road safety.

The European policy approach to road safety has for many years been in an embryonic state. The limits to the Union's ability to act and the subsidiarity principle have often made it difficult to translate long discussions on road safety into concrete actions at the European level.

In the 2001 White Paper on Transport Policy[91], the Commission set the ambitious objective of halving the number of fatalities on European roads by 2010. In 2003, the Commission adopted a forward-looking European Road Safety Action Programme[92] (reviewed in 2006) in 200, which developed Community policy on road safety on the basis of an integrated approach. The Commission believes that this ambitious policy aim can only be achieved through an effective **interaction between improvements in vehicle technology, road infrastructure, driver behaviour and enforcement**. This approach found unanimous support among members of the CARS 21 High Level Group.

Among other things, the Commission has adopted Recommendation 2004/345/EC[93] on best practice regarding the monitoring of the application of rules on drink-driving, speeding and seat-belt use, has adopted a Communication on the Intelligent Car Initiative[94] which aims to foster the deployment of advanced safety technologies in order to contribute to the reduction of road casualties in the EU, has adopted a proposal for a Directive on Road Infrastructure Safety Management[95] and has adopted a proposal for a Directive on the retrofitting of mirrors to heavy goods vehicles registered in the Community with the aim of avoiding blind spots in the rear field of vision.[96]

From the vehicle technology perspective, most of the progress made thus far has been the result of improved **passive safety** (limiting the consequences of accidents). The Commission believes that an increased focus should now be placed on improving **active safety** (avoiding accidents). To facilitate the introduction of such systems, the **eSafety Initiative** was established in 2002. eSafety is a co-operative multi-sector public-private partnership initiative with the objective of promoting the development, deployment and use of advanced active systems that utilise information and communication technologies (ICT) for increasing road safety. The Commission has adopted a Communication on Information and Communications Technologies for Safe and Intelligent Vehicles[97], which brings forward the actions intended by the Commission to accelerate the development, large-scale deployment and use of active safety systems (Intelligent Vehicle Safety Systems).

B. Contribute to the road safety policy by considering the introduction of different policy measures reviewed in the CARS 21 Group

[91] European transport policy for 2010: time to decide. COM (2001) 370 final. The mid-term review of the European Commission's 2001 Transport White paper was completed in 2006, COM (2006) 314 final.
[92] COM (2003) 311 final
[93] Commission Recommendation of 6 April 2004, OJ L 111, 17.4.2004, p. 75–82
[94] COM (2006) 59 final
[95] COM (2006) 569 final
[96] COM (2006) 570 final
[97] COM (2003) 542 final

The CARS 21 Group discussions on road safety were aimed at complementing the existing policy framework, in particular given that the CARS 21 Group unanimously supported the adoption of an integrated approach to improve road safety.

The CARS 21 Group recommended significant new steps forward in the area of road safety and recommended the inclusion of a series of further vehicle technology improvements in new vehicles marketed in the future. However, given the role that road infrastructure and law enforcement play in improving road safety an effective road safety policy relies on an integrated approach where vehicle manufacturers, drivers, the Commission and Member States work together. In this context, the Commission strongly urges the latter to continue their efforts in improving the road infrastructure and the level of enforcement.

As a result of CARS 21, the Commission will consider coming forward with the following proposals to improve road safety in Europe:

- introducing Isofix child restraint systems into all new passenger cars;
- making the use of daytime running lights obligatory;
- including Electronic Stability Control in all new vehicles on a mandatory basis;
- introducing seat-belt reminders into all new vehicles;

The Commission also intends to come forward with a proposal to amend Phase II requirements of the Pedestrian Protection Directive.

Furthermore, the Commission will continue its efforts to promote the development, deployment and use of active safety systems through the i2020 Intelligent Car Initiative and will investigate the feasibility of introducing emergency braking systems into all new vehicles.

5.7.4. Impact

The combination of these measures should enable to significantly contribute to improving road safety in Europe along the lines laid down in the White Paper on Transport Policy and in the European Road Safety Action Programme.

By discussing possible future policy initiatives with stakeholders in advance, this approach will provide industry with planning certainty regarding future safety features which can expected in vehicles.

5.8. Summary of expected impacts

The link between the main objectives and key initiatives proposed in this Communication has been summarised below:

Table 3: Interaction between main objectives and key initiatives

Initiatives / Objectives	Overall CARS 21 policy review	Better Regulation principles	Extend Whole Vehicle Type Approval System to all vehicle categories	Access to repair and maintenance information	Self-and virtual testing	Replace EC Directives with UN/ECE Regulations and promote international harmonisation	Focus trade policy on competitiveness agenda	R&D co-operation in 7th Framework Programme	Further reduce pollutant emissions	Adopt revised CO2 strategy based on cost-effectiveness and an integrated approach	Propose CARS 21 road safety "package"
Consistent and predictable policy framework	x	x									
Strengthen internal market contribution to competitiveness			x	x	x	x					
Simplify legislative environment and reduce administrative and compliance costs			x		x	x					
Improve competitiveness on world markets					x	x	x	x			
Research and Development								x			
Contribute to sustainable development									x	x	
Contribute to energy policy										x	
Improve road safety											x

6. MONITORING AND EVALUATION

The CARS 21 High Level Group agreed that all stakeholders should be actively involved in regularly updating the automotive policy framework. The Communication therefore proposes to conduct a mid-term review of the final recommendations of the CARS 21 Group in the course of 2009 to take stock of progress made and update the regulatory framework if appropriate. The Communication also proposes that the Commission will regularly update the co-legislators on the progress made at the UN/ECE by issuing an annual working paper describing the status of developments.

ANNEX 1: MAIN CONCLUSIONS OF THE PUBLIC CONSULTATION ON THE CARS 21 FINAL REPORT

A total of 34 responses were received during the consultation process. Contributors included representatives of government, industry, NGOs, academia, consultancies and private individuals. The summary below only covers some of the main elements identified by the stakeholders.

Issues Identified

International regulatory harmonisation

Many stakeholders welcomed the Commission's simplification initiative and the move towards increased international regulatory requirements. Some stakeholders indicated that international harmonisation should not lead to lower requirements in the EU in areas such as road safety and the environment. Some stakeholders also asked for clarification on how the UNECE process operates.

Internal market

Strengthening the internal market was welcomed by stakeholders. Some stakeholders expressed surprise that the report made no reference to a number of issues in Directive 70/156/EEC such as limiting the exemption for heavier passenger cars from crash tests and pedestrian safety and the regulations for the admission of individual vehicles and for small series. It was also suggested that registering a car previously registered in another Member State should be possible without having to have the car inspected again.

Better Regulation

Stakeholders supported the adoption of better regulation principles. Some stakeholders pointed to a potential contradiction between indicating the N+2 step and thorough impact assessments. Some stakeholders also suggested that better regulation should not imply less regulation and stressed the role of regulation in protecting weaker parties.

Regulatory instruments

Several stakeholders expressed the view that legislative measures are more effective than voluntary agreements and should replace the latter in the future.

Monitoring of CARS 21 recommendations

A number of stakeholders stressed the importance of implementation for the CARS 21 process. It was also suggested that progress should be monitored by a wide group of stakeholders.

Road Safety

Stakeholders welcomed the detailed attention given to road safety issues in the CARS 21 final report. Stakeholders were in agreement with the report's analysis of accident causes and the

focusing of future activity on the three priority areas of speeding, drink driving, and failure to wear seat belts.

The measures proposed by the report were welcomed (particularly the Electronic Stability Control). Several stakeholders suggested the inclusion of additional measures, among which intelligent speed adaptation systems, intelligent seat-belt reminders and alcolocks were mentioned.

Some stakeholders also suggested increased action in the implementation of initiatives such as e-Call and other eSafety technologies.

Some stakeholders suggested the harmonisation of the highway-code across Europe citing strong public demand. The adoption of a cross-European traffic law enforcement directive, increased attention to road infrastructure and the protection of vulnerable road users were also referred to.

A modification of phase II of the Pedestrian Protection Directive was welcomed by several stakeholders. It was suggested that relevant implementing measures should be adopted quickly.

Environmental policy

Generally stakeholders welcomed the integrated approach as a good basis for environmental policy. Some stakeholders indicated that the integrated approach should not lead to the reduction of ambition levels in individual areas of environmental protection while others pointed to the importance of cost-efficiency. The role of fuel efficiency, alternative fuels, consumer information, labelling, gear shift indicators and eco-driving were among those mentioned as promising elements for the integrated approach to CO2 emissions. Some stakeholders referred to the importance of the 120 g/ km target and proposed extending the policy measures to heavy-duty vehicles and light commercial vehicles.

Some stakeholders proposed more stringent requirements for carbon and NOx emissions than have been put forward by the Euro 5 proposal while others suggested that the ambition levels of the Euro 6 should also be indicated now. Some stakeholders suggested that emissions legislation needs to clearly relate to the actual operational use of the fleet (i.e. real-life emissions).

Some stakeholders referred to the importance of noise control.

There were calls from some stakeholders to increase the volume of renewable fuels on the EU market and to ensure that the production of advanced biofuels can develop on an industrial scale.

Although the mention of hydrogen as part of CARS 21 was welcomed, some stakeholders believe that CARS 21 could have provided more explicit support for hydrogen and a common European energy policy.

Transport policy

Several stakeholders indicated that they would have liked the CARS 21 final report to have

paid more attention to the role of the automotive industry in the EU's transport policy.

Trade

Attention was drawn to the fact that customs duties remain significant in Malaysia, India, Thailand and Indonesia, and European institutions were urged to act on this matter (particularly in the light of competitors' efforts to open up these markets for their products).

Access to repair information and design protection

The consultation drew a significant response to issues related to the aftermarket. Some stakeholders felt that CARS 21 could have focused more on the entire automotive value chain. The importance of effective vehicle maintenance and repair was highlighted and several stakeholders suggested that the principle of free and open competition in the repair sector should be included in the follow-up to CARS 21.

The OASIS standard was seen by several stakeholders as providing a solid basis for ensuring standardised open access to technical repair information.

Several stakeholders indicated that the market for visible spare parts should be open and liberalised while others perceived a conflict between the desire to enforce intellectual property rights and the lack of agreement in CARS 21 on the Commission proposal to remove design protection from visible spare parts (COM (2004) 582). Some stakeholders expressed the view that increased competition would also result in increased competitiveness.

Fleet renewal

Some stakeholders saw fleet renewal as an important factor in enhancing the industry's competitiveness and contributing to improving the environmental and safety performance of vehicles.