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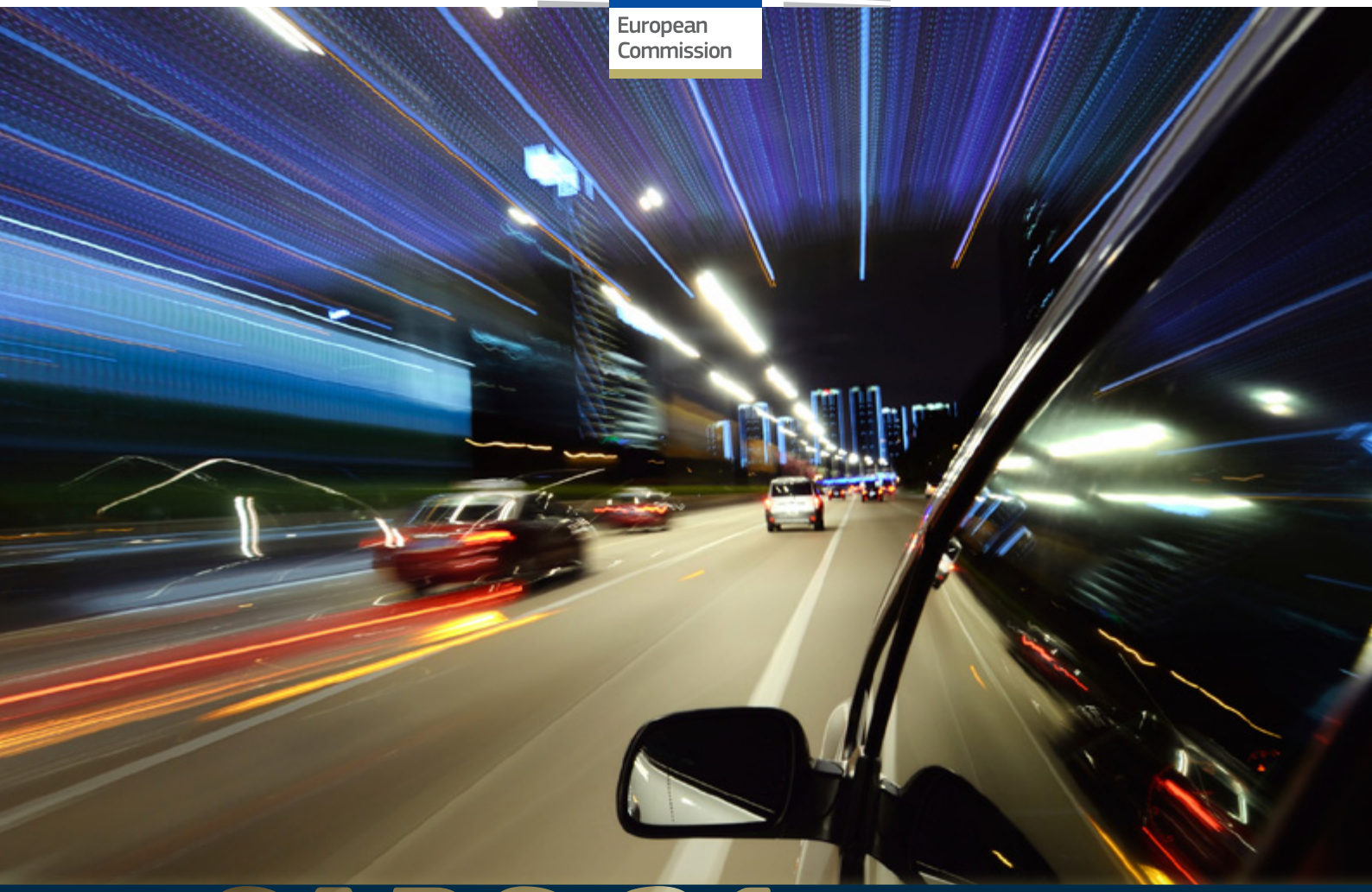

CARS 21

HIGH LEVEL GROUP

on the Competitiveness and Sustainable Growth of the Automotive Industry in the European Union

Final Report 2012

Enterprise and Industry

CARS 21 High Level Group

on the Competitiveness and Sustainable Growth of the Automotive Industry in the European Union

Final Report 2012

6 June 2012

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Executive summary

The European automotive industry[1] is a key sector for the European economy, providing over 12 million jobs and a positive contribution to the trade balance of around € 90 billion (in 2011), which is essential for continued European prosperity. It provides the means of transport for the large majority of passenger and freight movements.

In the coming decade, important changes are expected in the global automotive industry in several areas that are likely to profoundly reshape the industry and its markets worldwide. While the European market is mature, third markets are growing fast, changing the trade flows and the automotive value chain. The intense competitive pressure is growing further and EU companies are increasingly being challenged on their home market and developing opportunities in third markets. To meet long-term greenhouse gas targets as well as air quality objectives, the internal combustion engine will be further improved and the development of breakthrough technologies, such as electrified propulsion, will happen. Sizeable efforts will also need to be made with the further development and distribution of alternative fuels to traditional diesel and gasoline fuels.

In order to analyse these challenges and develop a joint strategy for decision makers from the private and public sectors, the Commission decided at the end of 2010 to re-launch the CARS 21 High Level Group, which was originally set-up in 2005. It was one of the actions listed in the Commission Communication for a "European strategy on clean and energy-efficient vehicles[2]", adopted on 28th April 2010. The objective of the group is to make policy recommendations to support the competitiveness and sustainable growth of the European automotive industry. A network of strong, well diversified and competitive enterprises along the entire value chain must be at the heart of this strategy.

This Report covers the group's consensus[3] on the strategic vision for the automotive sector at the horizon 2020 and specific recommendations on a number of policy areas that are of importance for the automotive sector.

1. A strategic vision for the EU automotive industry

Starting from the current situation, characterised by important difficulties, challenges and opportunities, and while it is important to properly deal with short term issues, it is crucial to design a strategy at the horizon 2020, which is also in line with long-term developments beyond that timeframe. The discussions among key stakeholders of the European automotive sector in CARS 21 have enabled the definition of a common view on the following key characteristics of a strong and competitive automotive industry and progress towards sustainable mobility for the EU society in 2020. The main characteristics should be:

- An **automotive sector** which remains of **strategic importance** and a **cornerstone for the EU industry and economy**, providing quality employment to millions of workers in the EU;

[1] The term automotive industry, used extensively in this report, is meant to cover the entire supply chain, covering vehicle manufacturers, suppliers, distribution and after-market services

[2] COM(2010)186 final, 28.04.2010

[3] Unless otherwise indicated

- A sector which is central to many other economic activities while delivering affordable and desirable products, meeting consumer demands, based on a competitive market for automotive products and services, including the aftermarket;
- A **strong manufacturing base in the EU** for road vehicles and components, manufacturing a sizeable part of the vehicles and parts sold on the EU market;
- An automotive industry that is **leading in technology** (clean, fuel-efficient, quiet, safe, connected), in coordinated action with the fuel supplier industry;
- A **strong industrial network** characterised by a flexible and integrated supply and distribution chain;
- A sector **exporting a larger portfolio of vehicles** to third markets, characterised by high-quality and high-technology;
- New vehicles purchased by EU consumers, which are **clean** in terms of regulated pollutants, more **fuel-efficient, quiet, safe and connected**;
- **A portfolio of propulsion technologies**, dominated by **advanced combustion engine technology**, although increasingly electrified. In addition, the **deployment of vehicles with alternative powertrain concepts** (such as electric[4] and fuel cell vehicles) is growing significant;
- Appropriate **refilling and recharging infrastructure** for alternative fuel vehicles being built up, in line with their market potential;
- A **workforce** in both manufacturing, R&D and servicing that is trained and prepared to work with a multitude of technologies;
- **Global markets** which offer a genuine **level playing field** to all players in the sector, with fair chances for all technologies, following balanced trade deals also for automotive sector;

All CARS 21 members jointly subscribe to this vision and are committed to bringing about the transition in the coming years, within their respective area of responsibility. In order to reach this state, an **integrated policy approach** needs to be systematically put into practice, involving the following elements:

- private sector and policy actions by authorities at EU, Member State and regional level complement each other;
- measures addressing vehicles are effectively combined with others focusing on infrastructure and the user;
- cost-effective regulatory and alternative policy measures are put into practice, in order to reach long-term societal objectives and drive innovation, which are effectively implemented and enforced;
- all policy areas having an impact on the automotive sector are strongly coordinated among the relevant authorities in charge, including trade, industrial, environmental, energy, transport and competition policy, innovation and internal market.

In order to bring about the transformation of the industry described above and set the sector firmly on a path towards competitiveness and sustainable growth, an ambitious industrial policy strategy for the automotive sector will need to be followed in the coming years. Given the nature of the challenges of the sector, all proposed policy measures, such as those in various policy areas covered in this report, should properly take into account the following three cross-cutting strategic objectives:

- Promote economic **growth**

[4] including battery electric, plugin hybrid and extended range electric vehicles

- Manage the **costs** and structure for doing business
- Support the **internationalisation** of EU industry

2. Enhancing business conditions

CARS 21 confirms the need to ensure reliable and favourable framework conditions for the European industry as such and a need to continue implementing basic horizontal principles agreed during the first round of the CARS 21 initiative.

CARS 21 has analysed the current market and industrial position of the European automotive industry, its competitiveness on the European and global stage, and has reflected upon the future evolution of the automotive manufacturing base. It has also considered the impact this evolution will have on employment in the automotive sector.

This analysis clearly shows that the *status quo* for the European automotive industry cannot be maintained: current production capacities will have to be adapted, new production methods devised, further sources of raw materials secured and used more efficiently, and new clusters and business models developed. Importantly, new skill profiles are required and possible changes in employment needs will have to be tackled. In this context, it is particularly important to ensure a smooth and balanced economic and social transition via the anticipation of change, which will foster business adaptation and employment transitions.

The vertical relations among the different actors in the automotive supply and distribution chain are important for building a strong and diverse industrial network, capable of investing and developing the business solutions that are needed and desired by consumers in the future. In that sense, stakeholders will need to adapt to the new competition law framework for the distribution of motor vehicles in Europe.

An important objective of vehicle regulation is also to strengthen the EU internal market for motor vehicles. This requires, for example, coordination of the demand measures put in place by Member States, such as the financial incentives for clean and energy efficient vehicles. A revision of the procedures for the surveillance of the automotive products placed on the EU market is also needed, in order to make sure that citizens can fully trust the regulatory framework put in place and lead to a level playing field.

Key messages:

1. Ensuring **reliable and favourable framework conditions and continuous improvement of those conditions** are a prerequisite to ensure the long-term competitiveness of the European automotive industry.
2. The **cumulative effects** of the different pieces of legislation affecting the automotive sector should be scrutinized in order to have an overall assessment of their economic, social and environmental impacts.
3. In order to achieve ambitious goals in relevant policy areas a **real integrated approach** must be fully implemented. Measures to be taken must be proportional, avoid double legislation and be in line with the **principles of cost-effectiveness and better/smart regulation**, taking also into account the affordability of new vehicles**.**
4. The economic crisis underscored the **importance of the industry for the European economy** and the need to **keep the automotive manufacturing base in Europe**. Policy makers on all levels can contribute to this by **a close coordination of the different policy areas** having an impact on the sector and by taking into account their impact on competitiveness and sustainable growth.

5. **Anticipation of change is vital,** it should be holistic and respect all factors influencing the competitiveness and the long-term perspective of companies. It should be reflected effectively in companies' long-term strategies with due attention paid to human resources skills and availability. **Restructuring, when necessary**, should not be resisted, but widely recognised good practices should be followed, to minimise its social impact. The Commission should encourage more policy coordination, utilisation of dedicated instruments of social policy and the development of mechanisms of forward planning of employment and skills needs, like the **European Automotive Employment Skills Council**.
6. **Transparent and constructive vertical relations in the sector** among the diversity of actors in the automotive supply and distribution chain are considered an important competitiveness factor. Work towards **common principles** on vertical agreements on the distribution of new vehicles is encouraged.
7. In order to ensure vehicles and their components are safe and compliant with relevant legal requirements, **the type-approval framework should be enhanced to include provisions for market surveillance** in areas where a need has been identified**.** This will contribute to establishing a level playing field among all actors and to increased trust of consumers in effective product regulation, while limiting administrative burdens.
8. **Financial incentives** for clean and energy-efficient vehicles put in place by Member States **should be coordinated more strongly** in order to maximise their effectiveness and limit the fragmentation of the market**.** They should **avoid being technology-specific**, instead **relying on objective and commonly available performance data**, such as the CO_2 emissions from the vehicle.

3. Improving competitiveness on global markets

The CARS 21 group has looked at how EU trade policy can contribute at improving the competitiveness of the EU automotive industry worldwide. The group has underlined the need for EU trade policy to be closely coordinated with the new EU industrial policy.

Concerning the various trade instruments, the group has stressed the importance of Free Trade Agreements to improve market access in third countries. It has highlighted that acceptance of international regulations under the 1958 UNECE Agreement[5] is the best way to remove non tariff barriers to trade and has pointed to the need to strengthen bilateral regulatory cooperation with third countries, with a view to eliminating non tariff barriers in the automotive sector.

Key messages:

9. EU trade policy should take full account of the importance of maintaining a strong and competitive automotive manufacturing base, using both multilateral and bilateral tools. Both should tackle key issues of **removing tariff and non tariff barriers**. **FTAs should aim at full tariff dismantling** and removal of Non-Tariff Barriers. The overall impacts of each trade negotiation should be assessed.
10. It is necessary to **reform the 1958 UNECE Agreement** with a view to make it **more attractive for third markets**. As part of this reform, the introduction of an **International Whole Vehicle Type-Approval system** should be promoted by all relevant stakeholders.

[5] The 1958 Agreement of the United Nations Economic Commission for Europe (UNECE) on international technical harmonisation in the motor vehicle sector

11. Multilateral regulatory cooperation under the UNECE framework should be complemented with **bilateral regulatory cooperation** in particular with emerging countries, but also with, for example, the United States - under the Transatlantic Economic Council - and with Japan.

4. Lowering CO_2 emissions

The 2007 EU strategy embraced a comprehensive approach to CO2 emissions from light-duty vehicles. This included both demand and supply measures with actions on engine technology being complemented with other measures, targeting alternative fuels, behaviour and other aspects.

While CO_2 emission performance standards have been adopted in recent years for cars and vans, it is now necessary to address CO_2 emissions for heavy-duty vehicles (HDVs), taking into account the specificity and diversity of the sector. It is estimated that HDVs account for about 26% of CO_2 emissions from road transport in the EU, which is about 5% of total CO_2 emissions. In the present type-approval legislation, CO_2 emissions and fuel consumption will be measured starting from Euro VI only for the engine, but not from the entire vehicle.

The respective CO2 Regulations have defined 2020 targets at 95 g/km for cars and 147 g/km for vans. These Regulations are currently being reviewed, in particular regarding the modalities for reaching, by the year 2020, the targets in a cost-effective manner. Also the car CO2 labelling Directive is to be reviewed. Current labels differ significantly across Member States.

Key messages:

12. **CO2 reductions** from road transport should in the longer term continue to be addressed **through an integrated policy approach**, covering vehicle technology, infrastructure, driver behaviour and other measures and be based on an analysis of cost-effectiveness.
13. To reach the long-term CO_2 reduction objectives, **a comprehensive approach should be developed** for the reduction of CO_2 emissions from HDVs, covering a wide range of measures. As a first step **an appropriate methodology for evaluating the CO_2 emissions of the entire vehicle** should be put in place. In considering different measures, it should be acknowledged that different types of vehicles have different levels of societal utility**.**
14. The **2020 targets for the cars & vans CO2 regulations are technically feasible**. Development and production costs will increase, particularly for cars, but are lower than in previous estimates, as they evolve according to technological development. Users and society would also benefit from lower fuel consumption. Flexibilities need to be considered in order to achieve a cost-effective implementation of the targets, but they should not effectively weaken the targets. Affordability needs to be taken into account.
15. It is also important that consumers are informed in the appropriate way on the CO2 emissions of their car. The provisions for **CO2 labels** for cars should be reviewed in order **to provide further harmonisation** of the labels used in Member States and take into account modern advertisement media.

5. Deploying new mobility solutions

Europe needs to diversify the energy sources used for transport, in order to meet climate goals and to reduce its dependency on oil. Although there will be oil for several decades to come,

future oil supply alone will not be able to provide for additional global demand, particularly in developing countries and regions. This requires alternative fuels to come into the market, including electricity, hydrogen, biofuels, methane (natural gas and biomethane), LPG and others. For the overall policy framework, the merits of each fuel and powertrain combination should be assessed on a well-to-wheel basis, and including also life cycle aspects.

Market penetration of alternative fuels requires the build-up of the appropriate infrastructure. The roll-out of alternative fuel infrastructure should be in step with technology development and market penetration rates of vehicles powered by alternative fuels. Different forms of public support for infrastructure are possible: pilot projects, standardisation, investment support and legislation. Public policy can support market introduction but afterwards markets must decide on the best solutions, within the given policy framework. The provision of clear information for consumers on fuels and their compatibility with vehicles, such as through labelling, requires further attention.

Innovation will be a key factor for maintaining the competitiveness of the automotive sector and the sustainability of road transport. Public funding should foster innovation in the automotive industry. This has been recognised in past European research programmes, where funding has mainly been used for pre-competitive research. Other technological development programmes, major EIB support programmes for industry investment and support for market introduction by the Regional and Structural Funds are also available. For the coming years, EU policy should support the whole product development and innovation chain from research to market introduction in a more integrated approach. Also efforts are underway to simplify administrative procedures, which is essential for industrial and other players.

Road safety has been and will remain an EU and national policy priority for many years and offers an interesting example of the effective implementation of the integrated policy approach. Important progress has been achieved in the reduction of road fatalities by a combination of measures, tackling the vehicle, the driver and the infrastructure, applied at EU, national and local level. These encouraging results should, however, not give rise to complacency and a new target for 2020 of a further reduction of road fatalities in the EU by 50% compared to 2010 has been proposed.

Key messages:

16. **A portfolio of alternative fuels**, covering electricity, hydrogen, biofuels, methane, LPG and others, **is necessary to meet the policy objectives**. Given the novelty of many fuels, their performance should be kept under continuous review. The roll-out of alternative infrastructure should be in step with the technological development and the market potential of vehicles powered by these alternative fuels.
17. In view of the National Renewable Energy Action Plans, **the freedom of movement and the integrity of the Internal Market should be ensured to avoid different biofuel blending rates to be used** in different Member States. This should be kept under review. Compatibility with vehicles and clear information for consumers should be ensured.
18. **Charging of electric vehicles** is expected to be performed mainly at home/work, but there will be also **a need for publicly accessible recharging infrastructure**. In order to ensure interoperability across the EU, **standardisation on the European level is needed**. Based on the current EU electricity mix, **substantial CO2 savings** can already be obtained. In the longer term, the **progressive decarbonisation of electricity** generation, complementary to the roll-out of electric vehicles offers the

perspective of a growing number of zero-emission vehicles. The Commission will start an impact assessment into the legislative options and technical modalities, ensuring that practical and satisfactory solutions for the infrastructure side of the interface are implemented throughout the EU.

19. In view of the importance of the industry for the EU economy, there should be **significant RDI support** for a broad range of automotive issues and critical future technologies in the new EU policy framework for research and innovation (Horizon 2020 with the proposed budget of € 80 bn). In addition, a specific and **major initiative on breakthrough technologies** (including, among others, electrification of combustion engines, hybrid and electric vehicles, fuel cells, electrical and electronic systems) should be envisaged, in parallel with the continuous EIB support to the automotive sector as well as to infrastructure and services.
20. **Road safety should be improved further, based on complementary actions** on vehicles, infrastructure and driver behaviour. The right policy mix needs to be found, combining regulatory with other measures. Priorities include motorcycles, safety of new vehicle technologies (EVs) and technologies supporting driver behaviour and enforcement of road rules (speed limit devices, ITS, ecodriving)
21. The deployment of **Intelligent Transport Systems (ITS)**, including the European-wide automatic emergency call system eCall, poses a particular organisational challenge, as different stakeholders and authorities are involved. Strong coordination is therefore required to make sure all parts of the system function effectively and smoothly.

6. Reducing pollutant & noise emissions

In the coming years, a number of legislative initiatives are planned concerning vehicle regulations, aimed, in particular, at improving the environmental performance of vehicles and strengthening the internal market. Their underlying objective is an ambitious regulatory framework on environmental, safety and consumer protection standards. They should be elaborated in a balanced way to underpin the competitiveness of the European automotive industry, worldwide.

In recent years, it has become clear that the current procedures used for measuring pollutant, CO_2 emissions and fuel consumption of light-duty vehicles (cars & vans) are not sufficiently representative of real-world driving. A revision of the driving cycles and the test procedure is therefore envisaged and currently being prepared on a global level, based on data collected about real-world driving behaviour. Improvement and clarification of the test-cycle is important in order to deliver the expected reductions from regulatory measures and provide better information to consumers.

The discrepancy between the type-approval test results and real-world emissions of certain pollutants is substantially bigger, particularly for diesel vehicles. The reduced limits from the successive euro stages are considered not to have delivered the full extent of the emission reductions that were expected. Many Member States are still struggling to meet air quality objectives, particularly in urban areas.

Further, the legislation on noise emissions from vehicles is being reviewed, based on an impact assessment. A new test procedure has been developed and tested in recent years. This procedure is more representative of real-world driving and can now be implemented. This, together with more stringent limit values, can contribute to a reduction in road traffic noise levels.

Key messages:

22. A **new driving test-cycle and test procedure** for measuring fuel consumption and emissions should be developed that is more representative of real-world driving. The modalities for its inclusion into the EU legal framework, including the adaptation of the CO_2 targets established on the basis of the old cycle and procedure, and the timetable for introducing them need to be properly addressed, minimising the burden for all stakeholders.
23. This should be complemented with **measures controlling vehicle emissions in use**, based on a thorough analysis, with the aim of delivering a timely reduction of real-world pollutant emissions, hence, contributing to improved air quality.
24. As part of an integrated policy approach to ambient noise reduction, **vehicle noise emission regulation should be amended.** The new noise measurement test procedure should be implemented to better reflect real-world noise emissions. A further reduction of vehicle noise levels is feasible and proposed and will be further discussed. Appropriate 'lead-time' should be provided to industry, consistent with the extent of the required technical adaptations.

Conclusions

The CARS 21 process, as re-launched in October 2010, is coming to an end with the adoption of the current Report. The group calls on all stakeholders to take into account the policy recommendations formulated in their respective field in order to support the competitiveness and sustainable growth of the automotive industry.

The members of CARS 21 also call for a process to be put in place in order to ensure the follow-up and implementation of the CARS 21 recommendations. The group also support the necessity of a continuous dialogue between authorities, industrial and other stakeholders involved in the automotive sector.

The European Commission has announced its intention to adopt a Communication on the outcome of the CARS 21 process. The Communication will also announce how the Commission proposes to implement the policy recommendations of the group in its policies.

Introduction: The vehicle industry at a crossroads

Context of unprecedented challenges

The European automotive industry – vehicle manufacturers, suppliers and aftermarket - is a **key sector for the European economy**, providing over 12 million jobs and a positive contribution to the trade balance of around € 90 billion (in 2011), which is essential for continued European prosperity. It provides the **means of transport** for the large majority of passenger and freight movements.

The **continuous evolution** of the global automotive industry **has recently accelerated**. In the coming decade, important changes are expected in several areas that are likely to profoundly reshape the industry and its markets worldwide. While the European market is relatively mature, and has even decreased substantially recently, **automotive markets outside the OECD countries have grown very strongly** in recent years. This development is likely to continue, which will underline the economic importance of these markets for the competitiveness of the EU automotive industry. At the same time, the recent economic crisis underscored the importance of the industry for the European economy and the need to **keep the automotive manufacturing base in Europe**.

The **established ambition of the EU to protect the environment and to fight climate change** requires further **greenhouse gas reductions – also in transport**. To meet long-term greenhouse gas as well as **air quality objectives**, the internal combustion engine will have to be further improved. In addition, the introduction of new and cleaner vehicle technologies, such as electric and hybrid propulsion, will have to be stepped up. These technologies can be expected to make significant inroads into the global vehicle market by 2020. It is clear that **sizeable efforts will also need to be made with the further development of alternatives for fossil-based motor fuels**. This will require the industrial structure and its workforce, transport systems and infrastructure to be transformed in order to adapt to new market situations and technologies. At the same time, road transport safety should remain a top policy priority.

The outcome of the first CARS 21 process: smart regulation

The CARS 21 (A Competitive Automotive Regulatory System for the 21st century) High Level Group was originally launched in 2005 and played a major role in defining European policy and legislation on the automotive sector with a view to strengthening the industry's competitiveness.

The principles of smart regulation in the automotive sector, which play an important role in the competitiveness of the industry, were a **prominent deliverable of the first CARS 21 report of 2005**. For many and broader reasons, much has been done to improve the EU regulatory process in past years. The Commission now systematically carries out **impact assessments** for all significant policy proposals, in the automotive and other fields. The importance of **stakeholder consultations** is clearly recognised and implemented. Adequate **lead times**, **long-term targets** and clear and effective implementation are part of the new legislation. Attention is still required to further improve these elements of policy-making, such as the competitiveness proofing of policy initiatives.

Automotive **legislation has been substantially simplified**. This has been achieved by reducing the number of EU regulations and directives and by **referring instead to**

international regulations, as developed under the UNECE framework. In particular, as a direct follow up to the recommendations of the first CARS 21 report, **more than 40 EC Directives have been replaced by the corresponding UN Regulations**, thus avoiding duplication of European and international technical requirements and administrative procedures, to the benefit of both industry and national authorities. CARS 21 also prepared the ground for significant internal market legislation that has been adopted in recent years improving the safety and environmental performance of vehicles.

Smart vehicle regulations and environmental and safety challenges continue to be important and this report will therefore deal with **a number of legislative initiatives concerning vehicle regulations** that the Commission is planning to take in the coming years and where it wants to apply the smart regulation principles agreed so far, notably lead-time, integrated approach and cost-effectiveness principles.

The re-launch of CARS 21

The **future performance** of the European automotive industry, and its impact on the economy, jobs, the environment and society at large, will depend on the **choices that European businesses, consumers and public authorities make** when faced with a changing context. For that reason, an intensive dialogue, joint analysis and precise understanding of key issues, among decision makers in the private as well as the public sector, is paramount.

On that premise a **realistic vision for "a competitive EU automotive industry and sustainable mobility and growth in 2020 and beyond"** and a **set of operational recommendations** is needed to guide policy makers at the European Union and national level, as well as the industry and civil society organisations as regards the relevant policies in the years to come. This has been the goal for the re-launch of the CARS 21 High Level Group. The re-launch was announced in the **Communication on "A European strategy on clean and energy efficient vehicles"**[6], adopted by the Commission in 28 April 2010. Since then, both Parliament and Council have reacted favourably to the Communication in general and to the re-launch of CARS 21 in particular. The group was formally established by Commission Decision of 14 October 2010[7]. The first high-level meeting took place on 10 November 2010 and endorsed the terms of reference (see Annex 3) and the list of key topics.

Enlarged scope and composition

The mandate of the re-launched group has been enlarged. Whereas the first CARS 21 exercise was strongly focused on competitiveness and regulatory policy, the current group clearly has a **double objective of ensuring the competitiveness of the EU automotive industry and its sustainable growth**. This double objective translates the recognition that competitiveness in the medium term can only be ensured if the industry delivers the sustainable and advanced products required by the markets. It also calls for an **enlarged and rebalanced composition** of the group, as the development and market uptake of these technologies relies on the decisive involvement of different actors along the value and service chain, as well as of authorities and civil society.

The process towards the Report

The CARS 21 High Level Group, at its meeting of 10 November 2010, decided to organise its work in two steps. The first step consisted of an **Interim Report**, adopted in December 2011,

6 COM(2010)186 final, 28.04.2010

7 OJ C 280, 16.10.2010, pp. 32-34

followed by the current **Final Report** in spring 2012. In order to develop Report, four Working Groups have been set-up on the following themes:

- **Innovation, infrastructure energy supply and use**
- **Trade and international harmonisation**
- **Industrial, social and territorial aspects of competitiveness**
- **Internal market, emissions and CO_2 policies**

A total of 18 meetings of the Working Groups took place in order to gather the input from the members on the selected topics. In addition, two public hearings have been organised to gather views from a broader group of stakeholders. Consensus was built in the meetings of the Sherpa group and the Report was finally adopted by the High Level Group at its meeting on 6 June 2012.

Chapter 1: A strategic vision for the EU automotive industry

a. The state of the auto industry

The automotive industry is a strategic sector of the EU economy and employment. When looking at the current state of the industry, one can observe a contrasted situation. The EU market is currently at the lowest level since 1996. However, EU companies have strong positions in growing third markets, where profits are made. Especially for premium vehicles, this is partly leading to production activity in the EU and hence brings a positive contribution to the trade balance. Manufacturing activity in the EU, particularly for volume segments, is facing serious and structural challenges which impact its competitiveness and may put pressure towards further restructuring. Technological innovation is definitely an asset of the EU industry, in part linked to ambitious regulation, in part to a demanding and diverse customer base.

From one crisis to another

In 2009, the financial crisis had a substantial impact on the automobile industry. The political reaction of the Commission was given in the form of a Communication[8] setting up an European framework for action which set out how both the EU level and Member States can take the decisive measures needed. Even though certain structural problems were already present and identified at that time, the main problem was access to finance, for both companies and consumers. Industrial actors managed to adapt their organisation of work, particularly through arrangements on reduced working time. The EU and Member States implemented a range of measures to support demand and maintain investment in R&D (scrapping schemes and support from EIB and European Commission, estimated at more than 30 billion Euros). The overall reduction of the market therefore was relatively limited compared to other markets worldwide, such as the USA. A study carried out for the European Commission estimates that the scrapping schemes in the EU generated around 2 million additional sales in 2009-2010[9]. About half of these were genuinely additional purchases while the others were merely pulled forward from later years.

Today, the EU market for **passenger cars** is still in decline. The debt crisis and consequences for state budgets are putting pressure on the EU economy as a whole and the confidence of private consumers. Another factor is the reduced demand from anticipated sales by the scrapping schemes (see above). First quarter registrations in 2012 are down more than 7% and the forecasts for the full year are negatives, which would mean the 5th consecutive year of decline. Sales levels at around 12.4 million vehicles would be some 3 million lower than in 2007 and in fact represent the lowest level since 1996. A return to pre-crisis levels is becoming increasingly distant. In times of strong fiscal constraints for authorities, measures to sustain the demand for new cars are not likely. Their effectiveness would in any case be doubtful due to the pull-forward effect of recent scrapping schemes. Unlike 2009, access to finance does not seem to be the central problem for vehicle manufacturers, although it remains a concern for smaller companies.

This situation contrasts strongly with the state of the global market. Worldwide car sales are reaching record levels, due to the development of emerging economies, and will grow further in the coming years. Total sales are expected to reach 78 million in 2012 and are likely to

[8] COM (2009) 104 final

[9] http://ec.europa.eu/enterprise/sectors/automotive/files/projects/report_scrapping_schemes_en.pdf

exceed 100 million by 2020. The share of the European market in worldwide sales will therefore decrease significantly, from 29% in 2004 to 20% in 2020.

The market for **commercial vehicles**, in the absence of demand measures, took the full blow of the financial crisis and decreased by more than 30%. The market has recovered to some extent since 2009, although the expected levels for 2012 (about 1.8 million vehicles) are still far from those seen in 2007 (2.6 million vehicles). For **powered two-wheelers**, the market is also declining in recent years and the registrations in 2011 (1.6 million vehicles) represent a decrease of around 40% compared to 2007. The markets in southern Europe, traditionally important for this sector, are heavily impacted by the debt crisis. Also the markets for **repair and spare parts** seem to suffer from the current economic difficulties of consumers.

Structural challenges for manufacturing

Car production is in a somewhat better shape compared to sales, thanks to growing exports to third markets. The quantities produced decreased in 2008 and 2009, but have recovered since and are not far from the record levels of the years before the crisis.

The overall level of sales and production capacity in the EU have been unbalanced for a considerable time and the recent economic context has caused these to further diverge. This has lead to a certain overcapacity in the EU[10]. This situation is not present in the same way in all companies and countries. While some do not have overcapacity, the companies and plants which are also struggling with a decline in market share are under particularly pressure. This has an impact on the profitability on the European market, particularly for the volume segment, where most of the manufacturers reported losses on their European operations in recent years, although the aftermarket (repair services and spare parts) provides them a more profitable activity. In recent years, contrary to the United States, only limited restructuring took place in Europe, while some new plants have been opened, mainly in Central and Eastern Europe.

The supply chain has become more and more internationally integrated. Components and subsystems are increasingly sourced from other parts of the world and the supply industry has had to adapt to this. Final car assembly, however, remains in general relatively close to the market. Around 85% of cars sold in the EU are also assembled there. These developments and others have led to a slight decrease in direct employment in past years in the EU, which still represents over 2 million jobs.

Strong positions in several third markets, challenged at home

European companies and brands are successful in many third markets, such as in South America, China and others. The majority of vehicles sold in these markets however is assembled locally. The sales success nevertheless contributes to investments in R&D and high added-value jobs in EU.

The EU has a positive trade balance for vehicles, both in value as in units (92 billion € in 2011). Vehicles assembled in the EU are sold in many markets, but particularly in the United States and China, although the market conditions for the latter may evolve in the future. They concern mostly premium cars. Also some heavy-duty vehicles are exported to third markets, again mainly the upmarket vehicles (a positive trade balance of 4 billion € in 2011).

[10] Precise data on overcapacity are subject to discussion, as it depends among others on the number of shifts used in a given factory. Analysts agree that some overcapacity is actually needed for business flexibility, but that excess capacity is problematic.

However, the export of vehicles manufactured in the EU to third markets is frequently hindered by tariff and other protective trade measures, such as investment restrictions, local content requirements and regulatory barriers.

On the home market, the European industry maintains a good position: the great majority of vehicles sold in the EU are also assembled here and the share of imports is relatively modest. However, for volume segments, it is also increasingly challenged and the significance of imports could increase in the years to come, due to the pressure on production costs and the reduction of some import tariffs as a result of the implementation of recent trade agreements.

For powered two-wheelers, the trade balance is quite different, as around half of the vehicles sold on the EU market are imported, mainly from Asia. As for other sectors, EU exports concern mostly premium motorcycles.

One of the technology leaders

Technological innovation is one of the key competitiveness factors of the EU industry. Automotive companies represent the largest private investment in R&D (around 30 billion € in 2010). Moreover, R&D in the automotive sector plays a central role for technological development in many related industrial sectors. This has enabled comparatively advanced technologies and high added value products to be developed and deployed by the EU industry and on the EU market.

The technology leadership can be explained by the demanding and diverse consumer tastes in the European market. Also ambitious regulations definitely play a key role in this. The recent decade has seen significant reductions of CO2 and pollutant emissions and improvements in vehicle safety. However, more needs to be done on those issues and several regulatory requirements decided in recent years yet have to be implemented. These developments need significant investments by manufacturers and suppliers, in addition to those needed for the cyclical development of new models, typical for the sector.

b. Vision for 2020: a smart, sustainable, inclusive and growing sector

Starting from the current situation, characterised by important difficulties, challenges and opportunities, and while it is important to properly deal with short term issues, it is crucial to design a strategy at the horizon 2020, which is also in line with long-term developments beyond that timeframe. The discussions among key stakeholders of the European automotive sector in CARS 21 have enabled the definition of a common view on the following key characteristics of a strong and competitive automotive industry and progress towards sustainable mobility for the EU society in 2020. The main characteristics should be:

- An automotive sector which remains of strategic importance and a cornerstone for the EU industry and economy, providing quality employment to millions of workers in the EU;
- A sector which is central to many other economic activities, delivering affordable and desirable products, meeting consumer demands, based on a competitive market for automotive products and services, including the aftermarket;
- A strong manufacturing base in the EU for road vehicles and components, manufacturing a sizeable part of the vehicles and parts sold on the EU market;

- An automotive industry that is leading in technology (clean, fuel-efficient, quiet, safe, connected), in coordinated action with the fuel supplier industry;
- A strong industrial network characterised by a flexible and integrated supply and distribution chain;
- A sector exporting a larger portfolio of vehicles to third markets, characterised by high-quality and high-technology;
- New vehicles purchased by EU consumers, which are clean in terms of regulated pollutants, more fuel-efficient, quiet, safe and connected;
- A portfolio of propulsion technologies, dominated by the advanced combustion engine technology, although increasingly electrified. In addition, the deployment of vehicles with alternative powertrain concepts (such as electric and fuel cell vehicles) is growing significant;
- Appropriate refilling and recharging infrastructure for alternative fuel vehicles being built up, in line with their market potential;
- A workforce in both manufacturing, R&D and servicing that is trained and prepared to work with a multitude of technologies;
- Global markets which offer a genuine level playing field to all players in the sector, with fair chances for all technologies, following balanced trade deals also for the automotive sector;

All CARS 21 members jointly subscribe to this vision and are committed to bringing about the transition in the coming years, within their respective area of responsibility. In order to reach this state, an integrated policy approach needs to be systematically put into practice, involving the following elements:

- private sector and policy actions by authorities at EU, Member State and regional level complement each other;
- measures addressing vehicles are effectively combined with others focusing on infrastructure and the user;
- cost-effective regulatory and alternative policy measures are put into practice, in order to reach long-term societal objectives and drive innovation, which are effectively implemented and enforced;
- all policy areas having an impact on the automotive sector are strongly coordinated among the relevant authorities in charge, including trade, industrial, environmental, energy, transport and competition policy, innovation and internal market.

c. How to get there: an ambitious and balanced industrial strategy

In order to bring about the transformation of the industry described in the previous section and set the sector firmly on a path towards competitiveness and sustainable growth, an ambitious industrial policy strategy for the automotive sector will need to be followed in the coming years. Given the nature of the challenges of the sector, all proposed policy measures, such as those in various policy areas covered in the remainder of this report, should properly take into account the following three cross-cutting strategic objectives:

- Promote economic growth
- Manage the costs and structure for doing business
- Support the internationalisation of EU industry

Promote economic growth

Given the fact that Europe will have difficulties to match competition based on production costs, the improvement of the competitiveness of the European automotive sector requires being at the cutting edge of technological development. Substantial investments are needed for example to develop the propulsion technologies of tomorrow, the safety and comfort systems and production tools that will be demanded by the future markets, regulations and consumers. While the European industry is in a good position compared to its global competitors, significant investments in technology have been made in recent years in regions outside Europe: in Asia, in the US and elsewhere. For certain technologies, such as batteries and hybrid technology, Europe is not the first-mover and will need to step up its efforts. In order to ensure the sector stays in the lead, the support for **research and innovation** should be enhanced through coordinated efforts at European and national level, thereby contributing to reaching societal goals in the most efficient way.

The automotive sector, even in normal conditions, is characterised by significant financing needs, necessary for product renewal. The adaptation of the sector to the new challenges requires additional investments, by both suppliers and manufacturers. In 2009-2010, the financing instruments of the EU, complementing those of the private sector, have been considered extremely useful by stakeholders. Also in the coming years, the **financial resources** available at EU and national level, loans as well grants, need to be mobilised and made available for supporting the industrial actors, both large and small, manufacturers and suppliers, in the most efficient way to strengthen the market and industry in the EU, while at the same time ensuring that competition is not distorted and a level playing field is assured.

Manage the costs and structure for doing business

It is clear that regulatory requirements are essential to meet societal objectives. While these also have a positive effect through the stimulation of technological development, they require investments by operators, which are not always easy to recover when the pressure on costs is high, such as in the volume segments. In recent years, new regulations have been adopted impacting the automotive sector, a large part of which are flowing from the first CARS 21 process, and will be implemented progressively in the years to come (Euro 6 / VI, CO2 targets for 2015, General Safety Regulation, etc.). It is therefore important that the principles of **smart and selective regulation**, integrating an in-depth assessment of the impacts on industry, society and other stakeholders, notably the associated costs and benefits, are strictly implemented. Also the cumulative effects and effective implementation need to be assessed and specific attention needs to be paid to the constraints of small and medium-sized enterprises (SMEs). The objective is to maintain the global technological leadership, notably concerning safety and environmental issues; this leadership should be smart minded in order to produce vehicles that meet the EU's societal objectives and are highly competitive on the main world markets without introducing unnecessary requirements.

The current structure of the industry is not well aligned with the drive to competitiveness, notably for the volume segments. The internal market offers location regions for new plants which are most competitive in terms of costs. The sector has made adaptations in recent years in order to make the organisation of labour more flexible (through provisions to reduce working time), but today it seems that the existing production capacities exceed significantly the production levels expected in the years to come. Important differences exist among companies and countries, but the situation has a negative impact on the profitability of the entire sector and EU remains a market of 500 millions of customers with relative high average revenue when compared to others main markets. An in-depth and transparent analysis,

identifying structural needs of the sector, should be based on a **constructive sectoral dialogue** for the automotive industry between stakeholders concerned, focused on internal market principles and the general European interest. The current efforts to improve economic governance in the EU and the integration of economic policies provide an appropriate context for such an effort. Also, the workforce and skills corresponding to the needs of the sector and future technologies need to be prepared. In some cases, the EU could intervene with Funds created for dealing with the consequences of the globalisation of the economy.

Support the internationalisation of EU industry

As discussed before, the European industry maintains a good trade position, although this may be challenged in coming yearsA better competitiveness in third markets, enabling a larger portfolio of vehicles assembled in the EU to be exported, needs actions in two complementary areas: improve market access through trade negotiations and avoid regulatory and procedural divergence. The principles adopted in CARS 21, which already features in the Interim Report, now need to be put into practice. The objective should be to promote fair competition and a level playing field in third markets.

Chapter 2: Enhancing business conditions

Introduction

An important objective of actions taken by public authorities at the EU and national levels is to create within the European Union a favourable business environment promoting technical progress and sustainable growth. This is a very challenging task as the term 'business environment' covers a very wide range of tools and factors which only correctly applied can positively contribute to the companies' situation on the market.

In the turbulent times which the European economy is currently facing, ability to adapt remains one of the key aspects determining companies' success or failure. This however cannot be accomplished without a well skilled and mobile workforce capable of smooth adaptation to new challenges. Constant improvement of the competence level and long term strategies to enable anticipating new skills needed in the automotive sector are crucial elements to ensure required level of highly skilled and adoptable workforce indispensable to maintain the global competitiveness of the industry.

In order to have an overall competitive sector benefiting the European society, it is necessary to ensure effective competition over the entire supply and distribution chain through better and pro-competitive business relations and the strengthening of the internal market within the EU. Properly functioning internal market is of great value to the citizens, therefore we need to make sure that the actions taken at the national levels will not hinder the effort aimed at converging the business conditions around Europe. Taxation schemes, for example, not equal in all the member states, create divergent environment for the companies operating in the European market. There is, therefore, a need for a **coordination of** the demand measures put in place by Member States, such as the **financial incentives** for clean and energy efficient vehicles. It also requires revision of the procedures for the **surveillance of the automotive products placed on the EU market** in order to make sure that all vehicles meet the regulatory requirements put in place and pose no safety risk to consumers, while limiting administrative burdens.

a. Fostering business adaptation and employment transitions

Introduction

One of the tasks of CARS 21 has been to **analyse the current market and industrial position** of the European automotive industry**, its competitiveness on the global stage and to reflect upon future evolution of the automotive manufacturing base as well as the impact it will have on automotive employment.** The Group's agreed analysis of the crisis recovery, of the current economic situation and of the competitiveness factors is presented in Annex 1.

This analysis clearly shows that the *status quo* for the European automotive industry cannot be maintained: current production capacities will have to be adapted, new production methods devised, further sources of raw materials secured, and new clusters and business models developed. Importantly, **new skill profiles are required.** In this context, it is particularly important to ensure a smooth **and balanced economic and social transition** via the

anticipation of change, which will foster business adaptation and employment transitions.

Analysis

The EU has managed to **safeguard the industrial base** of the automotive industry through the worst years of the economic downturn. But with the uncertain current macro-economic conditions, the ability of the European automotive industry to preserve its manufacturing base and jobs in Europe will depend more and more on its **capacity to increase its competitiveness** through **innovation** as well as **quick and smooth adaptation to change**. This change is due to technological progress, shifting trade patterns, evolving regulatory framework (including ambitious long-term environmental and safety targets), changing business models and consumers' behaviour and urbanisation. The EU, through its actions in different policy areas, needs to support its automotive industry in this regard.

The scale of economic restructuring and social change triggered by the deep adaptation required by environmental, economic, technological, market and societal challenges is immense. From an employment viewpoint, it will **imply both job creation and job destruction**, as well as, and above all, **job transformation** (in terms of new tasks, new skill profiles and new working arrangements). While the qualified labour force is one of the key **competitiveness factors** of the EU automotive industry, it cannot be taken for granted and sustaining this factor requires a proactive approach.

Smooth adaptation to change in the automotive industry clearly necessitates anticipation of skills needs and availability of human resources. It is essential to **ensure that the automotive industry has the suitably skilled workforce in order to avoid skills shortages and mismatches – likely in the context of higher proliferation of new and environmentally friendly technologies.** While production of electric vehicles will obviously necessitate new skills and competences, improvement of combustion engines' performance and emission control will also represent a major challenge in terms of new skills and competences. This will also support the competitive position of the EU industry in export markets. Anticipation of future skill requirements and consequent adaptation of school curricula and retraining in the context of life-long learning of workers already active in the sector is also crucial for maintaining the high employment in the automotive industry (currently 12 million).

The CARS 21 group therefore concluded that:

1. **Reinforcing of the competitiveness of the sector constitutes the only way to preserve and develop employment in the EU in the long term**. The joint efforts to be deployed should always aim at preserving future competitiveness rather than trying to defend existing jobs. In this respect it is important to ensure the predictability of the regulatory framework and regular exchanges between the social partners of the sector.

2. **Anticipation of change and restructuring** is vital, it should be holistic and respect all factors influencing competitiveness and long-term perspective of companies (including regulatory framework development, trade relations and others). It should be integrated effectively in **companies' long-term strategies,** with due attention paid **to human resources' skills and availability**.

3. **Increased skills and competence levels** contribute to the creation of an adaptable and mobile workforce, enhancing the employability of workers in the sector and facilitating employment transitions. These are necessary pre-conditions of a successful and socially acceptable strategy for the anticipation of change and for necessary restructuring. Members States, regions, companies and employees share the competence and responsibility for increasing skills and competence levels.

4. Automotive companies in cooperation with relevant stakeholders should develop **mechanisms for forward planning of employment and skill needs**. That requires a **proper identification of skills needs** and full co-operation between the public sector, industry and educational establishments in ensuring that the training being offered is in line with the needs of companies and the innovation process. The **networking** of existing industrial, employment and skills observatories through a **European Automotive Employment and Skills Council** will be a useful tool in order to share and disseminate economic intelligence in those fields.

5. As during the crisis, social dialogue should continue to constitute a crucial tool for dealing with employment, skills and, in general, adaptation issues. Social dialogue demonstrated, throughout the crisis, that it encouraged the adaptation of companies to difficult situations. These included development of innovative instruments (such as short-time work, and variation of employment conditions in accordance with production needs and market demand, etc.), as well as by more fundamental restructuring. Moreover, the utility of social dialogue is likely to be further confirmed in the near future when dealing with disruptive technologies and a changing distribution of market growth and potential.

6. **Restructuring, when necessary, should not be resisted but in order to minimise its social impact, widely recognised good practices in this field should be followed**[11] while paying attention to the specifics of individual national industrial relations system and of economic and social contexts. This means:
    a. **reflecting restructuring into companies' long-term strategies**. while respecting all possible factors affecting competitiveness and long-term perspective (including regulatory framework development, trade relations and others). These strategies should include human resources, employment and skills objectives aimed at developing, on a permanent basis, the skills and competences of the workforce;
    b. **developing,** in cooperation with employees' representatives and, as appropriate, with other relevant stakeholders, **mechanisms of forward planning of employment and skills needs;**

[11] See 'Checklist for Restructuring Processes' presented by the Commission in its Communication of 3 June 2009 'A shared commitment for employment', COM (2009) 287 final.
http://ec.europa.eu/social/main.jsp?catId=101&langId=en. The Checklist can be found on
http://ec.europa.eu/social/main.jsp?catId=782&langId=en&moreDocuments=yes
See also: Social Partners Joint Study of January 2010 on "Restructuring in the EU – Improving the anticipation and management of restructuring … adding value through social partner engagement".
http://www.erc-online.eu/content/default.asp?PageName=OpenFile&DocID=25766

c. **preparing restructuring operations as much in advance as possible** with all the concerned stakeholders;
d. **explaining and justifying restructuring operations** on the basis of a clear business rationale, justifying it on grounds of either long-term strategic goals and requirements or short-term constraints;
e. **making available, to the employees concerned, measures aimed at re-enforcing their employability** and helping them to re-enter the labour market as quickly as possible.

7. Partnership between all the actors is essential. The **European Partnership for the Anticipation of Change in the Automotive Sector** constitutes a useful platform allowing vehicle manufacturers, automotive suppliers, regions and trade unions to exchange information and jointly anticipate the changes taking place in the industry, thus contributing to the sustainability of the European automobile industry.

8. **EU funds** (and in particular the European Social Fund and the European Globalisation Adjustment Fund) should continue to be mobilised and targeted to ensure that the **necessary skill levels** required for the future competitiveness of industry are retained in the industry and further developed, as well as to **complete companies' own actions with regard to softening the impact of adjustment on employment**.

b. Improving vertical relations in the sector

Analysis

A new competition law framework for the sales of new motor vehicles (not including powered two-wheelers) will be effective as from June 2013. The economic operators are currently evaluating the potential impact of the new rules, in particular with regards to vertical agreements in the supply and distribution chain.

This situation arises from the fact that the former Motor Vehicle Block Exemption Regulation 1400/2002 ("MVBER 1400/2002") expired in May 2010. The rules of the MVBER 1400/2002 continue to apply to the sales of new vehicles for a transition period until May 2013 but, from June 2013 onwards, the stakeholders of the automotive sector (manufacturers, suppliers and dealers) will be subject to the provisions of the General Block Exemption Regulation 330/2010 with regard to the sales of new motor vehicles. Therefore, no sector specific competition law regime will be applicable to these markets any longer. In any event, the Commission has provided guidelines relating to the application of the general rules with regard to the car sector.

With regard to the markets for repair and maintenance services and distribution of spare parts, the previous provisions have been aligned to the general rules since June 2010, while a limited number of sector specific competition rules have been maintained (see Regulation 461/2010).

It shall be noted that the motor vehicle sector has been subject to specific block exemption regulations since the mid-eighties, with the objective to safeguard competition to the benefit of consumers, contribute to legal certainty and to the coherent application of EU competition rules (namely article 101 of the Treaty on the Functioning of the European Union) across the EU.

The European Commission decided however not to prolong these measures beyond May 2013 for the sales of new motor vehicles and to apply in principle the same general competition rules applicable to vertical agreements in all other sectors. This decision was taken following a detailed evaluation of the impact of the previous rules and the structure and dynamics of the motor vehicle sector in Europe. The Commission did not find, in particular, indications of significant competition shortcomings in the EU as regards sales of new motor vehicles.

MVBER 1400/2002 contained a number of provisions which were intended to prevent vehicle manufacturers to inhibit independent pro-competitive behaviour by authorised dealers and repairers (e.g. contract duration, periods of notice, motivation of contract terminations and transfer of dealership contracts between the members of the same networks). These measures are covered by specific national contract laws in some Member States. The Commission found that these sector-specific provisions in MVBER 1400/2002 failed to contribute to the underlining objective of promoting competition, and concluded that they had a negative impact on the competitiveness of the industry. Moreover, the Commission concluded that the end of these sector specific provisions would lead to a more economically sound approach that would significantly improve the overall consistency of competition policy in the area of vertical restraints. With regard to the simplification of the rules relating to vehicle sales, the Commission concluded, in particular, that the reform would enable car makers to conclude more efficient and contractual arrangements, allowing for lower distribution costs.

With regard to the markets for repair and maintenance services and spare part distribution ("motor vehicle aftermarkets"), the Commission found that competition was significantly weaker compared to the markets for the sales of new motor vehicles. In particular, it concluded that the newly adopted rules under competition law relating to these markets will make it easier for the Commission to tackle possible abuses, such as the refusal to grant independent repairers access to technical information and that this will increase competition between authorised and independent repairers. Moreover, the Commission concluded that the new rules will strengthen repairers' access to alternative spare parts which can represent a big share of the repair bills and consequently improve competition in the spare part markets.

Given the recent change in the legal framework, the European Commission considers that a self-regulatory but pro-competitive approach could be a primary way to accommodate the interests of all parties. The associations of motor vehicle manufacturers and the associations of traders and repairers have adopted specific Codes of Good Practice that may be the basis for further discussions.

Recommendations:

1. Regarding the aspect of vertical agreements pertaining to the supply and distribution chain for new motor vehicles, a self-regulatory approach could be promoted, e.g. via the development and adoption of common principles of good practice by the stakeholders in the automotive retail sector, involving the manufacturers, suppliers, dealers and consumers' representatives.

2. These principles could be based on common agreed good business practices in compliance with national laws governing their contractual relations, and shall in any event also be in compliance with competition rules.

3. The common principles could, for instance, include clauses that promote transparency and a competitive playing field for the benefit of the stakeholders, including: (i) dispute settlement procedures; (ii) minimum notice periods for termination of contracts; (iii) other issues, if agreed (such as provisions related to multi-branding and the transfer of business) [12].

4. An open multi-stakeholder dialogue at a European level could be set up to discuss the parameters of such principles and an effective mechanism that could be used to ensure the self-regulatory actions are implemented in practice[12].

5. Finally, given that the Commission has launched an initiative to combat unfair business-to-business commercial practices, following the adoption of the Single Market Act, the stakeholders in the automotive retail sector are invited to contribute to the public consultation process to be launched by the forthcoming Communication.

c. Checking the products on the market

Analysis

Until now market surveillance has not been specifically addressed in the technical harmonisation legislation governing the automotive sector and no particular attention has been given so far to the co-ordination of automotive related market surveillance issues between Member States and the Commission services.

The current legal system in place is based on ex-ante compliance verification through type-approval combined with verification of conformity of production and has led to a substantial progress in terms of vehicle safety. However, problems encountered with automotive products placed on the market, such as the problems of non-compliance identified in the tyre and motorcycle sector, demonstrate that there is scope for enhancing the implementation and enforcement of the legislative framework for the free movement of automotive products by focusing on market surveillance.

The Commission identified the re-launch of the single market as one of the strategic initiatives in its work programme for 2010, and the wider implementation of the market surveillance principles of the New Legislative Framework has been singled out as one of the corner stones on which this re-launch of the single market should be based. Within this overall policy context, the Commission envisages reviewing the automotive technical harmonisation legislation in this respect. The main objective of this review is to assess whether and to what extent the market surveillance provisions of the New Legislative Framework can be used to address the specific market failures that may be encountered in the automotive sector.

The New Legislative Framework - adopted in July 2008 - provides inter alia clear legal provisions for the organisation of market surveillance by the Member States and for coordination of market surveillance activities between the Member States and the European Commission.

[12] These two paragraphs are not agreed by CECRA and FIA. Their position is that the two recommendations should have been more committing for all stakeholders.

In addition, some legislative initiatives relating to the automotive regulatory framework have been initiated, with a view to provide a sectoral contribution to the Commission's strategy for the re-launch of the single market.

A first initiative is the proposal for a new framework legislation on L-category vehicles, in which a number of market surveillance provisions of the New Legislative Framework will be included. This proposal has been adopted by the Commission on the 1st of October 2010.
A second sectoral initiative has been scheduled for the Commission's legislative work programme for 2013, and envisages introducing enhanced market surveillance provisions in the framework directive for the type-approval of motor vehicles, and their systems and components.

Recommendations

1. There seems to be a need to improve/strengthen the implementation and enforcement of the type-approval legislation through complementing this legislation with market surveillance provisions This would be in the interest of the EU industry as it will ensure that through the setting up of surveillance procedures products not conforming to requirements and/or dangerous for safety or environment, as well as counterfeits, can be identified, and being prevented to enter the EU market or can be quickly withdrawn when found on the market.

2. After a thorough impact assessment, market surveillance provisions should only be introduced to the extent necessary to complement the existing type-approval legislation for automotive products, whilst at the same time avoiding overlapping requirements as well as disproportionate costs and administrative burdens. The market surveillance provisions should be designed so to ensure that the main responsibilities and obligations of the authority responsible for issuing the type-approval are recognised and strengthened where appropriate to improve confidence that corrective actions are fully implemented.

3. The current legal provisions on the recall of vehicles and automotive products should be enhanced to ensure that they will be properly enforced. In particular, the exchange of data between type-approval authorities on the application of the safeguard clauses set out in the automotive type-approval legislation should be streamlined with the principles of the New Legislative Framework.

4. Consideration should be given to establishing different provisions respectively for components or spare parts subject to type-approval on the one hand and for components or spare parts not being subject to such type-approval on the other hand to take into account the respective differences in stringency and details of the ex-ante control procedures.

5. As, following the General Safety Regulation, EC type-approval of a number of items will be replaced by UNECE type-approvals necessary provisions should be adopted at EC level to ensure that products holding a UNECE approval are actually in compliance with the relevant UNECE requirements. In addition, a parallel process should take place within the UNECE to consider improvement of the current provisions in the 1958 Agreement.

6. Taking into account current Member States' budgetary constraints, public-private cooperation with a view to enhance market surveillance mechanisms should be supported.

d. Making incentives for clean & energy-efficient vehicles effective

Analysis

In past years, **many Member States have put in place financial incentives** to promote the purchase and use of clean and energy-efficient vehicles. These incentives have been targeting mainly light-duty vehicles and in some cases also heavy-duty and L-category vehicles (motorcycles). **Guidelines[13] have already been issued** by the Commission for incentives for motor vehicles that comply in advance with mandatory emission limits (**for pollutants**). For this reason and because the majority of incentives put in place recently by Member States are targeted towards CO2 or energy-efficiency, it seems logical to **focus the new guidelines on CO2 and energy-efficiency**. It is acknowledged that vehicle incentives may also aim for both CO2 and pollutant reductions or for other policy objectives, such as the improvement of road safety.

When one compares the different incentives put in place by Member States or regional authorities, **a large variety appears**. Several are reserved for a certain technology (such as electric or hybrid vehicles), or have different criteria depending on the technology used (for gasoline and diesel). Others use CO2 performance criteria, however a multitude of threshold values are used throughout the EU. This leads to an **additional fragmentation of the internal market**, as vehicles may need to be specifically adapted to an incentive in a particular market. Also, **the efficiency of the incentive may therefore be limited** as certain technical development may not be worthwhile for a manufacturer as the potential market reward is too limited to cover the costs. With a **greater coordination of the incentives**, a larger market potential can be created for clean and energy-efficient vehicles.

Financial incentives are applied to create price signals for customers and **act in addition to the existing framework conditions** in place in the market concerned. Also these framework conditions, including car and energy taxation schemes, show a large variety among Member States, leading to a certain fragmentation of the market. The overall effect of an incentive is thus also depending on the fiscal system in place. In addition, although some financial incentives apply only to a small proportion of the market, others apply across the entire market. It will therefore be difficult to separate financial incentives from the car taxes applied. For that reason, the guidelines could be formulated, in full respect of subsidiarity, in such a way as to allow that they can be taken into account in car taxation schemes as well.

Recommendations

1. Demand measures by national authorities are useful to complement regulation and other supply measures and enable the successful market penetration of clean and energy-efficient vehicles. In particular financial incentives can be very positive and should be covered by the Commission guidelines, although other measures targeting energy supply, city access and parking facilities can also be effective.

2. There is a clear need for EU guidelines, going beyond the strict legal requirements for incentives, aiming at limiting the fragmentation by providing reference design principles

[13] SEC(2009)1589 final/2

3. Financial incentives should be technologically neutral and avoid distorting competition or singling out one technology or creating counter-productive environmental effects, instead setting the criteria based on an objective environmental performance criterion.

4. The CO2 figure from type-approval for light-duty vehicles, as well as for motorcycles when implemented, seems currently the most appropriate measure of performance to be used for granting financial incentives. Although well-to-wheel performance is an important consideration for assessing the overall transport system, in order to avoid displacement of emissions, it is neither a convenient nor a suitable measure for the performance *of the vehicle* with respect to CO2 efficiency. As powertrains diversify, other metrics may need to be examined in the future.

5. Where threshold values are set for granting incentives, steps should be taken to avoid the risk of perverse impacts on the market. In order to avoid vehicles with similar environmental performance being treated unfairly, it is recommended that the threshold be set at a point at which there is clear separation between vehicles with superior CO2 performance and others. The risk of market distortion could be further mitigated by either having several steps with small increases in the incentive. However, as this is a consumer demand measure, the benefits of these steps to mitigate theoretical market distortion needs to be balanced against the additional complexity this presents for consumers, which may actually reduce the incentive effect.

6. In order to reduce the risk that the incentive is used for subsidising manufacturers, the size of the incentive should as a general rule not exceed the additional cost of technology. In practice, it is recognised that there is a very wide variety of technologies that can be used to improve the vehicle's energy efficiency, which makes the additional cost difficult to estimate.

7. With a view to increase their effectiveness, it is important that incentive schemes are predictable for industry and consumers with regard to their timeframe and requirements. This could include a phase-in and/or a phase-out period, as well as a revision date to adapt the scheme to changing circumstances.

Chapter 3: Improving competitiveness on global markets

1. Introduction

The European automotive manufacturers, being global players, are paying increasing attention to trade policy matters, as both multilateral and bilateral trade agreements are determinants of the global competitiveness of this highly export oriented sector. While the European market will not grow substantially in the coming years, the long term global outlook for the automotive industry is promising: world-wide new car sales, for example, are projected to increase by more than 10% in 2020, when compared to 2008, mainly as a result of the motorisation of emerging markets. **It is therefore crucial for the future competitiveness of the EU automotive industry to ensure market access to emerging economies and fair trading conditions,** in order to benefit from such expected growth.

Trade is therefore a key policy area for the competitiveness of the European automotive industry and its sustainable growth. In an economic context where the **motor vehicle markets of the emerging countries** – with China in the first place – **are increasing** at an exponential rate, it is crucial to adopt policies that **facilitate the European producers' access and operations on these markets,** in order to seize the opportunity for higher levels of growth. In addition, a key policy question is to what extent the growth in such emerging markets will be addressed more by European **exports** or by **production established by foreign direct investment into the new markets**. In this respect, trade is a key policy area for helping to keep the manufacturing base in Europe.

As a principle, **EU trade policy** as a major element of the industrial policy, **has to be closely coordinated** with relevant policy areas, in particular **with the new EU industrial policy**.

2. Analysis: How to improve market access in third countries

The following elements have been identified as necessary to improve market access in third countries:

1. Tariff elimination

With the modalities currently negotiated under the Doha Round, emerging economies will still be able to maintain their peak tariffs on automotive products. The automotive industry is clearly opposed to such a possible outcome of the negotiations. In the meantime, bilateral negotiations, namely through **Free Trade Agreements** (FTAs), can have an added value, insofar as they aim at full tariff elimination, which is more difficult to achieve through multilateral trade negotiations.

2. Removal of Non-Tariff Barriers (NTBs)

NTBs in third countries represent a major trade problem for the EU automotive industry. The maintenance or introduction of new NTBs hamper market access and growth for EU exports of motor vehicles and their components. NTBs include national automotive standards and technical regulations, national and local administrative procedures and restrictions, technical procedures (e.g. factory audits or product testing), marking, customs valuation and related border disruption, IPR violation, import licensing and quotas, restrictions on investments and

public procurement, discriminatory taxes, lack of transparency, restrictions on access to raw materials, divergences from international standards, etc.

With regard to technical NTBs, worldwide acceptance of technical requirements and conformity assessment procedures developed under the **UNECE 1958 Agreement** would improve access of European companies to third countries' market. It would allow manufacturers to design and produce safer and cleaner vehicles for international markets, without wasting resources on diverging legal requirements and administrative procedures. **FTAs** are a good opportunity to invite third countries to accede the 1958 Agreement, and should generally include commitments towards acceptance of UNECE approvals as equivalent to domestic approvals. In addition, NTBs can be removed through strengthening the instruments set up by the Commission under the **Market Access Strategy** and the various **regulatory and industrial dialogues** with main trading partners.

3. Rules of origin and duty drawback

Prohibition of duty drawback for both parties and a retention of thresholds for Rules of Origin guaranteeing a significant value added to be brought in the partner country have been requested by industry as means to ensure fair competition and transparency. Coherence of rules of origin must be preserved to the maximum possible extent between the different FTAs.

4. The UNECE 1958 Agreement

The 1958 UNECE Agreement has proven its effectiveness as the **main international framework for the adoption of technical regulations for vehicles and their components** and for the reciprocal recognition of vehicle approvals granted on the basis of these regulations. The Agreement was revised in 1995 and it is clear that, given the changing shape of global automotive industry and the expanding automotive industry in third countries, a further **revision and updating is timely and appropriate**. As emerging countries are becoming the most important sales markets for automotive products, the recognition and implementation of the 1958 Agreement by them could contribute to preserving and enhancing the competitive position of the European automotive industry on the global market.

In addition, following regulatory developments at EU level, where for a large number of items, EC type-approval directives will be replaced by UNECE regulations, it important to ensure that the international regulatory framework under the UNECE 1958 Agreement is as rigorous and reliable as that operated at Union level. Without such safeguard, there may be a risk that the EU type-approval system for motor vehicles will no longer ensure the level of safety and environmental protection that is required to meet the legitimate expectation of EU citizens and the Union as a whole.

The World Forum for Harmonisation of Vehicle Regulations (WP.29) agreed in March 2010 on the need to review and update the 1958 Agreement, along with a view to introduce the concept of **"international whole vehicle type-approval** (IWVTA)", based on the successful implementation of this concept in the EU technical harmonisation legislation. This IWVTA concept would offer the benefit to vehicle manufacturers of using a "one-stop shop" type-approval procedure for their motor vehicles, instead of having all the vehicle's systems and components separately approved by each country applying the WVTA, and therefore would considerably simplify the regulatory burden on vehicle manufacturers and enhance the free movement of motor vehicles.

3. Recommendations

FTAs

1. EU trade policy should take full account of the importance of maintaining a strong and competitive manufacturing base. It should create new export opportunities for EU vehicles and their components. Import barriers in third countries are - *inter alia*- a factor enticing companies to manufacture locally, and not in the EU. They may therefore distort business decisions.

2. Each trade negotiation with a potentially significant economic, social and environmental impact should be preceded by an assessment of such impact. In addition, where appropriate, an ex-post evaluation of main trade agreements should be also undertaken.

3. FTAs should produce reciprocal benefits and aim at full tariff and NTBs dismantling. Concerning tariffs, concessions should be balanced and bring significant market access in third countries, whilst at the same time preserving the EU market against unfair competition. Industry can accept longer transition periods which, in some cases, might be asymmetrical, insofar as the final target is full tariff dismantling on both sides – "zero for zero".

4. At multilateral level, international harmonisation within the UNECE framework of the 1958 Agreement would be the best way to address technical NTBs. In the context of FTAs, EU should promote the acceptance by its trading partners of approvals in accordance with UNECE regulations under the 1958 Agreement as equivalent to their own approvals, as this has been agreed to a large extent under the EU-Korea FTA.

5. Trade negotiations should tackle all NTBs, including restrictions to investments and public procurement, infringement of intellectual property rights, restrictions on access to raw material, discriminatory taxation systems, etc.

6. Thresholds for Rules of Origin guaranteeing a significant value added to be brought in the partner country should be retained as a means to ensure fair competition and transparency. For the sake of the same principles, any decision on duty drawback should be based on an economic analysis on the FTA concerned, which takes into account arguments from industry.

7. Stakeholders do not prioritize among the above elements as it is felt that they are complementary and that fair market access can only be achieved by a combination of all of them. The question remains, however, whether, with regard to specific trade negotiations, some sort of prioritization would be desirable in order to make the EU negotiating strategy more effective.

8. To ensure proper enforcement of the commitments undertaken by the parties, FTAs should systematically foresee effective and swift dispute settlement procedures. In addition, where appropriate it should be considered the introduction of bilateral safeguard mechanisms to deal with potential surge of imports which would cause, or threaten to cause, injuries to the EU industry.

9. As far as geographical priorities are concerned, there is a general agreement that bilateral trade negotiations should be conducted with countries whose market is potentially of high importance for the EU economy, including the EU automotive industry. In particular,

attention shall focus in the years to come on the emerging economies as the most promising ones, due to both their strong growth performance, and the low rate of vehicles per capita.

10. In this regard, without concrete and tangible commitments regarding the elimination of all principal NTBs, the automotive industry does not support opening FTA negotiations with Japan.

Market Access Strategy and regulatory cooperation

1. Stakeholders consider that the instruments set up under the Market Access Strategy are very useful in so far as they allow sharing information among all partners (Commission, including Commission's delegations in third countries, Member States and industry), establishing concrete priorities and setting up specific strategies for the removal of individual trade irritants. In terms of possible options for the future, big potential is seen for the Market Access Strategy. In particular, enhanced participation of Member Sates, as well as better coordination with industries' initiatives in third countries should be encouraged. In addition, targeted agendas, more specific follow up by all actors involved and more frequent meetings could help keeping momentum on main trade irritants and thus increasing the effectiveness of EU action.

2. The analysis on the identification and nature of main trade barriers is largely shared by all stakeholders. Regulatory cooperation under the UNECE framework is identified as the best means to address technical NTBs and deal with diverging administrative procedures. Thus, increased bilateral cooperation with countries which are contracting parties to the UNECE 1958 Agreement should be promoted which should also include joint actions to promote accession to the UNECE 1958 Agreement and wider acceptance of UNECE regulations by countries which are not signatories to this Agreement.

3. It is important that whenever the EU has concluded an FTA with a third country, appropriate monitoring is put in place in order to ensure that the contracting parties fully abide with the automotive provisions set up in that FTA; such monitoring should include, for example an analysis of the consequences that any new automotive legislation in the third country may have on EU exports.

4. As far as geographical priorities are concerned, as this is the case with respect to general trade negotiations, there is a general agreement that bilateral regulatory dialogues should be set up and/or enhanced with emerging countries whose market is potentially of high importance for the EU economy.

5. In addition, the momentum should be kept under the Transatlantic Economic Council (TEC) with the aim to strengthen bilateral cooperation with the US on automotive issues. E-mobility and electric vehicles have been identified as areas where EU-US regulatory cooperation could deliver most. This cooperation has lead to establishing a clear link between such bilateral cooperation, standardisation activities and the global regulatory activities concerning electric vehicles and their batteries carried out under the UNECE 1998 Agreement. The discussions recently launched, in the framework of the High Level Working Group on Growth and Jobs, aiming at strengthening trade relations between the EU and the US, are seen as an opportunity for improving automotive transatlantic trade conditions.

6. A reinforced regulatory cooperation with Japan is also supported, with a view to eliminate NTBs in the automotive sector.

7. New technologies, and in particular those related to e-mobility, are generally identified as areas where bilateral cooperation with key EU trade partners could be more fruitful. As these are areas where domestic regulations do not exist yet or are at early stage of development, the possibilities of developing common rules are higher than in areas which have been regulated for long time.

8. Industry should be closely involved in the bilateral regulatory dialogues between the Commission and third countries, should be regularly consulted by the Commission in advance of main meetings and should actively contribute to follow up actions. The well established tools of the Market Access Strategy, whereby industry assists the Commission in identifying trade obstacles, analyzing issues at stake, providing technical expertise and following up actions to remove the identified barriers to trade are an example of good cooperation. Joint projects between Commission and industry aimed at enhancing regulatory cooperation with third countries should be promoted.

Reform of the 1958 Agreement

1. There is a need to reform substantially the 1958 Agreement to reflect the increasingly global constituency of Contracting Parties and globalisation of the automotive industry, thus turning it into an extended global system. Reforming the 1958 Agreement should be the short to medium term priority; the possibility of having an effective global system that can also be used by countries applying self-certification should be a long term aim provided it can be achieved without undermining the ability of Governments to enforce standards effectively through type-approval.

2. Further involvement of third countries can be obtained by changing the rules of governance of the Agreement. In the short term, this might be achieved by a better involvement of third countries at early stages of the development process of new UN Regulations and amendments to existing UN Regulations, by introducing greater transparency in managing the Agreement, by engaging potential new contracting parties in participating in and eventually chairing informal and expert groups, by a more inclusive distribution of responsibilities for the development of working documents. In the medium to long term, it may be necessary to envisage modifying the quorum to adapt and/or amend the regulations developed under the 1958 Agreement. The EU should give a clear signal to emerging economies that it is engaged in this modifying process.

3. The Commission, Member States and industry should join efforts in promoting the 1958 Agreement and its regulations, especially in countries with a developing automotive market.

4. The attractiveness of the 1958 Agreement would be increased by the introduction of an international whole vehicle type-approval system. However, the introduction of such system should be gradual and made conditional upon a reform of the Agreement which addresses the following elements: ensure quality assurance of type-approval; improve transparency in the application and interpretation of the Agreement and its regulations; introduce minimum requirements for competence of technical services; enhance procedures for ensuring conformity of production and rules for the withdrawal from the market of non-compliant products, etc.

Chapter 4: Lowering CO_2 emissions

The effect of road transport on the environment and climate change has long been on the policy agenda. This has led in recent years to the adoption of Regulations on **CO2 emissions from cars and vans**, which are to be reviewed in 2012. The CARS 21 group has discussed the principles to be followed for those reviews. It is also important to address **CO2 emissions from heavy-duty vehicles** whilst taking into account economic, social and environmental impacts. Moreover, the Directive on **CO2 labelling** of cars, aiming to inform consumers about the CO2 emissions of their cars, is to be reviewed in 2013.

a. Implementing an integrated approach for CO_2

Analysis

On 7 February 2007, the Commission adopted its Communication[14] outlining a comprehensive strategy to reduce CO_2 emissions from new cars and vans sold in the European Union, taking into account among others the recommendations of the CARS 21 report of 2005.

The CO_2 reduction policy for road transport at an EU level has traditionally focused on improved vehicle technologies, making sure new vehicles are more fuel-efficient and relying on the gradual replacement of old vehicles. Additional policy measures, such as those influencing transport demand and consumer choice, have, to a large extent, been decided at national or local level.

While the majority of the emissions reduction under the 2007 Strategy was to be delivered through improvements in vehicle motor techology, other technical improvements were also foreseen. These other improvements, in order to form part of the integrated approach, needed to be clearly measurable, identify the stakeholder responsible and the timetable for their delivery and have a mechanism established for monitoring progress and ensuring accountability. The attractiveness of the various measures was assessed on the basis of their cost-effectiveness compared to car CO_2 reductions.

The 2007 strategy has been implemented through measures addressing the following aspects:

- average emissions for the new car fleet of 130gCO_2/km;
- minimum efficiency requirements for air-conditioning systems;
- the compulsory fitting of tyre pressure monitoring systems;
- maximum tyre rolling resistance limits and labelling;
- the compulsory fitting of gear shift indicators;
- fuel efficiency progress in light-commercial vehicles (vans);
- increased use of biofuels maximizing environmental performance.

[14] COM(2007)19 Communication from the Commission to the Council and the European Parliament - Results of the review of the Community Strategy to reduce CO_2 emissions from passenger cars and light-commercial vehicles

When Regulation (EC) No 443/2009 was adopted, in addition to setting the target of 130gCO_2/km for new car emissions to be achieved in the period 2012-2015 it also set a target of 95gCO_2/km to be achieved in 2020, while an assessment of the modalities to reach this target needs to be carried out. Regulation (EU) No 510/2011 similarily sets a short term target for vans of 175 gCO_2/km to be achieved in the period 2014-2017 and a target of 147gCO_2/km to be achieved in 2020 subject to confirmation of its feasibility and to the assessment of the modalities to reach that target.

The 2007 strategy has been succesful in reducing LDV CO_2 emissions. However, despite this progress, EU road transport CO_2 emissions remain at a high level compared to 1990 and compared to other sectors. Furthermore, discrepancies have been identified between CO2 emissions measured at type-approval and real-world (see section 6.a). Further reductions will come with implementation of the 2020 targets CO_2 performance standards for cars and vans. Action in sectors of transport other than LDVs is also esssential and the Commission is currently working on this in the aviation, maritime and HDV fields.

Beyond 2020 reductions will need to continue in order to meet medium and long term climate objectives. Technology improvements will continue to be important but the most cost-effective approach to ensuring the reductions needed is likely to involve a mix of policies. Technological improvements require investment by vehicle manufacturers and parts suppliers who work on a ten year and longer planning cycle. It is therefore essential that they are provided with certainty about the levels of reductions required and the manner in which these will be measured far enough in advance and without the danger that the requirements will be changed.

In this longer term horizon, the Commission put forward a comprehensive strategy in its 2011 Transport White Paper[15], which proposes an overall CO_2 reduction target of 60% of transport emissions by 2050[16]. In addition to the need for tighter vehicle CO_2 standards, the White Paper takes a comprehensive approach. It identifies a wide range of additional detailed goals and initiatives to be implemented at EU, national, regional and local levels in the coming years that contribute to reducing CO_2 emissions from road, as well as other forms of, transport.

Recommendations

1. Reducing CO2 emissions from road transport requires a comprehensive and integrated approach, including action from all stakeholders to improve vehicle efficiency, the use of sustainable alternative fuels and the decarbonisation of the energy used as well as influencing the level and the way of use of new and existing vehicles. This approach should be continued whilst taking into account cost-effectiveness, technology-neutrality, sufficient lead time, regulatory predictability and certainty of CO2 savings.

2. The Commission's Transport White Paper, along with other strategy documents, responds to the request for such an integrated approach by putting forward a wide range of actions to reduce transport CO2 emissions. Also actions by Member States, regional or local

15 COM(2011) 144. Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system

16 The White Paper is currently discussed in Council and Parliament, Member States wish to specify that the targets, measures and content have not been accepted yet by them.

authorities and stakeholders should be identified and promoted. Care is needed to ensure the overall approach is neutral with regard to which technologies are deployed.

3. The regulatory targets for LDV CO2 emissions are essential for delivering CO2 reductions by 2020 and beyond and implementing the roadmap to a low carbon competitive economy.

4. Planning certainty is essential for vehicle manufacturers and parts suppliers to provide assurance for investments and lead-time. The review of the 2020 targets and modalities for reaching them therefore needs to be finalised as soon as possible.

5. A credible, reliable, accurate vehicle test procedure, including a better test cycle and measurement procedures for CO2 emissions, is a vital element of the strategy. Necessary changes to achieve this must be implemented in a manner which is fair and predictable.

6. The manner in which vehicles are driven will remain an important factor in determining overall CO2 emissions. Therefore, further promotion of eco-driving, speed management and improved infrastructure is useful and can also be expected to bring about benefits in terms of road safety. Eco-driving is most appropriately addressed at national and local level. In order to better exploit the potential of such measures in delivering real-world reductions, wider exchange of best practices and broader implementation, e.g. through the driving licences education, should be envisaged at EU and national level.

b. Reducing CO2 from heavy-duty vehicles

Analysis

In the context of necessary reductions according to the Intergovernmental Panel on Climate Change (IPCC) by developed countries as a group to be compatible with the goal of limiting temperature increases to below 2ºC from pre-industrial times, the EU needs to reduce its GHG emissions by 80-95% below 1990 levels by 2050[17]. Reductions in crude oil use can also help to improve energy security.

Commission analysis[18] shows that while deeper cuts can be achieved in other sectors of the economy, the cost effective level of reduction from the transport sector is around 60% of GHG emissions by 2050 compared to 1990. By 2030, the goal proposed by the Commission for transport[19], currently discussed by Council and Parliament, will be to reduce GHG emissions to around 20% below their 2008 level. It should be noted that economically priced, rapid and flexible transport of goods is of great importance for the competitiveness of the European industry and its prosperity.

It is estimated that heavy-duty vehicles (HDVs) account for about 26% of CO_2 emissions from road transport in the EU, which is about 5% of total CO_2 emissions. The demand for freight transport is growing continuously and road haulage forms the biggest share of inland freight transport. HDVs are the second biggest transport source of CO_2 emissions, roughly equivalent to the sum of air and water transport CO_2 emissions (international and domestic

[17] As mentioned in the Presidency Conclusions of the European Council, 29/30 October 2009
[18] COM(2011) 112; http://ec.europa.eu/clima/documentation/roadmap/docs/com_2011_112_en.pdf
[19] COM(2011) 144 final; http://ec.europa.eu/transport/strategies/2011_white_paper_en.htm

aviation and shipping). The volume of road freight transport is expected to continue to grow at or above the rate of economic growth (GDP). Due to worldwide highest fuel prices and highest mileage performance, European trucks are already highly competitive in terms of fuel efficiency. However, with business as usual, fuel consumption and CO_2 emissions from HDVs are expected to continue to grow in the future in absolute terms and as a proportion of total emissions. Although energy prices, demand and other policy responses will influence these projections, it underlines the importance of further improving the CO_2 and fuel efficiency of road freight transport from the economic, environmental and climate perspectives.

In the European Strategy on Clean and Energy Efficient Vehicles[20], the Commission announced that it will propose a strategy improving fuel consumption and CO_2 emissions from heavy-duty vehicles. The expected improvement of fuel efficiency of HDVs due to market forces is estimated at 1% per year, a rate which is also incorporated into the latest business-as-usual projections in the TREMOVE model.

In order to better understand the specificities of the HDV sector, the Commission has recently published a report on the EU HDV market structure which identifies a series of policy options for reducing CO_2 emissions from HDVs[21].

The analysis carried out for this project shows that even under most ambitious technology uptake levels starting immediately, total GHG emissions from HDVs may only reduce to levels slightly below today's levels by 2030. A comprehensive strategy therefore needs to be developed covering a wide range of measures and actors addressing CO_2 emissions from HDVs. Should there be significant delay in lowering HDVs CO_2 emissions, the potential future GHG emissions would be significantly higher.
Taking into account the findings of the study, the following potential policy instruments for reducing CO_2 emissions from HDVs and their operation have been identified:

(a) Measures primarily related to HDV CO_2 performance and/or purchase decisions by fleet operators

- Monitoring HDV CO_2 emissions, through the implementation of a measurement methodology for CO2 from HDVs
- Labelling of vehicles, components, bodies, trailers or transport services,
- Legislation to set performance requirements for vehicles, components, bodies and trailers,
- Direct stimulation of development and deployment of CO_2 reducing technology by HDV manufacturers and their suppliers,
- Public procurement rules relating to HDV procurement,
- The development and diffusion of more efficient vehicles (including by means of changes to weights and dimensions legislation),
- Vehicle purchase taxes or incentives,
- Alternative fuels.

(b) Measures affecting the operation of HDVs

- Review of cabotage rules,
- Dissemination of best practices,

[20] COM(2010)186 final

[21] http://ec.europa.eu/clima/studies/transport/vehicles/docs/ec_hdv_ghg_strategy_en.pdf

- Improved logistics and fleet management,
- Driver training,
- Speed reduction,
- Road user charges,
- Fuel taxes.

(c) Other measures

- Emission trading scheme(s).

Recommendations

1. The policy options to reduce CO2 emissions and increase fuel efficiency in HDVs should reflect the heterogeneity of the transport sector as well as the role of the various actors and build on the experience gained from regulating CO2 emissions from cars and vans. It will be important to recognise the specificity and the diversity of HDVs and specifically the cost sensitivity of the commercial vehicle sector. Also the fact that different types of vehicles perform different societal utility needs to be taken into account. Regular reviews of the development of the fleet need to be included as well.

2. Taking into account the conclusions from the EU HDV study on market structure and policy options, the Commission should develop an integrated strategy based on:
   - Evaluation of current emissions of vehicles (Implementing a methodology for measuring CO_2 emissions from HDVs);
   - Improvement of system efficiency (e.g. alternative fuels, intelligent transport systems, co-modality, taxation, cabotage, green procurement, fleet renewal, speed limits, driver training, consumer information, weights and dimensions of vehicles);
   - Improvement of the efficiency of vehicles (e.g. more efficient engines and alternative powertrains, improving air resistance, weight, tyre pressure control, rolling resistance[22] and on-board energy using devices of whole vehicles);

3. When evaluating the efficiency and feasibility of CO2 reducing measures, an extensive impact assessment should be undertaken, evaluating the cost-effectiveness of possible measures concerning HDV emissions.

c. Reviewing the regulations for cars & vans

Analysis

Regulation (EC) No 443/2009 provides, in addition to the target of 130gCO_2/km for new car emissions to be achieved in 2015, a target of 95gCO_2/km to be achieved in 2020. The modalities to reach this target have to be assessed. Regulation (EU) No 510/2011 sets in an equivalent way a target for new van emissions of 175g/km to be achieved in 2017 and a target of 147g/km to be achieved in 2020, subject to confirmation of its feasibility.

These Regulations request the European Commission to carry out, before 2013, reviews of the proposed 2020 targets. The texts of the relevant requirements state:

[22] Any new legislation with the aim of curbing CO2 emissions from HDVs should take into account the recent efforts of the tyre industry to meet the rolling resistance requirements set out in Regulation (EC) 661/2009

- Regulation 443/2009 *"…the modalities for reaching, by the year 2020, a long-term target of 95 g CO2/km in a cost-effective manner…"*
- Regulation 510/2011 *"… subject to confirmation of its feasibility on the basis of updated impact assessment results, the modalities for reaching, by the year 2020, a long-term target of 147 g CO2/km in a cost-effective manner …"*

To support the reviews, the Commission has carried out an impact assessment in which the costs and availability of technologies for reaching the 2020 targets are analysed together with an assessment of the impacts on industry and society. On the basis of that analysis a range of different modalities has been considered for reaching the targets. The Commission intends to come forward with a proposal for legislation (amendments to Regulation (EC) No 443/2009 and (EU) No 510/2011) later in 2012.

Recommendations

1. The regulatory targets for light duty vehicle CO2 emissions are essential for ensuring the reductions needed to meet the EU medium and long term climate objectives. These are also expected to drive innovation.

2. Meeting the 2020 targets for cars and vans is expected to lead to an increase in the development and production costs[23]. However, these costs are less than previously anticipated, as they evolve according to technological development, and users and society would also benefit from lower fuel consumption. The affordability and market acceptance of technologies will determine how the targets will be achieved.

3. Technologies are available for meeting the 2020 targets and vehicle manufacturers and component suppliers have already invested in this area with a view of meeting the 2020 targets.

4. The 2020 CO2 emissions targets should be calculated on the basis of measurements under the NEDC, or be strictly correlated to the emissions measured under that test procedure.

5. Flexibilities, such as eco-innovations, for meeting the 2020 targets should be considered, provided that they do not effectively weaken the targets and have the effect of increasing CO2 emissions.

6. Given the industry's need for lead time, it is important for all stakeholders concerned to be provided with an indication of the likely form and level of ambition beyond 2020 in a timely manner.

d. Making the CO2 labels more effective

Analysis

Directive 1999/94/EC ('the car labelling Directive') relates to the availability of consumer information on fuel economy and CO_2 emissions in respect of the marketing of new passenger cars. Its purpose, as stated in Article 1, "*is to ensure that information relating to the fuel*

[23] The average additional cost, as estimated by the Commission, per car ranges between €760 and €1760 and for vans around €450.

economy and CO_2 emissions of new passenger cars offered for sale or lease in the Community is made available to consumers in order to enable consumers to make an informed choice".

The review of the car labelling Directive has been announced in the 2007 Strategy on CO_2 emissions from light-duty vehicles and in the 2010 Strategy on Clean and Energy Efficient Vehicles which foresees a proposal to amend this legislation.

A number of studies have been undertaken to assess the effectiveness of the Directive in influencing consumers' choices. In order to up-date the findings and as preparation for a review in 2013, the Commission will launch a consumer-based research to study the effectiveness of different formats of the label, including alternative classification of vehicles. The Commission's proposal is envisaged for the second half of 2013.

Recommendations

1. Consumer information on CO2 emissions, fuel efficiency and energy consumption is an important tool for incentivising consumer demand for low emitting cars.

2. In order to ensure the efficient functioning of the internal market, it is appropriate to consider further harmonisation of the label across the EU, whilst taking into account the need for flexibility to ensure the information is presented in the most appropriate form.

3. In designing the label, different formats should be considered, (i.e. the use of an absolute, a relative label or a combination of both) as well as the potential inclusion of Member State specific information.

4. The label should cover alternative powertrains, such as hybrid and electric vehicles, and appropriately address the relevant emissions .

5. A possible extension of the label to light commercial vehicles needs to be considered.

6. It seems appropriate to consider adjustment of the scope of the Directive to include other relevant sources of information for the car buyers, including the internet and advertising.

7. Provision of accurate information to consumers is important. However, better evidence is needed of the impact it has and whether weaknesses in the test-cycle undermine trust and therefore the usefulness of consumer information.

Chapter 5: Deploying new mobility solutions

Introduction

Europe needs to diversify the energy sources used for transport, in order to meet climate goals and to reduce its dependency on oil. Although there will be oil for several decades to come, **future oil supply alone will not be able to provide for the additional global demand,** particularly in developing countries and regions, and, subject to the supply and demand evolution of all competing energy sources, may become more expensive. This could boost market potential for alternatives, in addition to their desirability for sustainability reasons. That also requires that the alternative fuels, including electricity, hydrogen and gaseous fuels, are distributed to the vehicles through appropriate infrastructure. **Significant investments are needed for that**.

Innovation will be **a key factor for** maintaining **the competitiveness for the automotive sector** and **sustainability of the road transport**. Innovation (technological and behavioural) will help to answer both the energy supply and infrastructure challenge, and to meet the ambitious new targets on road safety, environmental protection and reducing congestion and its economic impacts. **Public funding** plays a key role in fostering the innovation in the automotive industry. This has been recognised in past European research programmes and in the preparation of new programmes the allocation of public funding for automotive research has to be carefully considered.

a. Promoting alternative fuels

Analysis

In the next decades, transport in the EU faces the **challenges** of progressively decarbonising and ensuring secure long-term sustainable energy supply while, at the same time, maintaining and strengthening its competitiveness. The objectives of transport decarbonisation alongside the decarbonisation of energy in the low-carbon economy in 2050 perspective will translate as of this year and the future years in **key political initiatives** of the European Commission that will later be discussed with the EU Institutions. The greenhouse gases emissions reduction will be required from all sectors. While decarbonisation of transport is challenging, this does not justify shifting the effort to other sectors, especially as **transport is responsible for 32% EU's final energy use and 21% of GHG emissions**. The progressive decarbonisation of **road transport** while maintaining and strengthening its competitiveness will be a major challenge considering that it represents 80% of the energy used by all transport modes in the EU.

In order to tackle this challenge, the EU has developed the **integrated approach** covering all elements in the emissions chain, including vehicle technology, fuels, consumer information, taxes, infrastructure and overall transport efficiency. **One part of the integrated approach has already been implemented**[24] in recent years, in capping vehicles CO_2 emissions with **the Regulation on CO_2 emissions from cars**[25]**, tyres**[26] **and recently adopted Regulation on**

[24] Commission's progress report on implementation of the Community's integrated approach to reduce CO2 emissions from light-duty vehicles, COM(2010)656 final, 10.11.2010.
[25] Regulation (EC) 2009/443

CO_2 emissions from light commercial vehicles[27]. In a complementary manner, European and national research funding have been used. In order to apply the integrated approach in a coherent manner, all its elements need to be fully implemented,

Concerning EU road fuel policy, the following key elements have been established: single market for road fuel, fuels fit for purpose (enabling the correct operation of vehicles and their necessary emission control technologies to meet regulatory requirements), progressive decarbonisation and security of supply. The **Fuel Quality Directive**[28] **(FQD)** addresses the first three of these objectives through setting mandatory minimum fuel specifications across the EU and requiring fuel suppliers to reduce by 6% (by 2020) the GHG intensity of energy supplied for road transport.

In addition, the **"Biofuels Directive"**[29] set an indicative target for a minimum proportion of biofuels and other renewable fuels to be placed on the markets in 2010. A subsequent step to the "Biofuels Directive" was taken with the **"Renewable Energy Directive"**[30] **(RED),** which establishes a 10% target for each Member State for the share of energy from renewable sources in transport in 2020. The analysis of National Renewable Energy Action Plans (NREAPs) submitted by Member States in June 2010 reveals **that Member States intend to slightly overshoot the 10% target**. To meet the 10% target, they intend that 8.5% comes from the first generation biofuels, 1% from the second generation biofuels and 1% from renewable electricity, most of the latter in railways rather than in cars. One Member State expects some hydrogen from renewables to be used in transport by 2020. As in their national plans, Member States seem to be mostly counting on first generation biofuels, their sustainability is a key issue.

Both the RED and the FQD establish **sustainability criteria** that must be met by biofuels if they are to count towards the targets of those Directives or receive public support. In addition both Directives refer to the impact of **indirect land use change** (ILUC). The Commission is currently finalising an impact assessment on this subject and is preparing the necessary policy adaptations.

The **limits on certain biofuel components** contained in the FQD are established to ensure compliance with health and other environmental objectives. The biofuel growth planned by Member States is, in principle, achievable within the FQD specifications for petrol and diesel[31]. The FQD provides certain **consumer safeguards** for petrol blended with ethanol and diesel blended with FAME. These safeguards consist of the provision of appropriate information on the biofuel content of petrol and diesel to be ensured by Member States. Furthermore should petrol be provided with a 10% ethanol content, Member States shall require suppliers to also market petrol with a 5% ethanol content[32]. The RED requires that where the percentage of biofuel blend exceeds 10% by volume Member States must require this to be indicated at the point of sale. In the light of Member States' NREAPs, a possibility of fragmentation of the internal market for fuels is indicated and therefore the **continued**

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26 Regulation (EC) 2009/661 and Regulation (EC)2009/1222
27 Regulation (EU) No 510/2011
[28] Directive 1998/70/EC as amended by Directive 2009/30/EC
[29] Directive 2003/30/EC, repealed by the Directive 2009/28/EC
[30]Directive 2009/28/EC
[31] which are respectively a maximum 10% v/v ethanol content (coupled with a maximum oxygenates content of 3.7% v/v) and a nominal maximum 7% FAME content. Article 4(1) allows Member States to go further than this FAME limit – at least up to the legal definition of diesel fuel which is 70% hydrocarbon content.
[32] Until at least 2013 as a protection grade that all cars can use.

review of the need to further harmonise fuels across the internal market remains very important[33] for the benefit of the industry and the consumer who must have access to fuels suitable for their vehicles whilst moving across the EU. Timing of the introduction and maximum blending levels should ensure customer acceptance. Several second generation, fully fungible, biofuels offer promising routes in this context. This matter should continue to be kept under review by the Commission.

The Commission continues to analyse issues relating to fuel and in this regard has received a number of reports of relevance. The JEC consortium study, **EU renewable energy targets in 2020: Analysis of scenarios in transport** (May 2011) [34] examines the potential for biofuels and other alternative energy sources to achieve the 10% renewable energy target for the EU transport sector by 2020 as mandated by the Renewable Energy Directive. The Expert Group on **Future Transport Fuels report** (January 2011)[35] assesses market potential, technological issues, economic viability, industrial implications, social and demographic aspects, environmental impacts, and safety of the different fuels considered as part of a **long term oil substitution for transport fuels** and recommends actions and policy measures supporting the introduction of alternative fuels. The report also proposes allocation of different fuels per specific use. The report provides input to the ongoing development of the strategic initiative of the Commission on **Clean Power for Transport**, which has the objective of establishing a comprehensive European alternative fuels strategy for all transport. A report on the same topic was also provided to the Commission by the Joint Expert Group Transport & Environment of national experts[36]. A second report of the Expert Group on Future Transport Fuels on **Infrastructure for Alternative Fuels**[37] was published in December 2011. Also, a stakeholder conference was organised on 27 April 2012 on fuels labelling.

In January 2012 the European Commission (DG ENER) launched a study on the blending of biofuels with fossil fuels with the objective to assess a need and possible options for EU coordinated action to support the EU Member States to reach the legally binding target of 10% renewable energy in transport sector. As a general principle, all measures to be taken must be proportional and in line with the principles of cost-effectiveness and better regulation, taking into account the protection of the environment and the competitiveness of the automotive and fuel supply industry.

Recommendations

For the period up to 2020

1. With the EU objectives of transport decarbonisation and security of energy supply, alternative fuels will play a more prominent role in the decade to come. **A portfolio of alternative fuels** is necessary to meet the policy objectives. Given the novelty of many fuels, their performance should be kept under continuous review and be fed into the policy making process so that objectives can be adjusted as appropriate. The sustainability and consumer acceptance of these fuels are of key importance.

[33] if it becomes apparent that Member States do not achieve this in accordance with the subsidiary principle
[34] See http://ies.jrc.ec.europa.eu/uploads/jec/JECBiofuels%20Report_2011_PRINT.pdf
[35] See: http://ec.europa.eu/transport/urban/vehicles/road/doc/2011_01_25_future_transport_fuels_report.pdf
[36] See: http://ec.europa.eu/transport/urban/vehicles/road/clean_transport_systems_en.htm
[37] See http://ec.europa.eu/transport/urban/cts/doc/ftf_eg_report_201112.pdf

2. In 2020 perspective, the **dominant powertrain will continue to be the internal combustion engine (ICE)** - increasingly using **alternative fuels** (LPG, methane, biofuels and synthetic fuels as a technology bridge) but **electric vehicles** (including plug-in hybrids) are expected to increasingly penetrate the market. **Hydrogen vehicles** are also expected to enter the market in this time perspective. For the broad policy framework, **Well-to-Wheels analysis** should be considered as possible basis for assessing GHG emissions and energy use of combinations of fuel and vehicle technologies.

   For heavy duty vehicles, ICEs remain the backbone of possible powertrain solutions (even beyond 2020). Thus, suitable alternative fuels need to be explored taking into account specific requirements of the commercial vehicle business.

   Methodology of life cycle analysis for fuel supply and vehicle production and disposal should also be considered.

3. The JEC consortium study concluded that current FQD limited biofuel blends (i.e. E10 petrol and B7 diesel), with a contribution from renewable energy in non-road transport, come close to meeting the RED 10% target for renewable energy use in transport. In the light of the NREAPs submitted by Member States under the RED, **it may be challenging to achieve the targets while adhering to the blending limits in the FQD.** Therefore, in the short-term the **priority should be given to the adoption of an EU-wide standard for E10**. In the mid-term, the aim should be to ensure the complete harmonisation of the quality and availability of both E10 and B7 across all Member States **so that market fragmentation does not occur**.

4. **So called "protection grade"** (petrol with maximum 5% ethanol and diesel with maximum 7% FAME (the latter in case a new biodiesel CEN specification with higher FAME content is defined) **must be made available until 2013** and longer if Member States consider it necessary, so that consumers have access to fuels that are compatible with the vehicle technologies represented in today's vehicle park.

5. In order to protect consumer interests clear, appropriate, concise and consistent information on the different types of fuels, combined with minimum common fuel labelling at the pump across the EU needs to be provided Further discussion is to be organised with stakeholders, particularly fuel suppliers, vehicle manufacturers and consumers. The following might be considered:

   - Confirmation by a fuel supplier on the biofuel content and by the biofuel supplier that this was sustainably produced.

   - Consumers should be provided with clearer information at the retail pump and in their vehicle handbooks regarding the compatibility of their vehicle with the fuel products offered. It should reduce the occurrence of fuels being used in vehicles for which they are not suitable.

   - Minimum standards for pump labels for the same type of fuel across Member States would increase the transparency and confidence in fuel markets for consumers.

- A simple colour or symbol code system (in addition to the standardised labelling recommendation for E5 and E10 currently discussed in CEN) could be proposed to allow consumers to verify vehicle and fuel compatibility. Precise and reliable information on compatible fuels for a given vehicle should be provided by vehicle manufacturers, for example on the filler cap, in the owner's handbook and/or via websites.

6. Any future revision of the maximum blending limits for fuels in the FQD, which may be considered useful in the medium-term, needs to be assessed carefully and the benefits (environmental or otherwise) in doing so established before proceeding unless based on fully fungible and sustainable biofuels such as those produced by 2nd generation technologies. In its report on Infrastructure for Alternative Fuels, as well as during the Conference on fuels labelling, the expert group and industry and consumer stakeholders recommend that the issue of ILUC 'should be settled before moving to a broad market introduction of higher blend biofuels'. In order to remove uncertainty and provide medium-term predictability for all actors involved, it is important that this issue is clarified rapidly.

7. A robust and proactive standardisation process for transport fuels and labelling (CEN specification) needs to be reinforced by all stakeholders, so as to ensure timely implementation of future fuel roadmaps. The imminent adoption of the revised standard EN 228 (petrol), including labelling recommendations, is welcomed and the revision of EN590 (diesel) including similar labelling recommendations could be encouraged.

8. Adequate lead-time must be given to industry to allow for vehicle compatibility testing to take place and ensure an adequate supply of new vehicles and fuel to the market.

9. In addition, **fungible (second generation) biofuels, including from waste and other residues or sustainable energy crops** such as algae, straw and other low value resources, **should be promoted** via research and demonstration, adequate and targeted financial mechanisms for first-of-a-kind-plant and market introduction programmes. Sustainability, supply availability, cost-efficiency and quality of those biofuels must continue to be carefully examined. Member States could play a role in ensuring that second generation bio-fuels contribute more to reaching the 10% target by promoting the necessary investment, research and support for introduction of sustainably produced advanced biofuels.

10. Concerning gaseous fuels:

a. **Methane** represents a mature technology available for all types of vehicles and has a high potential already in medium term.
A concrete possibility for further decarbonisation is provided by the **injection of sustainably produced methane** (from biomass or low-carbon electricity), which does not necessitate a change in infrastructure but possibly an expansion of pipelines, depots and distribution facilities.

b. **LPG** is currently the most wide-spread alternative fuel and there is infrastructure already established in several Member States. A possibility for

further decarbonisation in longer term could be provided by the **injection of sustainably produced bio-propane**[38].

Both gaseous fuels could be considered by Member States to play a more important role improving sustainability of transport also considering their role in diversification of energy supply.

Looking beyond 2020

11. Alternative **long-term options for substituting oil** as energy source for propulsion in transport are electricity, hydrogen, liquid biofuels and bio-methane; methane (liquid and gaseous) as a complementary fuel; and LPG as a possible supplement. In the next decades, **electric vehicles are expected beyond a niche market status** with electric drive train evolution benefiting both electric and hydrogen/fuel cell vehicles. Concerning electricity and hydrogen (in fuel cells) as an energy carrier for road transport, their main advantage currently lies in the **high efficiency of electric motors** whereas the main handicaps are the **low energy density of batteries** as well as the **high price of batteries and fuel cells**, respectively. Moreover, batteries, hydrogen and fuel cell technology could play an important role for the storage of energy and efficient use of energy in vehicles.

While the overall well-to-wheels energy efficiency is not different than the one of comparable conventional ICE vehicle, the **electric vehicle enables diversification of primary energy supply and substantial (around 30% at present) saving of CO2 emissions** taking into account the current CO_2 intensity of the EU electricity mix[39].

12. Knowing that the electricity sector is subject to ETS and that the EU electricity industry is committed to decarbonisation towards 2050, **electro-mobility can offer, in the longer term, a possibility of zero-emission vehicles** (for CO_2, pollutants and noise). **Decarbonisation** of the electricity generation (by renewable and other electricity sources, depending on national policy) and **the roll-out of electric vehicles** are in fact the two activities **complementary in the decarbonisation** effort and should take place in parallel.

Forecasts on the market penetration of electric vehicles vary strongly. Even with the fastest penetration rates projected, **demand for electricity coming from electric vehicles can be met with existing power generation facilities**. However, careful coordination between energy and transport policies is needed to enable the larger deployment of electric vehicles to be accommodated by the distribution grid. It is therefore important that the roll-out of the electric vehicles should be accompanied by the **deployment of smart grids** (enabling cost-effective smart charging solutions and electricity demand management). Smart grids will also increase the benefits of electric vehicles (e.g. storage potential and higher integration of renewable electricity in the grid). Work is already carried out in the Smart Grid Task Force on the different use cases of electric vehicles as part of the smart grid, on market models and regulatory issues.

[38] EU sustainability criteria for biofuels' applies for both liquid or gaseous fuel for transport produced from biomass
[39] Future Transport Fuels report [40] Dir 2009/33/EC

13. It is **too early in technology development to determine "winning" fuels or allocate fuels to specific uses.** In the longer term, this allocation and dominance of certain fuels should be, as far as possible, **established by the market forces** responding to the decarbonisation policy of the EU (reducing CO_2 emissions at lowest cost for consumers in order to guarantee affordable mobility). Inevitably, however, the public authorities' decisions on infrastructure, taxation and possible incentives will have a powerful influence.

b. Developing alternative fuel infrastructure

Analysis

One of the key policy objectives for the EU is the progressive decarbonisation of the transport sector and, in parallel, the reduction of oil dependency of the whole economy. This will require the adoption of compatible solutions on vehicle and fuel side. **Accelerating the market uptake of alternative transport fuels** is one of the means leading to this objective. The **development of refuelling/recharging infrastructure for alternative fuels and powertrains** - with an established technological viability and a market potential - **can substantially accelerate market uptake**.

The development of infrastructure for alternative fuels has been mainly **led and supported by the Member States** (often deploying State-aid for that purpose) and so far, Member States have taken **very different approaches** with regards to support for infrastructure roll-out. This has produced a **"patchwork" development** of different alternative fuel infrastructure in the different Member States.

While the EU has a good track record in the promotion of the alternative fuels and alternatively fuelled vehicles, this is not the case concerning the infrastructure for those alternative fuels. The **direct role of the Commission has been so far limited to R&D and pilot projects**. Other tools have only marginally been used for this purpose, such as **TEN-T funding** for the key European networks and the **deployment of Structural and Cohesion Funds**. The result of the current policy on the European level is **fragmented Internal Market for transport** and thus sub-optimal situation for the consumers. The **lack of an EU-wide harmonised alternative fuel infrastructure** clearly hampers the market introduction of vehicles using alternative fuels and **delays their environmental benefits**.

In addition to uneven action of public authorities', problems also exist for **private actors engaging in roll-out of an alternative fuels infrastructure**. Firstly, **initial cost** for alternative fuel infrastructure is high and, due to a lack of critical mass on the consumer side, private actors are reticent to invest into infrastructure. Secondly, **alternative fuels have, in some cases, not yet reached sufficient maturity**, which means that infrastructure established now could only be utilised on economic terms in the future. In some cases, **standards are missing** on the vehicle technology, infrastructure and fuel side or interfaces.

The 2011 Commission's **White Paper on Transport**, currently discussed with the EU Institutions, outlines a short-, medium- and long-term transport action programme. Among others, it defines the overall framework for EU action in the field of transport infrastructure by announcing EU efforts on "a sustainable alternative fuels strategy including also the appropriate infrastructure". It is now a **clear political priority of the European Commission that the EU should take a leading role by working with Member States at national and**

regional levels on the gradual roll-out of recharging and refuelling infrastructures for alternative fuels with an established technological viability and a market potential. The key objectives for this policy are stimulating the market uptake of the alternatively-fuelled vehicles as well as ensuring interoperability, reliability and convenience for the European consumers. Those objectives **justify public intervention on the European level**, which could take form of **standards, financial assistance as well as legislative action – respecting subsidiarity principle.**

Recommendations

1. In the medium- and long term, a **basket of alternative fuels** is expected to play a growing role in the road transport, leading to progressive transport decarbonisation. This is why a roll-out of **multiple alternative infrastructures** is necessary in order to create favourable conditions for deployment of vehicles powered by those different alternative fuels. The roll-out of those infrastructures has to be **in step with technological developments (technological viability) and market penetration (economic viability)** of a given fuel. Complete life-cycle performance of different fuels and propulsion systems and the scale effects and systems analysis of infrastructure costs (build-up and energy costs) should also be considered at the same time and kept under review.

2. The roll-out of alternative infrastructure should not develop to the detriment of existing infrastructure as public and businesses must continue to have access to fuels appropriate for the current vehicle fleet for a significant time after new fuels are introduced (e.g. E10 petrol and protection grade of the Fuel Quality Directive). This process must be continued in future years if new fuels are introduced.

3. Whereas alternative fuels should be given **public support** in the development phase and for market introduction, **eventually the market will have to decide whether a given option is economically viable and which options will prevail**. Public policy should aim at supporting alternative fuels uniquely in order to bring them into a position where they can compete on their own merits once the proper market conditions are in place.

4. The roll-out of alternative fuels infrastructure has been so far stimulated on the European level only **indirectly**, by **regulatory measures** for vehicles, fuel suppliers and public procurement instruments[40], or via pilot projects. **In the next decade a dedicated public framework and support for roll-out of multiple infrastructures is necessary and justifies policy action** – on the conditions specified below. This could be done via the possible measures of co-financing (or public guarantees) for investments led by the private sector, via direct regulatory measures (e.g. common requirements as to characteristics of filling pumps or requirements of minimum coverage), pilot projects or introduction of standards.

5. At the early stages of market introduction, the EU should take a more active role in the standardisation for ensuring safety and interoperability and co-financing of pilot projects. Public support or requirements of minimum coverage for new infrastructure should in line with the subsidiarity principle and be reserved for **technically mature** fuels, for which there is an outlook for **viable business models of vehicles sales or usage**. Such forms of public **support for infrastructure should intervene only when**

expected market penetration rates indicate the potential for a mass market for vehicles using given fuel. Infrastructure development supported/mandated by public authorities, should be an **enabling factor for the market deployment** rather than a stimulus for technology development, the latter more effectively stimulated by the research and pilot projects.

6. A legislative approach aiming at providing **common requirements as to the characteristics of the filling pumps/charging stations is justified and minimum coverage requirements** could also be considered in order to prevent internal market fragmentation and enable free movement of alternatively-fuelled vehicles across Europe.

7. **Local authorities are important actors for the roll-out of infrastructure** and often have **key competences** in this field. They are however confronted with budgetary restraints and uncertainties about technology development. From the regions perspective, **more pilot projects are needed together with the European support for exchange of experiences and best practices as well as cross-border cooperation**. The role of **Structural Funds** and TEN in co-financing fuel infrastructure can be important and further provisions for this should be created. The mobilisation of technical assistance facility such as ELENA could facilitate the preparation of investment programme in electro-mobility infrastructure. The EIB financing is also a potential complementary funding source to accelerate the deployment of this type of infrastructure at local or regional level.

8. Concerning **recharging infrastructure for electric vehicles**, the technology development, business models currently established, market penetration rates and successful pilot project indicate electric vehicles are a viable technological and market option. Consequently **public support for infrastructure roll-out would be justified – especially in urban areas**. An, important pre-condition is already in place – the electricity distribution. The key actions are **standardisation of the charging interface (hardware and software)** and **support for installation of the charging spots in homes, offices and, in publicly accessible areas**. The need for fast charging infrastructure currently is not yet clear but market demand needs to be continuously monitored and grid compatibility assessed case-by-case.

   To enable a fast development of electric vehicles, a harmonised approach for a charging system must be found across Europe as quickly as possible. The course for a common European infrastructure must be set now. The European Commission has mandated the European standardisation organisations in June 2010 to develop or review existing standards to ensure interoperability in this field. All relevant actors, both from the industry and from the Member States, should support a common solution that best meets requirements regarding safety, robustness, availability and performance.

9. While the fast charging raises questions about **the capacity of electricity distribution network,** normal charging is not posing any problems of this type. The **progressive electrification of vehicle park** as currently forecast **does not entail an excessive demand for electricity**. Development and integration of **smart grids** in the charging infrastructure for electric vehicles will enable not only to better adapt to this new

demand but also to use more electricity from renewable resources in recharging of electric vehicles.

10. **Needs for hydrogen refilling infrastructure** should also be considered in the light of technology and market potential. Hydrogen refilling infrastructure will most likely necessitate, more than other alternative fuels, a **high and upfront investment**, which could entail a bigger involvement of public authorities – on the European level. At the same time, the hydrogen vehicles have at present **very low market penetration rates** and public intervention is more likely to cover the pilot projects in the near future. Several aspects should be addressed by standards (e.g. hydrogen quality, fuelling connector, fuelling protocol).

11. **Vehicles using methane represent a mature technology, available for all types of vehicles** and methane pumps (CNG and L-CNG), are already well established in some Member States and benefited from public support already for the past years. The density of the infrastructure is, however, not yet adequate and public support should continue. There are also concerns over homogeneous quality of methane across the EU.

c. Deploying electromobility

Analysis

Although the **long-term future of electromobility remains uncertain** and depends crucially on technological and other developments, the shorter term issues seem more limited in scope and concrete. In the years **until 2020**, electrically chargeable vehicles are expected to gain an **increasing but relatively modest market share**. Therefore, the priorities for public policy in the coming years are to remove entry barriers for the market introduction of this new technology, in particular through **standardisation, regulation and recharging infrastructure**.

In the strategy on clean and energy-efficient vehicles, a number of specific measures were included in order to adapt the type-approval framework for electric vehicles[41]. In particular, the Commission adopted in April 2011 a Commission Regulation which incorporates in the EU type-approval system the **electric safety requirements** set out in **UNECE Regulation No 100**. In addition, the UNECE **requirements on the crash safety of vehicles** have been revised in order to cover specific risks of vehicles with electric powertrain and they have also been incorporated in the EU type-approval system. Also, **requirements for batteries in electric vehicles** are being developed under the UNECE framework (in the so-called Rechargeable Energy Storage Systems or RESS group) and, once adopted, will also become mandatory for the purpose of EU type-approval of motor vehicles and their components. **Mid 2012** is the envisaged date for adoption of such requirements by the relevant working group.

The European industry is not only exposed to global competition but increasingly dependent on international markets for future growth. The establishment of **international technical standards for motor vehicles** will therefore continue to be of key importance in order to facilitate compliance for European companies operating on several world markets. To this end, the Commission is actively participating in the activities which take place in the United

[41] With the term 'electric vehicles' is meant here electrically chargeable vehicles, including Battery Electric Vehicles, Plugin Hybrid Vehicles and Extended Range Electric Vehicles

Nations Economic Commission for Europe (**UNECE**) forum in Geneva and is engaged in **bilateral regulatory cooperation** with main trade partners, especially the US, under the Transatlantic Economic Council (TEC). This has lead to the recent launch in November 2011 of two informal Working Groups on electric vehicle regulations, covering safety and environmental regulatory aspects, respectively. The former is expected to propose a Global Technical Regulation on safety requirements for electric vehicles, including the battery.

For the **recharging interface**, in June 2010 – following a request from the Council and the European Parliament – the Commission gave a **Mandate to the European Standardisation Organisations** (ESOs) to issue new standards (or review existing ones) with the aim of ensuring interoperability and connectivity between the electricity supply point and the charger of electric vehicles, and to guarantee the safety of electric vehicle batteries and their electromagnetic compatibility. ESOs accepted this Mandate in September 2010 and CEN/CENELEC set up a Focus Group which delivered in June 2011 a report with proposals to the standardisation organisations. Concerning the recharging interface on the infrastructure side, the Report recognises that no consensus was found to select either Type 2 or Type 3, which provide the same functions and ensure similar levels of safety. It should be noted that further discussions have taken place between electrical components manufacturers, car manufacturers and ESOs on possible technical compromises.

Recommendations

1. The EU regulatory framework has to a great extent already been adapted to include appropriate safety regulations covering the specific characteristics of electric vehicles and their components. However, there is still a need to adopt further technical requirements covering particularly the battery. These safety requirements are necessary to ensure potential customers that these vehicles are as safe as conventional ones, thereby removing a potential barrier for their market uptake. In order to reduce compliance costs, priority should be given to rules adopted in an international context.

2. In order to provide a practical solution to EV customers throughout the EU, the members of the CARS 21 High Level Group consider it is necessary to come towards a single European recharging interface for electric vehicles. European solutions should strengthen global competitiveness of our industry in this emerging market sector by promoting coherent approaches with other regions worldwide.

3. It is also essential to provide as soon as possible clarity and predictability for necessary private and public investments in vehicles and recharging infrastructure, which are needed in the near future. The definition of a single EU plug would therefore send an important signal for the roll-out of electromobility and avoid diverging standards which could represent an obstacle to the internal market.

4. Stakeholders agree that the standard recharging of electric vehicles using the dedicated and managed mode (known as mode 3) should be promoted, in order to minimise safety risks and grid overload. However, recharging in other modes should not be inhibited as this offers flexibility to consumers, which may prove necessary for market take-up.

5. For AC charging, Type 2 plugs and sockets have been identified as preferred choice for the vehicle side (at the latest by 2017). For the infrastructure side, evidence shows that a large majority of Member States started to deploy Type 2 plugs and sockets. This includes a number of countries that have national rules requiring shutters in buildings.

6. The Commission will start an impact assessment into the legislative options and technical modalities, ensuring that practical and satisfactory solutions for the infrastructure side of the interface are implemented throughout the EU, while ensuring the appropriate safety level. Without prejudging the outcome of the evaluation, convergence on a solution based on Type 2 seems to be the preferred option for a large majority of stakeholders today. The impact assessment will examine all options to promote the rapid expansion of the charging infrastructure. Existing demonstration projects involving different plug-types as well as ongoing technical discussions among stakeholders will have to be taken into account.

7. For DC and AC fast charging, cables need to be attached to the infrastructure for safety reasons. On the vehicle side and infrastructure side, standardisation needs to take into account the industry agreements on Combo-type2 and a unique vehicle inlet, while keeping in mind the need to ensure compatibility with other existing DC charging devices for a transition period.

8. In order to coordinate the roll-out of the infrastructure for electromobility, it would be useful to launch a platform at EU level, focused on information exchanges and best practices (e.g. on legal, financial and technological challenges and solutions, as well as new mobility concepts, direct and indirect incentives and other consumer-related issues). It needs to cover the actions taken at EU level and in the different regions and Member States.

d. Setting the framework for innovation

Analysis

Research, development and innovation (RDI) activities play an increasing role for the competitiveness of the automotive industry. Companies invest large amounts of capital to bring to the market an increasing **diversity of products**, with ever shorter development and product cycles. In addition, **regulatory requirements and customer expectations** have strengthened the need to develop new technologies and systems, for increasing comfort, environmental and safety performance. These drivers push the EU automotive industry to invest yearly around 30 billion Euros in RDI activities, making the sector the largest private RDI investor in absolute terms. The prospect of **profound technical changes in the coming years** further strengthens the need for these investments.

Public funding for RDI is available at EU, national and sometimes regional level to support the industry in its efforts. The amounts available are **relatively modest in absolute size** compared to the sums invested by the sector as a whole. However, public funding is often used for the early development of innovative technologies and concepts and **plays a key role for the transfer of knowledge** between different actors in the sector. The **Framework Programmes (FP) for R&D represent a major instrument** for RDI funding on EU level. The average annual spending from FP7 on automotive/road transport R&D amounts to around 200 M€.

The latest programmes, up until the current FP7, have led to the emergence of **ever larger projects** (Integrated Projects, Joint Technology Initiatives, Public-Private Partnerships), sometimes with a great number of partners. This development has also lead to complaints

about increasing **administrative complexity**. It is commonly acknowledged that, in the automotive field, EU funding is currently used mainly for pre-competitive research activities. A strong emphasis has also been put on the **involvement of stakeholders in the programming**, for example through the use of Technology Platforms such as ERTRAC. This development is widely seen as positive.

An important stimulus to the EU automotive R&D was given with the **European Green Cars Initiative (EGCI)**, which was launched as part of the European Economic Recovery Plan[42] in the context of the economic crisis. The EGCI established a dedicated financial envelope for FP7 research grants and the EIB loans for automotive research and development of clean technologies as well as smart energy infrastructure. For the FP7 activities, the EGCI proved successful in providing dedicated funding and a close coordination between the research actors on a small number of key priorities, on the basis of a **public-private partnership**. Several substantial RDI initiatives have been launched in recent years by other regions (such as Japan, US, China), aiming to develop industrial leadership on new vehicle technologies, with often a particular focus on electric vehicles.

As a follow-up to FP7, the Commission has proposed **the Horizon 2020 programme** for research and innovation. A public consultation was completed and as part of the package for the EU's 2014-2020 Multiannual Financial Framework, the Commission proposed on 29 June 2011 a budget for Horizon 2020 of € 80 bn. An all-comprising **Strategic Transport Technology Plan** (STTP) is also currently under development, which is the equivalent to the SET plan for energy and should be adopted by the Commission in 2012. It should cover all steps from research to market introduction of various key technologies. Finally, several **Innovation Partnerships** are under preparation, which should include the whole value chain from research to market introduction.

Recommendations

1. It has to be recognised that **RDI is essential for the competitiveness of the automotive industry**. Public support for these activities plays a key role for pioneering new (often high-risk) technologies and for the cross-fertilisation of knowledge between different actors. Given the importance of the sector for the EU economy, increasing international competition in technological leadership and the high number of automotive companies in the EU, **public support to RDI should continue** to be directed to this industry in order to strengthen its competitiveness and address societal challenges, including environmental sustainability. The budget proposed by the Commission for Horizon 2020 is € 80bn. The proportion of the budget dedicated to automotive R&D should be commensurate with the automotive sector's economic and social importance to the EU.

2. In order to make the best possible use of public money in a time of severe budget constraints, EU and national authorities are strongly encouraged to ensure complementarity of funding programmes for automotive RDI instruments, including by better coordination. The recent joint call of ERANET+ on electromobility provides a good practice in this sense. The Commission mentioned in the recent Communication on Industrial policy[43] that the concept of national industries is not sufficient in a globalised

[42] COM(2008) 800 final, 26.11.2008.
[43] COM(2010) 614

21st century economy and the minimum level of coordination should be the EU level. This certainly is true for the automotive industry as well.

3. In order to make **EU funding through the Framework Programmes** more attractive and thereby more effective by enlarging the pool of projects and partners, **a far-reaching simplification of administrative procedures** is absolutely key, as pointed out in several evaluation reports. Likewise, a room for cooperative projects of smaller size is necessary. This is in particular true for innovative SMEs and other new actors, which can provide valuable input, especially for the innovative concepts and breakthrough technologies needed in the coming years. The current efforts by the Commission are strongly welcomed and further implementation is encouraged. In particular, time-to-grant for FP projects can be reduced significantly by optimising each part of the process. Additionally, while no new instruments seem necessary at this stage, the potential of "fast-track" R&D funding should be explored for the time-critical areas of research.

4. Taking into account the importance of the sector for the EU economy, **provisions should be made in the future Horizon 2020 for research and innovation**, **to support a broad variety of RDI topics** in the automotive sector and for mobility in general. The planning should build on the successful approach of the recent years, making use of stakeholder involvement through the Technology Platforms, including the public sector and road users. Topics should cover the full range of automotive R&D areas, including:
    - Mobility and transport in urban areas, interurban corridors and interfaces
    - Novel and enhanced ICE powertrains and alternative fuels
    - Electrification of the vehicle, including energy storage technologies
    - Safety applications, such as those in co-operative systems and in advanced technologies for tyres
    - Suitable materials (including substitutes)
    - Ecological and efficient manufacturing, including recycling
    - Any other area where potential for significant improvement can be demonstrated.

5. In addition to the above and given the enormous challenge of identifying and developing alternative or breakthrough technologies that industry is facing for the coming years and the fact that global competitors are investing heavily in this field, there is sufficient justification for preparing the **launch of a specific major initiative on breakthrough technologies** (including, among others, electrification of combustion engines, hybrid and electric vehicles, fuel cells, electrical and electronic systems), taking into account the possible development of the European Innovation Partnerships on Smart Mobility and Smart cities and other relevant initiatives. This also needs to be accompanied by complementary RDI efforts for technologies for low-carbon electricity generation and smart grids. Given the experience with the EGCI, it seems to be that the PPP model would be more suitable than the Joint Technology Initiative model for such an initiative in the automotive sector.

6. In order to increase the effectiveness of EU RDI funding, it is important that EU support is enlarged to **include more RDI activities beyond research**. It is acknowledged that much more is needed to achieve successful innovation in the market place. By supporting also RDI activities of later stages in the innovation cycle, such as product development, production of test fleets, public procurement, standardisation, international harmonisation and demonstration activities, the EU action can be expected to have a more concrete impact on competitiveness. It has to be borne in mind, however, that these activities

usually necessitate significant budgets. The **current R&D instruments should be evaluated to see what changes could be made to attract more RDI activities closer to the market**. It should also be investigated to what extent the use of other EU instruments, namely the EIB lending facilities, the CIP and Structural Funds, as well as Member State participation could also provide a contribution for these activities in order to reach an appropriate level of investment.

e. Enhancing road safety and Intelligent Transport Systems

Analysis

The improvement of safety on European roads has been the subject of EU and national policy for several decades. Between 2001 and 2010, the period covered by the 3rd Road Safety Action Plan (RSAP), the level of safety on EU roads has been improved significantly. The **overall reduction in road deaths in EU27 in the period of the RSAP was 43%**, not far from the 50% target. Many reasons explain the progress, but it is generally acknowledged that vehicles and roads have become safer and that law enforcement was strengthened. All in all, one could say that road safety is an area where the Integrated Approach is being applied successfully.

The **passive safety performance** of vehicles has significantly **progressed mainly through a non-regulatory policy approach**, such as through the consumer tests performed by EuroNCAP. These crash tests are significantly stricter than those used for type-approval. Challenges remain in some areas, such as the protection of unprotected road users. For **active safety**, significant changes have been **introduced in the type-approval legislation**. In the General Safety Regulation[44], a large number of active safety technologies, which were discussed in the first CARS 21 report, have become mandatory. This includes Electronic Stability Control (ESC), Tyre Pressure Monitoring Systems (TPMS), Advanced Emergency Braking Systems (AEBS) and Lane Departure Warning Systems (LDWS) for certain vehicles categories and stricter requirements for tyres, including wet-grip. Also seat belt reminders for drivers have been deployed.

It seems clear that also **infrastructure has been improved**, with action on national and regional level to identify and eliminate high risk sites and on EU level with the adoption of the Directive on road infrastructure safety management[45].

Another major reason for the decline in fatalities is the introduction in several Member States of **stricter enforcement measures**. In particular, speed controls with fixed and mobile radar systems and checks on alcohol, drug and seat belt use have been stepped up in line with the Commission Recommendation on Enforcement in the field of road safety[46], usually as part of a national programme on road safety. Cross border enforcement of traffic offences throughout the EU will also be improved as a result of the recently adopted Directive on this topic[47].

The level of road safety, albeit better than before, should not give rise to complacency. Accidents still cause a significant number of casualties, progress has not been achieved evenly in all areas and new risks could appear. On 20 July 2010, the Commission adopted **Policy**

[44] Regulation (EC) No 661/2009
[45] Directive 2008/96/EC
[46] COM 2004/345/EC
[47] Directive 2011/82/EU

Orientations on road safety 2011-2020[48], setting a new and more ambitious target for further **decreasing by half the number of road fatalities by 2020**. In the Commission's White Paper on Transport Policy, a long-term ambitious vision for 2050 "of moving close to zero fatalities" is proposed.

Experts[49] have stated that about 95% of road accidents involve some level of human error, while 75% are caused by human error alone. The main causes of road traffic deaths remain the non respect of rules regarding speed, the wearing of seat belts and the consumption of alcohol and drugs.

- Excessive and inappropriate speeding is a primary factor in about one third of fatal collisions and an aggravating factor in all collisions[50].
- Drinking and driving is the responsible factor for at least 25% of all road deaths[51].
- Failure to wear a seat belt is a serious aggravating factor in road collissions and 2,500 deaths could be prevented annually if 99% of occupants had been wearing a seat belt, a rate that could be reached with seat belt reminders on all car seats[52].

It is generally accepted that Intelligent Transport Systems (ITS)[53] have great potential for improving road safety. They can also provide benefits for mobility, comfort and sustainability. Navigation and several vehicle-based systems have been successfully deployed in recent years. In the longer term, cooperative systems based on vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I) and infrastructure-to-infrastructure (I2I) communication and exchange of information and, when appropriate, a GNSS positioning and time, will demonstrate their full potential.

Over the past 20 years, the European Commission has used various instruments such as support for research and development (with a considerable budget), policy recommendations, and funding for deployment and standardisation. However, while recognising that technology and many specific systems seem to be mature, it appears that ITS acceptance and market penetration remains largely fragmented and relatively low, with a patchwork of national, regional and local solutions and a rather low degree of interoperability between solutions, not even mentioning the quasi-absence of seamless ITS services.

The barriers to an effective large-scale deployment of ITS across the whole of Europe have not disappeared and further measures are needed to coordinate and accelerate uptake and deployment of ITS. Because of this, the Commission adopted on 16 December 2008 the ITS Action Plan for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other transport modes. A Directive to support its implementation has been adopted[54].

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[48] COM (2010) 389 final

[49] 2002 report of the eSafety Working Group

[50] OECD/ECMT (2006), Speed Management.

[51] http://ec.europa.eu/transport/road_safety/specialist/knowledge/alcohol/index.htm

[52] http://www.etsc.eu/documents/ETSC%20PIN%20Report%202010.pdf

[53] Intelligent Transport Systems means systems in which information and communication technologies are applied in the field of road transport, including infrastructure, vehicles and users, and in traffic management and mobility management, as well as for interfaces with other modes of transport. (Definition from Directive 2010/40/EU – OJEU 6 August 2010 – L207/1)

[54] Directive 2010/40/EU of the European Parliament and of the Council of 7 July 2010 on the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other modes of transport

With the ITS Action Plan and the ITS Directive, the Commission has established the appropriate framework conditions for accelerated and more coordinated ITS deployment, including the policy priorities, common components and a clear timeline. The priority actions, under the ITS Directive, for which specifications need to be established first are:

- EU-wide real-time traffic information services
- EU-wide multimodal travel information services
- Road safety related minimum universal traffic information free of charge to users
- Harmonised interoperable EU-wide eCall
- Information services for safe and secure parking places for trucks and commercial vehicles.
- Reservation services for safe and secure parking places for trucks and commercial vehicles

The in-vehicle emergency call system, known as eCall, is considered as an emblematic front-runner project for the deployment of ITS. The 2009 Commission Communication 'eCall: Time for deployment'[55] proposed *inter alia* a plan to adopt regulatory actions to deploy eCall in case significant progress is not achieved with the voluntary approach. These regulatory measures target:

1. the mandatory introduction of the in-vehicle part within the type approval regulatory framework,

2. the Mobile Network Operators part through a Commission recommendation, and

3. the adoption of common specifications for the upgrade of the Public Safety Answering Points within the Framework Directive for the ITS deployment.

An Impact Assessment has been completed by the Commission and published in 2011[56], which came to the conclusion that the mandatory introduction of eCall system based on 112 was the most appropriate way to bring eCall's benefits to the citizens. The Commission has planned for the introduction of the system as of 2015.

Recommendations

1. Road safety is an area which demonstrates that an integrated policy approach, with complementary actions taken at different levels and on the different parts of the transport system, is feasible and can deliver substantial results.

2. In the coming years, such an approach needs to be continued, as is done in the Policy Orientations. The new goal of a further 50% reduction of fatalities in the period 2011-2020 and the general approach are supported by all stakeholders involved. EU wide accident research should be promoted as a routine activity. This should underpin the identification of the measures which are most cost-effective in reducing accidents and fatalities and monitor their effectiveness.

[55] COM(2009) 434 final
[56] http://ec.europa.eu/information_society/activities/esafety/ecall/index_en.htm

3. Driver behaviour, including education and training, improvement of infrastructure and adequate enforcement remain key areas where road safety progress can be made. Public awareness-raising campaigns, driver education programmes can contribute to limit the number of fatalities and should therefore be fostered. This can be supported on the technical side, and the selective use of alcohol interlock devices, the extension of seat belt reminders (to cover additional seats) and the use of speed management devices should be investigated. The availability of accurate information on the maximum speed applicable should be supported.

4. Also passive and active vehicle safety can and should be further improved, for occupants and unpotected road users. This should be achieved from a mixture of policy measures, including market-driven innovation, promotion and consumer information and education, as well as regulatory measures. A careful study of cost and benefits, through in-depth impact assessment, should be performed before legislation is proposed, taking into account competitiveness and affordability.

5. Additional priorities in vehicle safety regulation should be the improvement of motor cycle safety (currently in co-decision) and the adoption of safety requirements for breakthrough technologies, such as electric vehicles and their components.

6. Certain measures, such as those aiming at improving driver behaviour, speed management and adapted truck designs, can bring both environmental as well as road safety benefits and therefore deserve particular attention.

7. In order to maximise the benefit of Europe's strong position in safety technologies in third markets, preference should be given to the adoption of safety regulations at global level (UNECE), while keeping the possibility of adopting higher standards at EU level, if necessary.

8. It is recognised that significant potential to improve road safety exists in technologies that are able to exploit the interaction between users, vehicles and their environment, such as through Intelligent Transport Systems (ITS). However, due to the need for complementary actions in different areas, including the development of European and global standards to ensure interoperability and continuity of ITS services, there is a clear need of stronger coordination of actions among stakeholders and authorities. The work of the ITS Committee under Directive 2010/40/EU and the set-up of the European ITS Advisory Group are in that respect very much welcomed.

9. The deployment of eCall is seen by a large majority of stakeholders as a priority for improving road safety and an important test-case for other ITS applications. It is essential to avoid uncertainties to ensure a coordinated and synchronised implementation of all parts of the service (vehicle, communication networks, emergency call response services) across the EU. This is a prerequisite for a successful and effective introduction of the system.

Chapter 6: Reducing pollutant & noise emissions

The fuel efficiency and emissions of vehicles have improved significantly over decades. Progress has been made in improving air quality and reducing the emissions of pollutants from a number of categories of vehicles, but very substantial problems remain for some categories, causing severe breaches of air quality legislation particularly in urban and highly trafficked areas. It has also become clear however that **the current procedures** used for assessing emissions and fuel consumption of light-duty vehicles **are not sufficiently representative of real-world driving**. A revision of the driving cycle and test procedure is therefore envisaged as well as the development of additional procedures to control real-driving emissions of pollutants. Also **legislation on noise emissions** from vehicles must be reviewed, as the reduction in noise emissions since the 1970s has been substantially offset by increased traffic volumes.

a. Improving emissions measurement

Analysis

The World Light duty Test Procedure (WLTP) process focuses on the development of a "Global Technical Regulation (GTR)" comprising a complete set of test procedures for light duty vehicles under the 1998 UNECE global agreement.

In parallel and independently from the WLTP process the EU has legal obligations and a political commitment resulting from Regulations (EC) No 715/2007 (Euro 5/6) and No 443/2009 (CO2 emission standards on passenger cars) and from the 2010 Communication on a European Strategy on Clean and Energy Efficient Vehicles to propose a new, more representative test cycle and procedure by 2013 at the latest. In principle this objective could be achieved through an EU process; however, defining common procedures at UNECE remains the preferred option, if all requirements can be fulfilled, since it would lead to worldwide harmonisation of test requirements with obvious advantages for the automotive industry.

The envisaged timetable of the WLTP process for adoption of the GTR in 2013 is very ambitious and the strong commitment from all parties, including third parties, would be needed to meet it.

Recommendations

1. Commission, Member States, industry and all other relevant stakeholders are strongly committed towards a successful outcome of the WLTP process and support the defined ambitious calendar.

2. The new test cycle and procedure should satisfy the following expectations:
   - the current gap between CO2 value measured at type-approval and those representative of real world driving of a vehicle type should be minimised by the introduction of new type-approval test cycle and procedures that are representative of real world driving;

- good (intra-lab) repeatability;
- (inter-lab) reproducibility;
- the current gap between regulated pollutant emissions measured on the current European test-cycle and real world driving emissions should be minimised by the introduction of new type-approval test cycle and procedures that are representative of real world driving; for an appropriate control of real driving emissions of regulated pollutant the use of complementary and specific cost-efficient procedures is necessary (e.g. not-to-exceed testing).

3. The issue of regional differences should be carefully addressed. Variants should be limited to the extent possible to preserve the benefits of overall harmonisation, while avoiding compromising the representativeness of the procedure in view of the regional environmental management requirements.

4. In parallel to the work at UNECE, a process at European level should start now without delay on the options for introducing the new test cycle and procedures into the EU legal framework, by means of a roadmap, with the aim of finalising this process by 2014 at the latest. Noting that Article 13 (7) of Regulation No 443/2009 sets out that "Measures shall be adopted to provide for the necessary adaptation to the formulae of Annex I in order to reflect any change in the regulatory test procedure for the measurement of specific CO2 emissions", an assessment needs to be carried out on how that adaptation should be implemented along with a clear timeline for implementation. In particular, in order to provide industry with stability, consideration should be given to the appropriate timing for the implementation of the new test-cycle for the measurement of regulated pollutant emissions and to whether an overlap would be needed between the NEDC and WLTP for a transitional period. Such need should also be balanced against the current challenges that member states face in meeting standing air quality standards and other environmental obligations set to protect EU citizens and the environment. Solutions should be found that minimise the cost and other burdens on all stakeholders as far as possible in accordance with the principles of cost-effectiveness and better regulation, taking into account the competitiveness of the automotive industry.

5. It should be clarified whether, in addition to the requirements of the WLTP, further requirements at EU level (e.g. emissions from mobile-air conditioning systems and other optional and/or energy using equipments, eco-innovations, etc) have to be amended or developed to ensure representativeness of type-approved values, particularly with respect to CO2/fuel consumption and sufficient lead-time should be provided for any changes. This needs to be aligned with the implementation of the WLTP test procedure.

6. Representativeness of type-approved values is crucial to ensure improved environmental protection while also providing more accurate consumer information and facilitating the Member States in designing and implementing efficient taxation and incentive systems.

b. Delivering real-life pollution reductions

Analysis

Overall, air quality in the EU has improved over the past decades. Emissions of most pollutants have decreased significantly in particular in the 1990s. The automotive industry has

contributed significantly to this improvement via the introduction of technologies necessary to meet the increasingly strict emission limits as set by the Euro-standards. For particulate matter (PM_{10}, $PM_{2.5}$), nitrogen oxides (NO_x/NO_2) and ozone, however, the situation is less favourable. There persist still significant challenges in meeting air quality standards. Further cost-effective measures need to be identified across all sectors to meet air quality standards and protect human health and the environment.

Specifically in urban areas, no clear trend towards improved air quality can be observed, while a significant percentage of the urban population is still exposed to PM and NOx/NO_2 concentrations above the limit and target values set by Directive 2008/50EC (Ambient Air Quality Directive). The emission reductions achieved by introducing tighter standards have, at least partially, been offset by higher transport volumes as well as higher shares of diesel cars (in particular for NO_x) and less than expected reductions of on-road "real driving emissions".

Following the requirements of the EURO 5/6 Regulation (EC) 715/2007, the Commission (JRC) has performed a study on the real driving emissions of Euro 5 vehicles in 2010[57]. One of the findings was that real driving emissions, in particular NO_x emissions of EURO 5 diesel vehicles, significantly exceed regulatory emission limits, by a factor of 2 – 4 for entire test routes (covering a distance of up to 120 km) and even more for a single cycle. These findings are supported by several other studies performed in Member States, e.g. UK and NL.

For heavy-duty vehicles, a number of measures to improve the real world emissions have been introduced in the implementing Regulation for Euro VI pending adoption by the Commission. This includes the introduction of the World Harmonised Test procedure developed under UN Global Technical Regulation No 4, the introduction of the off-cycle provisions from the UN Global Technical Regulation No 10 and a procedure for testing emissions from heavy-duty vehicles on the road using portable emission measurement systems (PEMS). Euro VI is considered a more robust package of measures than previous steps.

For light-duty vehicles, test procedures for controlling "real driving emissions of light duty vehicles" (RDE-LDV) are being developed by the JRC with the support of a RDE-LDV working group composed of stakeholder experts. The group has been established in January 2011 and should deliver draft procedures by the end of 2012, with a view to apply the resulting test procedures from the mandatory EURO 6 dates.

Recommendations

1. It is acknowledged that **air quality has improved** for certain pollutants over the past decades, **mostly thanks to efforts by the automotive industry** required to meet the successive Euro-standards for light-duty and heavy duty vehicles and other measures. However, there are remaining concerns for PM, NOx and ozone concentrations, particularly in urban areas, and many **Member States are unable to meet their respective air quality or emission ceiling targets**.

2. Several factors explain this lack of progress. One of the reasons is that **emissions in real driving conditions are significantly higher compared to those measured on the test cycle**. As a result per vehicle emissions have not decreased as was expected from the Euro

[57] M. Weiss, P. Bonnel et al. "Analyzing on-road emissions of light-duty vehicles with Portable Emission Measurement Systems (PEMS)", EUR 24697 EN - 2011

standards, particularly for NOx emissions of diesel engines. An additional reason may be that other industrial sectors have higher than expected emissions.

3. Whereas measures have been defined to address real-world emissions of heavy-duty vehicles, similar **measures need to be elaborated for light-duty vehicles**, particularly for NOx emissions of diesel cars. Given the pressing air quality problems cities are facing and the perceived lack of delivery of the recent Euro-standards, there is an **urgency to identify cost-effective measures** as soon as practically possible and to ensure their robustness.

4. Several measures can help alleviate the problem. The **new test cycle**, as developed in the WLTP process, can reduce to some extent for light-duty vehicles the discrepancy between emissions on and off cycle. However, the improvement is expected to be constrained by the limits inherent to any pre-defined test cycle. Regular and proper maintenance and measures to support fleet renewal could also provide some benefit.

5. **Retrofitting** can provide some benefit for older heavy-duty vehicles, if adaptation of engine management can be foreseen. For light-duty vehicles, most stakeholders do not expect that retrofitting will offer very cost effective solutions for reducing real-driving emissions. Great concern must be taken to avoid negative environmental effects through improper technical solutions.

6. Type-approval measures **controlling vehicle emissions in use**, using not-to-exceed concepts, similar to those foreseen for heavy-duty vehicles, have to be evaluated for light duty vehicles application as well. The Portable Emission Measurement System (PEMS) method is one of the candidate methods considered by the RDE-LDV working group. The alternative candidate procedure is the random cycles approach derived from the EU-WLTP driving data collection. Both candidate methods/procedures have to be evaluated according to a list of assessment criteria, including cost/effectiveness, reliability and repeatability for regulatory purposes, to examine the possibility for implementing them as from Euro 6. Authorities and vehicle industry need to cooperate in this effort.

7. It has to be taken into account that time will be needed to adapt to these new procedures and to see their complexity, effects and costs. The completion of open issues in the Euro 6 emission legislation should be done in a timely manner, allowing industry sufficient leadtime. This concern could also be alleviated through a **progressive application of the measures**. This could be done by starting with relatively high compliance factors, taking out the so-called outlying emitters first, and progressively strengthening of these factors over time.

8. **Harmonised measures** to control real-driving emissions of diesel cars also aim to **strengthen the single market**, by avoiding national measures being taken. It is also important for strengthening the image in EU and third markets of diesel technology, which is key for tackling climate change and energy efficiency. As such, measures to be taken must be proportional and in line with the principles of an integrated approach, cost-effectiveness and better/smart regulation, taking into account the competitiveness of the automotive industry and the environmental benefits.

c. Tackling vehicle noise emissions

Analysis

As more information about the health impacts of noise became available in the past years, the need for a higher level of protection of EU citizens through further EU-wide measures became more imminent. Based on information from Member States, the European Environment Agency has estimated, that half of the population in urban areas is exposed to noise levels above 55 dB(A) as a result of ambient road noise.

Noise emissions of four-wheel motor vehicles (light-duty and heavy-duty) are addressed by Directive 70/157/EEC and the equivalent UN Regulation No 51. The noise limits have been reduced several times, the most recent being in 1995. It has been recognised that the latest reduction did not produce the expected benefits, partly because the current test method does not reflect real world driving behaviour.

In order to reduce this discrepancy, the UNECE Working Group on Noise has elaborated a new test method which was published in 2007. This new protocol has since been carried out during type-approval, although for monitoring purposes only. Specific noise requirements for tyres have recently been strengthened through the General Safety Regulation (EC) 661/2009 and UN Regulation No 117.

As mentioned in the European strategy on clean and energy efficient vehicles, the Commission has adopted a proposal in December 2011 to amend the respective legislation to reduce the noise emissions of vehicles. In order to prepare this proposal, the Commission has contracted a study carried out by TNO. The study recommends the implementation of the new test method and proposes to reduce noise limits in two subsequent steps based on compared values. The first step is expected to be met essentially by add-on measures, such as insulation, requiring only limited technical adaptations of the vehicles. The possible second step would need more significant measures in the technical concept of vehicles, such as engine adaptations and modifications to the vehicle structure.

Finally, the market introduction of a number of vehicles with electric propulsion has prompted concerns about potential safety risk that those quiet vehicles would pose, in particular for the visually impaired. The question has been raised whether a minimum noise level of electric or hybrid electric vehicles should be required, for those driving situations where potential dangers exist, and if so, should it be extended to quiet conventional vehicles.

Recommendations

1. The reduction of road transport noise nuisance for citizens needs to be tackled through an Integrated Approach. Industry, authorities from EU, national and local level and infrastructure operators need to contribute to implement the most cost-effective solutions. Vehicle measures need to be complemented by measures to influence driver behaviour, tyre/road surface improvements, traffic management, noise source isolation and other infrastructure measures.

2. The new test protocol for measuring vehicle noise emissions has been evaluated positively, as confirmed through an impact assessment, and should be used for type approval. Provisions for off-cycle noise emissions may be added.

3. In order to contribute to the reduction of noise nuisance, a further reduction of noise limits for heavy-duty and light-duty vehicles is technically feasible and proposed by the Commission, underpinned by an impact assessment. This will be further discussed in the legislative procedure.

4. A two-step approach, based on compared values, with the first requiring only limited technical adaptations, followed by a second step, requiring more substantial abatement measures implemented on the vehicles, seems to be supported. The need for industrial leadtime has to be considered, taking into account the extent of technical adaptation needed.

5. The new legislation for vehicle noise emissions should duly take into account the efforts made by the tyre industry to meet the noise requirements set out in Regulation (EC) No 661/2009 and should avoid double legislation for tyres.

6. Regarding the noise of quiet vehicles, awaiting the development of a global regulation, only adequate sound generating devices should be used. Including legal requirements in the proposal aims to lead to a harmonisation of the applied technology. The installation as such and its sound characteristic should not be mandated but remain an option for the vehicle manufacturer. Technology is likely to evolve and a further assessment may be needed at a later stage.

Conclusions

The CARS 21 process, as re-launched in October 2010, is coming to an end with the adoption of the current Report. The group calls on all stakeholders to take into account the policy recommendations formulated in their respective field in order to support the competitiveness and sustainable growth of the automotive industry.

The members of CARS 21 also call for a process to be put in place in order to ensure the follow-up and implementation of the CARS 21 recommendations. The group also support the necessity of a continuous dialogue between authorities, industrial and other stakeholders involved in the automotive sector.

The European Commission has announced its intention to adopt a Communication on the outcome of the CARS 21 process. The Communication will also announce how the Commission proposes to implement the policy recommendations of the group in its policies.

Annex 1: Economic analysis of the sector

The analysis below is the outcome of the Working Group 3. This group set off to agree on lessons to be drawn from the recent crisis, a common diagnosis of the industrial and market situation of the European automotive industry, its competitive position vis-à-vis global competitors and the underlying competitiveness factors. An attention was also paid to territorial aspects of economic situation and competitiveness factors.

I. IMPACT AND LESSONS FROM THE CRISIS, EVALUATION OF RECOVERY PACKAGE

Market, industrial and employment situation

The EU automotive industry was severely affected by the financial and economic crisis as of Q3/2008 when passenger car and commercial vehicles **sales started to fall rapidly**. With some six months delay, the collapsing demand triggered **production cut-backs**. With the car sales stabilising in 2009 (only 1.3% decline was registered (y/y)) and commercial vehicles sales declining by 32.4% (y/y)[58], the **EU production of motor vehicles** in 2009 was 30% lower compared to pre-crisis levels in 2007. In absolute terms, production has dropped to 1997 levels. Despite, however, a massive reduction in production volumes, the **impact of the crisis on production capacity remained limited**. During the crisis, two OEM plants were closed: Antwerp and the Termini Imerese plant, which will cease car production at the end of 2011.

The **powered two-wheelers** market was also severely affected by the crisis, which in 2008-2010 experienced the deepest depression over the last 15 years - losing some 0.25 m units of sales every year. As result some of the smallest European players went into the definitive business closure and several production plants were closed.

For the **automotive suppliers**, difficult situation of the OEMs very quickly translated into collapsing new orders, longer payments deadlines and further pressure on price reduction. The condition of the automotive OEMs also reflected on the credit ratings of the suppliers and, combined with the effects of financial crisis, resulted in a very difficult access to credit and credit insurance. Although not as visible as OEMs and Tier 1 suppliers, **small- and medium sized automotive suppliers in lower tiers of the supply chain were having the biggest difficulties. Heavy losses were recorded and** a number of suppliers became insolvent.

The consequence of production cut-backs and financial losses were the **job cuts**. The employment in the automotive industry in EU-27 at the end of 2009 was **12% lower than at the beginning of 2008**. Significant job losses took place in the supply chain and in the aftermarket, although in the latter the declining trend already continues since 2005[59]. It is also noted that **a significant share of automotive jobs are "atypical"** (covering temporary contracts) and in the periods marked by a remarkable decrease in production, majority of job losses happens in this category. **Labour market segmentation due to atypical contracts** results in difficulties retaining skilled workforce and higher exposition to the consequences of demographic change.

[58] The commercial vehicle segment (vans, trucks, buses), following investment goods pattern, has seen a much sharper and longer downturn as registrations were declining throughout 2009. Commercial vehicles sales reacted very negatively to low trade and manufacturing volumes, low freight prices and high diesel prices.

[59] The declining trend in employment but also in the number of dealers and repairers is due to increasing quality of cars and extension of maintenance intervals.

Response of public authorities
Taking into account the importance of the automotive industry for the EU economy, shortly after the onset of the crisis, the **governments across the EU stepped in to support demand with scrapping schemes** of varying duration and amount of the bonus. Those schemes visibly helped to stabilise the car market[60].

Furthermore, several **Member States engineered packages of support measures** including soft loans and state guarantees, labour policy measures (aimed at preserving employment and ensuring that skills were retained) and additional funding enabling to maintain the investment – especially in R&D programmes. In high profile cases, several governments have offered support to designated automotive producers**. A number of regional authorities** also introduced integrated approaches is support of local industry.

The EU has also been quick to react to the crisis of the automotive sector that has been identified as "requiring strong policy response" in the **European Economic Recovery Plan[61]**. A complete set of measures targeted at the automotive sector – **the Green Cars Initiative -** was presented in the framework of the Plan. This policy response was later detailed in the Commission's Communication "Responding to the crisis in the European automotive industry"[62]. The key components of the recovery package were: guidance on national scrapping schemes, the EIB loans, R&D funding, the use of the European Globalisation Adjustment Fund and the Temporary Framework for State-aid (applying horizontally) – majority of these instruments will continue to be applied in the next years[63].

The CARS 21 Group drew the following conclusions:

- The European automotive industry demonstrated the **resilience under the impact of the crisis** as mass insolvencies and bankruptcies were avoided and the core workforce (with permanent contracts) was mostly preserved. The combined national and European-level support measures **(amounting to over €30bn)** considerably **softened the impact of the crisis**, enabled the industry to gain a "breathing space" for reorganisation, **preserved a number of jobs** and enabled the companies to **maintain the investments in green technologies** necessary for preserving the competitive position in times of recovery and increased global competition.

- While significant job losses did take place, **results of collective bargaining** allowed companies to deal with reduction of production levels by **adapting working conditions** differently than through massive redundancies. For the automotive employment, different labour market measures enabled **to keep skilled workers** and thus **preserve the company know-how** as well as ability to quickly react on the demand recovery. Those measured

[60] Neither commercial vehicles sales or the premium models have benefited from scrapping schemes and suppliers only indirectly, the latter actually struggling to cope with a sudden surge in a demand in the second half of 2009.
[61] COM(2008)800 final, 26.11.2008.
[62] COM (2009) 104 final, 25.02.2009.
[63] The R&D funding will continue till 2013 with the annual envelope of ca. € 100 m. The EIB's automotive lending will continue beyond the closed ECTF; however, lending volumes are expected to decrease in parallel with market recovery and renewed access to finance for the industry. The EIB will integrate the objectives of the ECTF, which was a temporary crisis measure, under the EIB normal lending policy. The bank will maintain a technology-neutral approach to technologies but will dedicate a special effort to infrastructure and services for electro-mobility.

(applied only by some MS) proved to be a clear factor boosting competitiveness of the national automotive industry.

- At the **receiving end** of the recovery package, the **vehicle manufacturers evaluate the recovery package positively** although highlight that the national measures have differed and had therefore varying effects on the OEMs and suppliers. The **supply chain actors** highlight that public support has been provided late and has not been sufficient as suppliers benefited from the majority of recovery measures only indirectly (except for some major suppliers, which had access to the EIB loans) and were thus more affected by the crisis. Many suppliers, in particular SMEs, continue to have difficulties to access finance.

- Some of stakeholders share the conclusions that there has been a missed opportunity as the **crisis did not spur the long outstanding restructuring (notably reduction of overcapacity in some companies)** and anticipation of change in the industry and may therefore result in a **prolonged period of weakness**. The consolidation that happened during crisis was not sufficient and many suppliers and dealers lack scale and/or profitability.

- It is also visible that while the crisis affected in a synchronised manner all EU markets, **not all the Member States and industry actors tackled the crisis in the same manner** and were equally affected. The lower tiers of supply chain were the worst hit alongside the after-market (dealers and repairers). The lasting impact of the crisis also seems to concern the **temporary workplaces** which are in some cases permanently lost.

- The issue of **EIB lending for projects creating new or modernising existing manufacturing capacity for smaller vehicles** within or outside the EU was raised at the CARS 21 meeting. When supporting this type of projects, the EIB carefully considers - as part of the due diligence process - whether the investment is consistent with the objectives set by EU policies, notably regional or external policies. At the same time, the bank assesses – on a case by case basis - the risk that the new capacity might contribute to overcapacity in the respective segments of the EU car market. The call was made for the EIB to consider the potential relocation effect and social consequences in the EU of financing of new capacity.

- While the **overall effect of the scrapping schemes was positive**, the current "pay-back" effect is visible on several markets masking the signs of natural demand recovery. In the most MS, where scrapping schemes were put in place, the **car park has been significantly renewed** (which is an important environmental benefit) and the schemes helped the car manufacturers and suppliers to **maintain production**. On the other hand, with a number of older cars scrapped, the repair sector might be seriously affected in a long term.

- It should be also noted that the **automotive sector crisis was global in its nature but affected the industry in unequal measure and profoundly changed the international competitive environment for the years to come**. The impact of the crisis was indeed bigger in the EU (and in the US) than elsewhere and the situation was further altered by the different recovery measures employed by the EU, US, China, Japan, Russia and Canada. The lasting effect of the crisis will be most likely most pronounced in the EU

since the US government took radical steps in restructuring of the industry. In the EU the remaining overcapacity is likely to hamper competitiveness of the industry in several MS.

II. CURRENT ECONOMIC SITUATION

State of play 2011

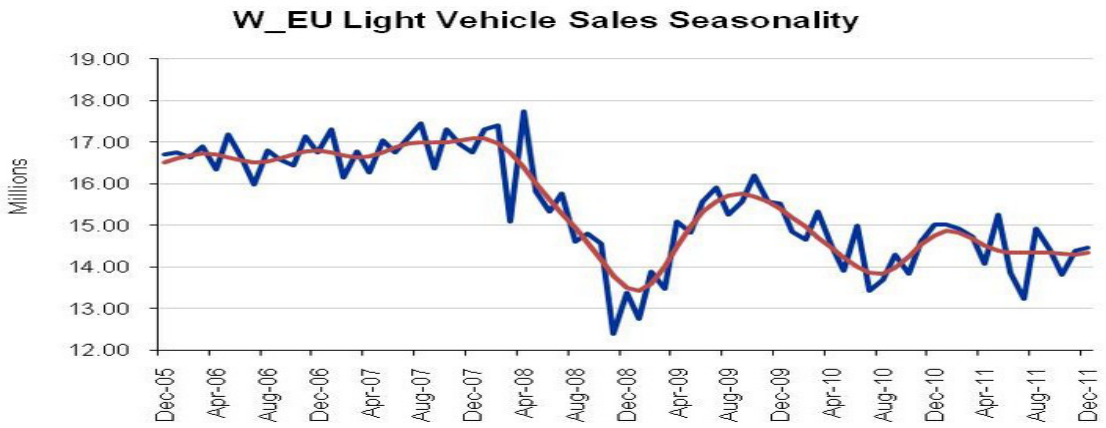
With the economic forecasts very uncertain, consumer confidence has been hit hard as **Member States brace themselves for further austerity measures** and fiscal tightening, impacting on both public budgets and private disposable income. With this in mind, it is unlikely that any government-backed measures, can be expected to support demand, such as the scrappage schemes did in 2009-2010. For governments, higher taxes and a more prudent approach to public spending is the approach taken across the region. The time it takes for these measures to have an effect may lengthen both the limit and the extent of the recovery period. For consumers, there are many factors influencing their purchasing decisions: high unemployment, wage cuts, along with increasing difficulty to access credit.

Forecasts suggest that most European car markets will struggle to return to pre-crisis levels in the medium term. For some key markets, especially in Southern Europe, the fiscal situation is such that future economic growth will be considerably lower for the foreseeable future. The outlook is far from positive, especially considering ongoing concern over the Eurozone debt crisis, which is likely to continue to impact on confidence across the region.

The Western European new car markets are ultra-mature, meaning that "real" growth in the market is fairly unusual. For more than a decade, passenger car sales in the European Union have fluctuated very little and remained within a relatively narrow trading range (16.7–17.7 million units). Given the high purchase price of new vehicles relative to monthly income, the **availability of credit finance is an integral part of the typical vehicle buying process**. In general, the percentage of vehicles purchased using financial instruments tends to rise with the stage of development and maturity of the economy and the vehicle market. Tighter lending conditions mean that banks and the financing divisions of car companies find themselves less able to finance sales of new cars. **Tougher credit controls means that the pool of potential buyers of new cars has decreased significantly**. Europe can be classified as a "credit-dependent" market, and the availability of credit finance will be a key factor in the shape and speed of the recovery.

Light vehicle sales in Europe 2011

Across Western Europe, light vehicle sales for the full year 2011 remained essentially stable year-on-year (y/y), **recording a 0.4% decrease**. In itself this is positive given the economic climate, however with sales of 14.41million units, Western Europe sales have decreased by some 2 million units, relative to the annual average of 16.5 million in the five years prior to the 2008 economic crisis. **For 2012, the outlook is negative with a decline of 5.7% forecast**. This equates to approximately 13.5 million units being sold.



Source: IHS Global Insight

Demand for light vehicles in **Central Europe** remained sluggish, and sales were stable in 2011, **down 0.4% versus 2010**. For 2012, it is forecast that **Central Europe will also suffer from the ongoing euro crisis** and thus keep pointing downwards, albeit modestly. It is expected that sales for **2012 will remain in the vicinity of 1 million units**, down 0.6% versus 2011.

Global light vehicle sales 2011

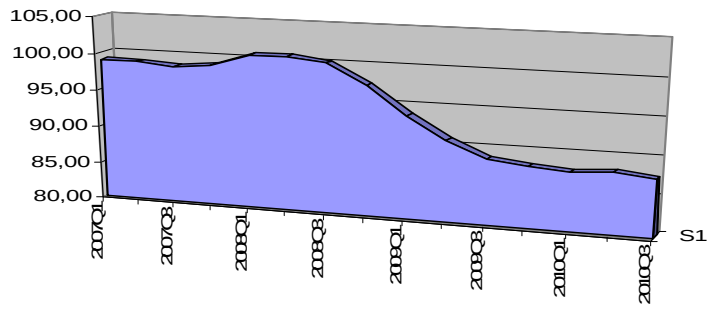
Showing a totally different picture, **2011 saw global sales increase by 3.8%** as compared to 2010 figures. North America saw the greatest percentage improvement in sales with a 10.4% increase on its 2010 figures. South America also fared well with a sales increase of 8.1% on 2010. South Asia and Greater China saw more modest growth of circa 3% and 4% respectively. Japan/Korea returned a decline of just over 11%, mainly due to the huge disruption sparked by the natural disasters that beset Japan in March 2011. However, December figures showed a marked increase, confirming a continuing rebound from the slump.

IHS Global Insight forecast all-time record **global sales of 78 million units for 2012, up a further 4**%. Underpinning this growth will be Greater China, up 8.7%, a recovering Japan, up 26%, and a further recovery in North America, up 5.3%. Europe appears to be the odd-man-out with expected further decline of 5.2% in light vehicle demand as austerity takes its toll.

Employment

Very severe job losses were mostly avoided during the 2008-2009 recession thanks to labour policy measures directly and, indirectly, thanks to other measures supporting demand and supply. In 2010, the **employment in the automotive industry stabilised at the levels roughly 12% lower than before the crisis**.

Employment in the automotive industry (2005 = 100)



Source: Eurostat

Whether these developments signal a reversal of the trend in automotive employment remains an open question since some **consolidation in the supply chain still seems overdue, the forecasts for the domestic EU market are fairly pessimistic and the overcapacity problem of some market segments has still not been solved**.

The CARS 21 Group drew the following conclusions:

- The EU **has managed to safeguard the industrial base of the automotive industry through the worst years of the 2009 financial crisis** but the **industry is yet facing another crisis**. While the credit conditions are visibly improved, risks remain associated with domestic demand, availability and prices of raw materials, industrial energy prices, danger of carbon leakage, availability of skilled workers, financial market uncertainties, increasing regulatory requirements and overall macro-economic conditions.

- In addition, in several Member States, **some structural issues remain**, notably **overcapacity**, **growing dependence on third country markets**, **growing cost of production, cost of regulation and technological challenge**, which necessitates significant investment: in improvement in ICE technology and in alternative powertrains. While, the automotive industry is traditionally research intensive, the current challenge related to investment is unprecedented.

- In those conditions, it is an essential policy task to **strengthen the international competitiveness of the European automotive industry** so that it is able to operate in a sustainable way in the EU. Continuously improving **framework conditions (notably via smart regulation and focusing on implementation of existing regulations)** in the EU is essential. From international perspective, **third markets have to be open** (notably by including automotive sector in the FTAs) in order to prevent providing grounds for manufacturers to produce abroad, in addition to the fact the **EU is already an expensive production location**.

- Another key issue from the international perspective is **access to raw materials** since the EU is a **net importer of almost all automotive raw materials** and therefore its industry depends on a sufficient supply at competitive costs. The **removal of trade distortions should be a priority in raw material policies** so that a level-playing field is restored, planning reliability for industry is increased, and a sufficient supply for regions lacking resources is safeguarded.

- To some extent, the locomotive of the resurgence of the European automotive industry in recent years is the **Chinese market**, where mainly high-end vehicles are sold at healthy margins. While the short term benefits are clear, there are doubts over the prospects of the Chinese market in the longer run, as it is felt that future sales may be hampered by possible import restrictions. Whilst the **other BRIC and ASEAN countries** represent quite low volumes today, their market potential for the future is interesting, allowing lowering the dependence on Chinese sales.

- At the time of the finalisation of the report, two elements explain the increased pressure for restructuring which exists for some companies. On the one hand, the current economic crisis is impacting vehicle markets, in various European countries. This may be softened with temporary buffering measures. On the other hand, since several years already, some actors have suffered from weak market results and reduced competitiveness. It is

recognised that this has lead to **overcapacities in the EU industry**, although there is a large variety among manufacturers, plants and countries. This creates a strong downward pressure on profitability for the sector as a whole. **No unilateral labour-market approaches must be encouraged but actions should be taken to support anticipatory measures** that help industry to choose quality production, technological innovation and right qualifications and thus support domestic sustainable growth. Some Member States are not concerned by the issue of overcapacity and although restructuring has been taking place, it was aimed at strengthening competitiveness, not reduction of capacities.

- The employment in the automotive industry seems to be **stabilising** or even in some Member States **regaining momentum**. While the temporary positions lost in the crisis will not be recovered in the near future, companies which did retain their workers and engineers throughout the crisis not only maintained their expertise but also have less problems finding additional experts and workers in times of a shortage of qualified personal.

- It should be noted that while some companies make an effort to **turn remaining temporary contracts into permanent ones**, to **improve work conditions and raise salaries** (also in compensation for the difficult conditions during the crisis and in the recognition of the relevant skills and talent shortage in the years to come), other companies renegotiate **working conditions oriented towards cost-reduction only**. Recent developments on collective bargaining may help the industry to adapt to economic cycles.

- **It should be investigated whether in longer-term, the automotive industry might become less labour intensive** as the **electric vehicle (requiring less parts and therefore less labour input[64]) increase their market penetration**. The new drive-trains will also require skills not yet available on the labor market. In the perspective of technological change and the expected emergence of new skills needs in the sector, the use of the **New Skills for New Jobs agenda**[65] should be investigated to foster training and education efforts.

- The upcoming electrification is also likely to see new entrants in the supply industry and increased competition. Nonetheless some new opportunities will appear for existing suppliers or newcomers e.g. noise generation for EVs, build-up of charging infrastructure, etc. This technological change is rationale for the EU's strategic approach to **anticipation of change and management of the transition**. Examples from past experiences and other industrial sectors should be used to prepare the social and employment effects of this change.

III. COMPETITIVENESS FACTORS

The competitiveness of any industry is **influenced by a host of factors**: a process and product innovation, production costs (including the costs of raw materials), a macro-economic situation and a regulatory framework, the latter particularly relevant for the automotive industry, which is one of the most regulated in the EU and in the third countries. The recent evolutions of these influencing factors have brought about **substantial changes in the**

[64] Electrification brings with it a reduction of powertrain complexity (from ca. 1400 parts in a conventional driveline to ca. 200 parts in an electric one.
[65] COM(2008) 868, 16.12.2008

competitive position of the European automotive industry. Several factors have in fact a **game-changing character**: the global economic crisis, the strong growth of the emerging economies, tariff liberalisation in the context of trade negotiations, the EU legislation (e.g. the CO_2 standards and safety requirements) and the introduction of alternative powertrains, notably electric vehicles. In the longer term, the evolving attitude towards mobility of consumers in mature markets and big cities, who become less inclined to purchase their own vehicles, may also indicate a trend of "demotorisation".

For the European Commission, in order to implement the most efficient policies supporting the competitiveness of the automotive industry, it is of key importance to **identify the current factors of competitiveness.**

The CARS 21 Group identified the following competitiveness factors:

High innovation capacity

The **technology leadership has clearly remained the key competitive factor** of the European industry on the global scale just as the superior performance in design and style. Underpinning this technology leadership, the automotive **R&D expenditure remains very high** (both among other industrial sectors in the EU and in comparison to the global partners). Despite the economic crisis, the EU automotive industry was the biggest investor in R&D in 2009 (€ 28bn/year), followed by Japan and the US. The high investment in the R&D is supported by the spending by public authorities: regions, Member States and the EU. It is however the case that public funding is less intense and operated in a dispersed manner – in comparison to global competitors. Significant improvements in the innovation capacity could be therefore achieved by **stronger efforts and coordination of the public funding for the R&D&I in Europe**.

High investment in R&D&I is a strong contributing factor to the innovation performance of the European automotive companies. The clear areas of competitive advantage are: **safety technology, environmental performance** (strongly linked to the ambitious regulatory framework) as well as **performance in design, style and comfort**. With the environmental and safety performance already strong, the design and style concepts could also be used to influence customers towards more sustainable mobility. Innovation, meaning not only **exploitation of new or improved products and services** but also **optimisation of business processes** leads to higher value added of the products and - with an unchanged labour input - **improved productivity**.

Strong position in trade and responsiveness for foreign demand

Strong position on the third markets and the trade performance was identified as the second key competitiveness factor of the European automotive industry. From the beginning of the previous decade, the EU manufacturers held dominant world market shares in most automotive market segments. In 2010-2011, **exports to third markets have constituted the important sources of revenue and profit** – against the background of the double dip in sales currently experienced on the EU market and the fact that **several emerging economies have been hardly touched by the crisis** and experience rapid growth in the vehicle demand. Currently, almost all EU manufactures are present in the key automotive market of the **emerging economies** (i.e. BRIC, ASEAN and Mercosur) as well as keeping their market share in the **mature markets** of Japan and the US. The key market segments where the European manufacturers hold the dominant position is the premium cars segment. European manufacturers are also technology leader in the segments of **heavy-duty commercial**

vehicles and diesel vehicles. **Balanced trade agreements**, **regulatory cooperation and tackling the non-tariff trade barriers** will have a vital role in supporting the competitive position of all EU vehicle exports. Impact of increasing imports from 3rd countries to the EU should also be considered.

The EU automotive industry is also increasingly **investing in leveraging knowledge, customer and market information from** abroad by operating on site and thus also cutting transport costs and risks related to exchange rate fluctuations. The **engagement via FDI continues to open new trade opportunities** for vehicles manufacturing as well as intermediate products and parts originating in the European home base. At present, the EU manufacturers hold a strong position in the key BRIC markets, mostly via the direct presence in the region and majority of light vehicles sales on the third markets comes from the production directly established in the region. Forecasts indicate that this trend will only intensify although the development of policies to support local industries might have negative effects. The automotive industry should take the opportunity of new markets to seek access also for small and fuel-efficient vehicles.

Cost control

During the economic crisis, the automotive industry demonstrated **flexibility and capacity for quick and far-reaching cost-cutting exercise and cost control** even at a time when the EU continued introducing new environmental and safety requirements. Combined with the recovery package engineered by the Member States, cost control enabled the industry to get through the worst economic conditions and maintain its position in the increasing tough international competition. While the substantial part of cost control is under the direct responsibility of the industry, the **public policy also plays an important role** by ensuring that the new regulatory requirements do not impose an excessive cost but rather create a stable investment context. The **further development of the smart regulation agenda** for with its main features of the **lead times, long-term targets** and **careful impact assessments** is therefore of key importance for competitiveness of the European automotive industry.

Social dialogue

The economic crisis demonstrated how important it is for the European automotive industry to use **existing instruments of social dialogue** to adapt employment levels and working conditions to changing market contexts and companies' needs. If **used in a dynamic and proactive way** and if **adapted to particular circumstances**, those tools become of paramount importance to productivity increases, skills adjustment, business and workforce adaptation to technological and market changes and thus competitiveness of the automotive industry.

Regional clusters

The regional dimension of the automotive industry operations has become increasingly important for competitiveness over the last years. **Regional automotive clusters** composed of companies, research bodies and related services, supported by public authorities have **demonstrated their role in resisting the economic crisis and now play a key role in anticipation of technological change**. The clusters have been traditionally performing research and innovation activities, training, reskilling and labour market measures easing industrial transitions, search for new markets and technological intelligence. Recently they also become more active in the **international cooperation and anticipation of technological change**. Importantly, regional clusters are less in danger of delocalisation and therefore have a key role in **maintaining the industrial base** in Europe.

Large home market, key segments and sales value

At the beginning of the previous decade, the EU was clearly **the largest single market for passenger cars**, the close second for light commercial vehicles and third market for heavy trucks. Since then the **EU sales have been stagnating,** while the **attractive growth rates appeared in the emerging economies**. While the EU is still the largest passenger car market, China is the close second (in addition to being already the biggest vehicle market since 2009).

It is important to note that even with current depressed sales levels, the European automotive industry is still well positioned to leverage **economies of scale** on the domestic EU market. Furthermore, the EU market is expected to return to pre-crisis levels in 2014-2015.

The European market in addition to **sales potential of over 17 million units** of light vehicles also features **consumers fairly loyal to European brands** (although less loyal than those in Japan or Korea), which results in relatively **static market shares** and **dominance of the European brands**. In the large volume market, **small and medium energy-efficient and diesel vehicles** are a growing market share, along with the key **premium segment** with high profit margins and **light commercial vehicles**, corresponding to the strengths and specialisation of the European automotive industry.

Strong value chain

The automotive value chain in Europe remains the **key driver of innovation and R&D activities** in the automotive industry and the **excellence in the management and quality** enabled it to weather the worst time of the economic crisis despite dramatically reduced new orders and price pressures from the OEMs. The challenges that remains relate to the questions of how fast the supply chain can recover from the crisis, whether **restructuring** will happen in time and how will it **benefit from opportunities created by the new technologies**, prospects on emerging markets and new legislation. In order to maintain the value chain as the competitive factor, attention has to be paid to innovation processes (especially in alternative materials) and intellectual property protection, continuous improvement and qualification of manpower including polyvalent qualifications (e.g. me-chem- tronic), long-term valorization of EU companies sustainability and corporate social responsibility, protection of FDI in fast growing economies and better market surveillance.

Qualified labour and cost of labour

The automotive industry is not only **labour intensive** but also needs **qualified personnel to produce highly complex, high-performance, quality products**. Today, the automotive products are more complex and sophisticated than ever requiring a strong know-how base – also for technological and organisational innovation. The **availability** of well qualified labour force and the **human capital already employed** remain one of the competitiveness factors.

While currently, the employment figures are depressed following the crisis and the production cuts, there are, however, also first signs of the shortage of skilled workers and engineers in the automotive industry. Perceived **shortage of qualified labour** has been the motivation of several automotive companies to **improve remuneration of workers** and provide them with **extra guarantees of employment** over the next years. In the long term, the lack of qualified workers may have a serious hampering effect on the industry.

At present, the **labour costs** in Europe are no longer compared between the “new” and “old” Member States but rather with those in emerging economies and in the years to come, the

global competitiveness of the EU automotive industry will be increasingly challenged by the lower labour (and other) cost locations and dependent on **labour specialisation**, which may become more scarce in Europe. The trends call for **anticipation of change** and **dedicated instruments of the social policy**.

Annex 2: Composition of the High Level Group

Commission (7)

- Antonio Tajani, Chairman, Vice-President of the Commission, Commissioner for Industry & Entrepreneurship
- Siim Kallas, Vice-President of the Commission, Commissioner for Transport
- Neelie Kroes, Vice-President of the Commission, Commissioner for Digital Agenda
- Janez Potočnik, Commissioner for Environment
- Connie Hedegaard, Commissioner for Climate Action
- Karel de Gucht, Commissioner for Trade
- Günther Oettinger, Commissioner for Energy

Member States (9)

- Martin Kuba, Minister of Industry and Trade, Czech Republic,
- Philipp Rösler, Federal Minister of Economics and Technology, Germany
- José Manuel Soria López, Minister for Industry, Energy and Tourism, Spain
- Arnaud Montebourg, Minister of Industrial Renewal, France
- Corrado Passera, Minister for Economic Development, Infrastructure and Transport, Italy
- Reinhold Mitterlehner, Federal Minister for Economy, Family and Youth, Austria
- Waldemar Pawlak, Deputy Prime Minister, Minister of Economy, Poland
- Annie Lööf, Minister for Enterprise, Sweden
- Vince Cable, Secretary of State for Business, Innovation and Skills, United Kingdom

Other institutions (2)

- Jean-Yves Le Drian[66], Member of Committee of Regions, President of Bretagne region
- Virgilio Ranocchiari, Member of European Economic and Social Committee

Industry - Manufacturers and aftermarket (7)

- Sergio Marchionne, President of the European Automobile Manufacturers Association (ACEA), CEO FIAT SpA and Chairman FIAT Group Automobiles
- Dieter Zetsche, CEO Daimler
- Harrie Schippers, President DAF Trucks NV
- Philippe Varin, Chairman of the Board of Management PSA Peugeot Citroen
- Stephen Odell, Chairman and CEO Ford of Europe
- Hendrik von Kuenheim, President of the European Association of Motorcycle Manufacturers (ACEM), General Director BMW Motorrad
- Jean-Paul Bailly, President of the European Council for Motor Trades and Repair (CECRA), chairman Bailly Group

Industry – component and energy suppliers (6)

- Peter Tyroller, President of the European Association of Automotive Suppliers (CLEPA), Board Member Bosch
- Giuliano Zucco, Vice President of CLEPA, CEO DYTECH Group
- Patrick Lepercq, President of the European Tyre and Rubber Manufacturers Association (ETRMA), Corporate Vice President Public Affairs Michelin

[66] Mr Le Drian represented the Committee of the Regions in CARS 21 until 16 May 2012

- David Prest, President of the Association for Emissions Control by Catalyst (AECC), Managing Director Johnson Matthey
- Josef Waltl, President of the European Petroleum Industry Association (EUROPIA), former Executive Vice-President Shell
- Fulvio Conti, President of the Union of the Electricity Industry (EURELECTRIC), CEO and General Manager ENEL

Trade Unions, NGOs and Users (5)

- Ulrich Eckelmann, General Secretary of the industriALL European Trade Union
- Ulla Rasmussen, President of the European Federation for Transport and Environment (T&E)
- David Baldock, Executive Director of the Institute for European Environmental Policy (IEEP)
- Jean Todt, President of Fédération Internationale de l'Automobile (FIA)
- Herman De Croo, Chairman of the European Transport Safety Council (ETSC)

Annex 3: Terms of Reference

of the CARS 21 High Level Group on the Competitiveness and Sustainable Growth of the Automotive Industry in the EU (as adopted on 10 November 2010)

Context

The CARS 21 High Level Group was originally launched in 2005 and played a major role in defining European policy and legislation on the automotive sector in view of strengthening the industry's competitiveness. Its re-launch was one of the actions listed in the Communication on "A European strategy on clean and energy efficient vehicles"[67], adopted by the Commission on 28 April 2010. Since then, both Parliament and Council have reacted favourably to the Communication in general and to the re-launch of CARS 21 in particular. The group is formally established by Commission Decision of 14 October 2010[68].

Rationale

The continuous evolution of the global automotive industry has recently accelerated its pace. In the coming decade, important changes are expected in several areas that are likely to profoundly reshape the industry and its markets worldwide. Within the next 10 years, sizeable efforts will need to be made with the further development of alternatives for fossil-based motor fuels. Moreover, while the European market is relatively mature, automotive markets outside the OECD countries have grown very strongly in recent years and this development will continue, underlining the major economic importance of these markets for the sector. To meet long term greenhouse gas reduction and air quality objectives, the internal combustion engine are further improved and new and cleaner vehicle technologies, such as electric and hybrid propulsion, are being introduced. They can be expected to make significant inroads into the global vehicle market by 2020. This will require the industrial structure, transport systems and infrastructure to be transformed to adapt to new market situations and technologies.

The future performance of European industry, and its impact on the economy, jobs and society, will depend on the choices that European businesses, consumers and public authorities will make, faced with the changing environment. For that reason, an intensive dialogue, joint analysis and precise understanding of key issues, among decision makers in the private as well as the public sector, is paramount and the underlying objective for the re-launch of the CARS 21 High Level Group. The Group should give impetus to future directions of policy making in order to create a sustainable foundation for the European vehicle industry and for the use of vehicles in our society.

Mission statement

In the framework of the Europe 2020 strategy[69] and notably its flagships on resource efficiency and industrial policy[70] , and on the basis of the above-mentioned EU strategy for clean and energy efficient vehicles, the group shall develop a realistic vision for **"a competitive EU automotive industry and sustainable mobility and growth in 2020 and beyond"**.

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67 COM(2010)186 final, 28.04.2010
68 OJ C 280, 16.10.2010, pp. 32-34
69 COM(2010) 2020
70 COM(2010) 614

Based on this vision, the group shall sketch out the recommended actions and policies to realise the vision, taking into account the likely changes in technologies and framework conditions.
A particular focus will be to support and advise the Commission in the development of an effective European industrial policy for the automotive sector and the implementation of the EU's strategy for clean and energy efficient vehicles. The HLG group shall develop proposals to further the most effective **development and take up** of clean and energy efficient vehicles in Europe and beyond, covering both supply and demand measures. The group shall identify main barriers for the development and uptake of clean and energy efficient vehicles and propose ways to overcome them.

Working method

- The group shall bring together the most relevant interest groups and experts necessary for carrying out its mission.
- The group shall analyse different key policy areas, investigate several policy actions and aim to build consensus amongst stakeholders around the necessary present and future policies in the automotive sector.
- The group shall take into account the outputs of other Commission expert groups, according to the topics discussed.
- The group shall adapt its working methods in order to ensure that it contributes in those areas where it adds most value. The group can for instance decide that other working groups than those outlined below should be set up.

Deliverables

The group is expected to deliver a **Final Report** that will present the vision for a 2020 and beyond perspective. This would *inter alia* include assessments of the appropriate types of products, technologies, industrial structure, business models, energy types and refuelling infrastructure, role in global markets and international benchmarks. Moreover, the report will propose a list of policy recommendations for consideration at the EU and international level, national or regional level, by authorities, private sector or civil society organisations.

The recommendations shall refer to relevant policies in the following fields: the internal market, smart regulation, climate change and environmental protection, transport and mobility, road safety, competitiveness, research and innovation, standardisation and other regulatory issues, trade, skills, energy and other infrastructures, possibly consumer initiatives, public procurement, car taxation and other economic incentives as outlined in the clean and energy efficient vehicles strategy and develop such initiatives further.

The group will also have the possibility to adopt and issue statements, progress reports or any other intermediate publications that are deemed necessary. The publication of an Interim Report with recommendations on priority issues in summer 2011 will be aimed for.

Composition of the high-level group

The Communication mentions specifically that the group needs "extended stakeholder involvement to in particular address the barriers to market uptake of alternative technologies". The nature of these technologies goes beyond the automotive sector and policy, as elements such as infrastructure and energy supply form an important part of the puzzle.

The following stakeholders are participating in the group:

- Several Member States
- European Parliament
- Committee of the Regions and Economic and Social Committee

- Trade Unions
- Non-Governmental Organisations in the field of environment and road safety
- Distribution and aftermarket sector
- Consumers/Users/Car buyers
- Manufacturers of different types of vehicles (cars, trucks, buses, two-wheelers)
- Suppliers of vehicle components and energy suppliers

The Commissioners responsible for relevant policy areas will attend the meetings of the group.

Operational structure

The CARS 21 process will be composed of a **three-level structure:**

- the High Level Group (Ministers, CEOs and Presidents of associations, etc.) lending political visibility and authority

- the "Sherpa" group responsible for preparing the input to the HLG and for steering the working groups.

- the **Working groups**, responsible for more technical aspects according to specific topics.

The high level group will appoint a group of sherpas to carry out more operational work. The exact mandate and composition of working groups would need to be adopted by the Sherpa group. The working groups will report to the Sherpa group, which would be responsible for consolidating the workstreams and preparing the input for the high-level group. Working groups will be set-up to address the following themes:

- Innovation, infrastructure energy supply and use
- Trade and international harmonisation
- Industrial, social and territorial aspects of competitiveness
- Internal market, emissions and CO_2 policies

The participants in the Working Group meetings are either representatives from organisations present in the High Level Group or additional participants following specific issues and/or representing specific expertise (participating on a permanent or an ad-hoc basis), nominated by the Sherpa Group or the Commission.

The Commission services[71] will provide the **secretarial support**. The policy content will be prepared by the relevant Commission services.

Indicative timetable

- Informal and preparatory Sherpa meeting: 19 October 2010
- Official launch of CARS 21 High Level Group meeting: 10 November 2010
- Sherpa meeting : December 2010
- WG meetings: starting as of January 2011, in between 3 and 6 meetings in 2011
- Two High Level Group meetings (mid and end 2011) and four Sherpa meetings in 2011
- Two Sherpa meetings for finalisation in 2012
- Final High Level Group meeting and adoption of report in spring 2012

The Commission can extend the duration of the group beyond the initial period of 2 years, if this is considered appropriate.

[71] Contact point is DG ENTR – Unit D5, e-mail entr-cars21@ec.europa.eu

CARS 21 High Level Group

on the Competitiveness and Sustainable Growth
of the Automotive Industry in the European Union

Final Report 2012