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**COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND
THE EUROPEAN PARLIAMENT**

**Implementing the Community Strategy to Reduce CO₂ Emissions from Cars:
Fifth annual Communication on the effectiveness of the strategy**

{SEC(2005) 826 }

1. INTRODUCTION

The Community's strategy to reduce CO₂ emissions from passenger cars and improve fuel economy^{1,2} is based on three pillars; the Commitments of the automobile industry on fuel economy improvements³, the fuel-economy labelling of cars⁴ and the promotion of car fuel efficiency by fiscal measures. According to Article 9 of Decision 1753/2000/EC⁵ the Commission has to inform Council and European Parliament annually on the effectiveness of the strategy⁶.

The cornerstone of the strategy are the Commitments of the European, Japanese and Korean Automobile Manufacturers Associations to achieve total new passenger car fleet average CO₂ emissions of 140 g CO₂/km by 2008/2009 (measured according to Directive 93/116/EC). The targets of the Commitments must mainly be achieved by technological developments affecting different car characteristics and market changes linked to these developments.

Supported by the other two pillars of the strategy, the Council and the European Parliament specified as an objective for the Community strategy to meet by 2010 at the latest an average CO₂ emission figure for new passenger cars of 120 g CO₂/km.

As required in the process the following reviews have been undertaken, or initiated, in 2003:

In compliance with the Commitments, in 2003, ACEA and JAMA reviewed the potential for additional CO₂ reductions, with a "*...view to moving further towards the Community's objective of 120 g CO₂/km by 2012...*"

According to Article 10 of Decision 1753/2000/EC the annual Communications have to, for the intermediate target year 2003, indicate whether the reductions achieved by ACEA and JAMA are due to technical measures taken by the manufacturers or to other measures such as changes in consumer behaviour (not linked to technical measures by industry). Finally, the voluntary Commitments of ACEA and JAMA contain the obligation to carry out, based on 2003 data, a joint "Major Review".

The above issues and some other related matters are addressed in this Communication.

¹ COM(95) 689 final.

² Council conclusions of 25.6.1996.

³ Commitments have been made by the European (European Automobile Manufacturers Association - ACEA) the Japanese (Japan Automobile Manufacturers Association - JAMA) and Korean (Korea Automobile Manufacturers Association - KAMA) automobile associations.

⁴ Directive 1999/94/EC relating to the availability of consumer information on fuel economy and CO₂ emissions in respect of the marketing of new passenger cars.

⁵ Decision 1753/2000/EC of the European Parliament and of the Council establishing a scheme to monitor the average specific emissions of CO₂ from new passenger cars.

⁶ Information concerning the Community strategy can also be found on the web site: http://europa.eu.int/comm/environment/co2/co2_home.htm

2. PROGRESS MADE BY THE CAR INDUSTRY WITH REGARD TO THEIR RESPECTIVE COMMITMENT

An annual “Joint Report”, one for each association, has been drafted and agreed between the parties. They are published and annexed with this Communication as SEC papers (see Annex).

The main findings for the reporting period 1995 to 2003 are:

- Taking official Member States’ data in 2003, the average specific CO₂ emissions of the fleets are 163 g/km for ACEA, 172 g/km for JAMA and 179 g/km for KAMA. If data collected by ACEA were taken, its average specific CO₂ emissions would be 161 g/km. (see Table 1 in the Attachment).
- Compared to 1995 the average specific CO₂ emissions have been reduced by 22 g/km or 11.9 % for ACEA (24 g/km or 13.0 % if using ACEA figures), 24 g/km or 12.2 % for JAMA and 18 g/km or 9.1 % for KAMA.
- Compared to 2002 all three associations reduced, in 2003, the average specific CO₂ emissions of their cars registered for the first time on the EU market, ACEA by about 1.2 %⁷, JAMA by about 1.0 % and KAMA around 2.2 %⁸. Since 1995 the fuel efficiency improvements for diesel passenger cars are clearly better if compared with gasoline vehicles, and the sustained increase of the share of diesel vehicles in the EU new passenger cars market has been an important contribution to the overall progress achieved so far.
- JAMA and ACEA show good progress, although ACEA's and JAMA's performance in 2003 is less when compared with the initial years. However, already in 2000, ACEA reached the intermediate target range envisaged for 2003, and is now below the lower end of this range. JAMA is, since 2002, inside the intermediate target range. Both associations can be considered to be on track.
- KAMA's progress is still unsatisfactory, although it has been catching up in the last 3 years. There is a real risk that KAMA will not meet its 2004 intermediate target range of 165 to 170 g/km, seeing that only one year is left to close the gap of 9 g/km. This could affect the whole approach on CO₂⁹. However, KAMA has reconfirmed its commitment to meet its targets. That KAMA made the biggest progress in 2003 and also launched a passenger car with an emission value less than 120 g/km are good news in this context.
- In order to meet the final target of 140 g CO₂/km additional efforts are necessary, as the average annual reduction rate of all three associations needs to be increased. If seen as an

⁷ This reduction figure is based on ACEA data for 2002 and 2003. If ACEA's data for 2002 and the official EU data for 2003 were taken there would be no reduction. However, it can be assumed that this is mainly caused by the change in the database. If official 2002 and 2003 EU data are compared the reduction percentage is about the same as identified when using ACEA's figures.

⁸ All 2001, 2002 and 2003 data are corrected by 0.7 % in order to take into account the change in the test cycle.

⁹ It should be recalled that the Council invited the Commission "...to present immediately proposals, including legislative proposals, for consideration, should it become clear, on the basis of the monitoring and after consultation with the associations, that one or more of the associations would not honour the commitments made" (Council conclusions of October 1999).

average, over the full period 1995-2008/9 the reduction rate shall be around 2 %, or about 3.5 g/km per year. In the years remaining until 2008/9 the reduction rates must now reach an average of 2.8 % for ACEA, 3.1 % for JAMA and 3.6 % for KAMA. It was anticipated from the beginning that the average reduction rate would be higher in the later years. However, it is noted that the gaps to be closed, expressed in required annual performance, are increasing (see Table 2 in the Attachment).

In 2003 the overall average CO₂ emissions of new passenger cars registered was lower in all Member States compared with 1995 and the years in between (see Figure 1 in the Attachment). However, the reduction rates differ somewhat from country to country¹⁰.

All three associations increased the share of diesel cars in the reporting period (see Table 3). This causes some concern regarding regulated pollutants. In 2003 an increasing number of manufacturers have declared that they intend to equip their diesel passenger cars with a particle filter. Moreover, the Commission started work on EURO 5 emission limit values to be applicable around the year 2010. It can be expected that, inter alia, the limits for particle emissions of diesel passenger cars will be tightened. These developments must be considered when looking at a further "dieselisation" of the EU passenger car fleet.

3. IMPLEMENTATION OF DECISION 1753/2000/EC

The so-called "Monitoring" Decision came into force on 30 August 2000. Since 2002 the data collected under this Decision are used as official data for the monitoring of the voluntary commitments. Earlier, data supplied by the associations were used for the monitoring.

However, with official EU data becoming available, a discontinuity from the past data series exists. The change of data source has brought to light some small discrepancies between them. In 2003 further efforts were made to identify the reasons for the observed differences. Overall the differences between the official data and the data delivered by the associations is very small, e.g. in the range of about 1% or less. Nevertheless, the work on data quality will be continued and it is expected that over the long-term data differences should diminish.

4. "MAJOR REVIEW" AND WORK ON ARTICLE 10 OF DECISION 1753/2000/EC

The voluntary Commitments to reduce new passenger car CO₂ emissions contain the obligation to carry out, based on 2003 data (2004 data for KAMA), a "Major Review". This Major Review should address the "*...results of CO₂ emission reductions up to and including calendar year 2003, including comparison of that year's fleet average to the estimated target range.*" Moreover, it should take into account the initial expectation that "*...The reduction in CO₂ emissions will not be linear; the pace will notably depend on the timing of availability of the enabling fuels on the market as well as on the lead-times for new technologies and products and their market penetration. The reduction profile is therefore expected to be relatively slow initially and to gather pace later.*"

Addressing some of these questions is also the subject of Article 10 of Decision 1753/2000/EC which requires that: "*...The reports for intermediate target years and the final*

¹⁰ No figure can be given for Greece and Finland for 1995 since data are not available.

target year will indicate whether the reductions are due to technical measures taken by the manufacturers or to other measures such as changes in consumer behaviour.”

Since the evaluations to be carried out under the “Major Review” and under Article 10 are partly overlapping, joint assessments have been carried by the Commission and ACEA and JAMA respectively. This work was supported by a service contract¹¹. Two crucial questions were addressed in the assessment:

- (1) Have there been obstacles in place which hampered ACEA or JAMA in meeting its respective Commitment, or that caused them to underperform?
- (2) Have there been other factors apart from technological developments which resulted in reductions of the specific CO₂ emissions of new passenger cars?

The answers to these questions are decisive for answering whether or not the observed CO₂ reductions up to and including 2003 shall be counted to their full extent, towards the achievement of the Commitments.

The joint assessments came to the following conclusions:

- (a) The reduction in specific CO₂ emissions has been overwhelmingly achieved by technological developments. Observed market changes did not influence the CO₂ emissions significantly. In any case it is very difficult to distinguish between market changes caused by technology and market changes caused by other factors, e.g. general consumer behaviour, economic situation, fuel prices, fiscal measures, availability of consumer information, mainly for two reasons: the market changes observed in the period 1995 to 2003 are relatively small and CO₂ relevant technological developments penetrated practically all vehicle categories.
- (b) All applicable undertakings specified in ACEA’s and JAMA’s CO₂ Commitment have been met, and in some cases over-achieved.
- (c) The assumptions listed by ACEA and JAMA in their respective Commitments have been met and the environment under which their members are operating has not prevented ACEA and JAMA from meeting their Commitments.
- (d) ACEA and JAMA draw attention to a number of points which are of importance for the delivery of the 140 g CO₂/km target.

In summary, ACEA, JAMA and the Commission conclude that the two associations have, during the period 1998 to 2003, met all the obligations stated in their Commitments.

It is important to stress that these findings highlight also another aspect of the implementation of the strategy: the negligible impact of measures taken under the other two pillars: labelling and fiscal measures.

¹¹ German Aerospace Centre - Institute of Transport Research: *“Preparation of the 2003 review of the commitment of car manufacturers to reduce CO₂ emissions from MI vehicles”*.

The joint conclusions of the “Major Review”/Article 10 work are attached to the respective Joint Reports of ACEA and JAMA.

5. ACEA’S AND JAMA’S REVIEWS TO MOVE FURTHER TOWARDS THE COMMUNITY TARGET OF 120 G/KM

According to the text of the Commitments, and to the Commission's Recommendations endorsing the Commitments¹², ACEA and JAMA shall in 2003 “... review the potential for additional CO₂ reduction, with a view to moving further towards the Community’s objective of 120 g CO₂/km by 2012”. Both ACEA and JAMA presented the result of their respective review in December 2003 (KAMA’s review took place, as planned, in 2004). In their position papers ACEA and JAMA claim that - although the technological potential to achieve the Community target of 120 g CO₂/km by 2012 is available, the associated costs would be prohibitive. Market distortions and negative effects on the European economy would also be substantial. They believe that CO₂ reductions equivalent to the Community objective could be achieved in a more cost-efficient manner by using an integrated approach involving the automotive industry and other actors, including public authorities, oil/fuel suppliers, the agriculture sector, customers etc. ACEA nevertheless gave a first indication that a further reduction of 5 % of the average CO₂ emission of the new vehicle fleet between 2008 and 2012 (equal to a target of about 133 g CO₂/km) could be feasible by means of improvements in vehicle technologies.

In fact, in addition to the three pillars of the strategy, several other options are feasible in support of the Community strategy that would contribute to CO₂ emission reductions from passenger cars. Overall, the aim of the Commission is to achieve the Community goal of 120 g CO₂/km in a “sustainable way”, taking into account the three pillars of the Gothenburg Council (environmental, social, economic aspects).

In the light of these position papers the Commission has decided that a joint evaluation shall be carried out, involving the Commission, the stakeholders, national experts and consultants in order to address the two key issues:

- (1) The costs and reduction potential of technologies and other measures to reduce CO₂ emissions
- (2) An impact assessment of policy scenarios to reduce CO₂ emissions from passenger cars in the EU

For this purpose technical and economical assessments will be carried out, supported by computer modelling. The results of this work will be incorporated into an impact assessment by the Commission to be launched by mid 2005. Based on the results of this impact assessment it is the intention of the Commission to put forward to Council and the European Parliament a proposal concerning the achievement of the 120 g CO₂/km target around the end of 2005.

¹² Commission Recommendations 1999/125/EC, 2000/303/EC and 2000/304/EC.

6. IMPLEMENTATION OF DIRECTIVE 1999/94/EC

All Member States have implemented Directive 1999/94/EC¹³ on the availability of consumer information on fuel efficiency and CO₂ emissions. According to Article 9 Member States had to report by 31 December 2003 on the effectiveness of the Directive. The Commission received 14 reports which are currently being evaluated. Preliminary results show that:

- In general the effectiveness of the Directive seems to be low; a significant impact on consumer's decisions could not yet be noticed.
- An exception to this general picture seems to be the refund systems applied in the Netherlands in 2002, which were well accepted by consumers and showed a remarkable impact on vehicle purchase decisions.

It can be expected that amendments to the Directive will be tabled by the Commission on the basis of this evaluation with the overall objective to improve the effectiveness of the Directive.

7. WORK ON FISCAL MEASURES

In 2002 the Commission published a Communication on fiscal measures and particularly on the taxation of passenger cars in the EU¹⁴. The Communication contained a number of policy options for future action and was aimed at opening a consultation with the Member States, the European Parliament, the car industry and all other important stakeholders. Further to these consultations, the Commission is at the final stage of preparing a legislative proposal which is due to be presented in June 2005.

8. OTHER RELATED MEASURES

The Environment Council conclusions of 10 October 2000 requested the Commission to study emission reduction measures on Light Commercial Vehicles (LCV, in technical terms equal to category N₁ vehicles¹⁵) and mobile air conditioning systems used in passenger cars¹⁶.

With regard to LCV, Council and Parliament adopted Directive 2004/3/EC amending Council Directives 70/156/EEC and 80/1268/EEC as regards the measurement of carbon dioxide emissions and fuel consumption of N₁ vehicles¹⁷. This Directive will provide information on CO₂ emissions from this vehicle category. The Commission is continuing its work in this

¹³ OJ L 12, 18.1.2000, p. 16.

¹⁴ COM(2002) 431 final.

¹⁵ N₁ vehicles are defined as vehicles used for the carriage of goods and having a mass not exceeding 3.5 tonnes.

¹⁶ The Environment Council of 10 October 2000 concluded, that

“In the field of transport policy, the Council requests the Commission to study and prepare measures in the following areas, taking into account the rate of increase in emissions from the transport sector, as well as the need to reflect the social and environmental costs for each mode of transport, as also outlined in the report to the European Council of Helsinki:

- reduction of CO₂ emissions from vehicles, in particular to reduce CO₂ emissions from light duty vehicles

- reduction of all greenhouse gas (GHG) from air conditioning in vehicles”

¹⁷ Official Journal L 49 , 19.2.2004 , p. 36 – 41, Directive 2004/3/EC.

field. It has launched a contract for improvement to the measurement protocol of the amended Directive 80/1268/EEC, and to develop further the evaluation of policy options for reducing emissions from the N₁ category.

With regard to mobile air conditioning the Commission has launched a contract in order to develop a cost-effective measurement procedure to be incorporated into Directive 80/1268/EEC or any other appropriate official document. The Commission will evaluate the matter in detail after conclusion of the contract.

9. CONCLUSIONS

The Community's strategy to reduce CO₂ emissions from passenger cars and improve fuel economy aims at achieving an average specific CO₂ emission figure for passenger cars newly registered in the Community of 120 g CO₂/km by 2010 at the latest. The specific CO₂/km value achieved in the calendar year 2003 was 164 g CO₂/km¹⁸, compared to 186 g CO₂/km in 1995, the reference year of the Community strategy – a reduction of about 12 %. The assessments carried out under the "Major Review" and under Article 10 of Decision 1753/2000/EC show that ACEA and JAMA have, during the period 1998 to 2003, met all the obligations stated in their respective Commitments. The car industry has, in doing so, delivered a sizeable contribution to the EU's strategy for reducing greenhouse gas emissions and to its Kyoto reduction objectives.

In order to meet the final target of the Commitments (140 g CO₂/km) all three associations have to increase their efforts. Based on the Joint Reports, the Commission has no reason to believe that JAMA would not live up to its commitment. ACEA has met its interim target for 2003 in 2000 and expressed its firm determination to make the best possible efforts to live up to its CO₂ Commitment, but could no longer confirm the concluding statement given in the previous reports. The Commission underlines the importance of meeting the target, which is achievable. With regard to KAMA there is a real concern. This has been emphasised to KAMA which, however, has reiterated its determination to achieve the targets to which it has committed.

While the legal transposition of Directive 1999/94 is now completed, work on its effectiveness signals significant shortcomings. It is obvious that measures have to be taken in order to strengthen this pillar, as well as the pillar on fiscal measures, if the Community target of 120 g/km is to be met in 2010.

The position papers presented by ACEA and JAMA in 2003¹⁹ as the results of their respective reviews on the potential to moving further towards the Community's objective of 120 g CO₂/km by 2012 signals that the associations see no possibility to achieve this target in a cost-efficient manner by technical measures. The Commission will carry out its own assessment and present to Council and Parliament a proposal in the second half of 2005.

The Commission is continuing its work concerning CO₂ emissions from light commercial vehicles and on CO₂ emissions due to the use of mobile air conditioning.

¹⁸ Figure based on official EU data.

¹⁹ 2003 for ACEA and JAMA, 2004 for KAMA.

Attachment

Table 1: Average specific CO₂ emissions of new passenger cars per fuel type, for each association and the European Union

	CO ₂ (g/km)									Change 95/03 [%] ⁽⁴⁾
	1995	1996	1997	1998	1999	2000	2001 ⁽³⁾	2002 ⁽³⁾	2003 ⁽³⁾	
ACEA										
Petrol	188	186	183	182	180	177	172	172/171 ⁽⁵⁾	171/170 ⁽⁵⁾	-9.0 / -9.6 % ⁽⁶⁾
Diesel	176	174	172	167	161	157	153	155/152 ⁽⁵⁾	154/152 ⁽⁵⁾	-12.5 / -13.6 % ⁽⁶⁾
All fuels⁽¹⁾	185	183	180	178	174	169	165	165/163⁽⁵⁾	163/161⁽⁵⁾	-11.9 / -13 %⁽⁶⁾
JAMA										
Petrol	191	187	184	184	181	177	174	172	170	-11.0 %
Diesel	239	235	222	221	221	213	198	180	177	-25.9 %
All fuels⁽¹⁾	196	193	188	189	187	183	178	174	172	-12.2 %
KAMA										
Petrol	195	197	201	198	189	185	179	178	171	-12.3 %
Diesel	309	274	246	248	253	245	234	203	201	-35.0 %
All fuels⁽¹⁾	197	199	203	202	194	191	187	183	179	-9.1 %
EU-15⁽²⁾										
Petrol	189	186	184	182	180	178	173	172	171	-9.5 %
Diesel	179	178	175	171	165	163	156	157	157	-12.3 %
All fuels⁽¹⁾	186	184	182	180	176	172	167	166	164	-11.8 %

- (1) Petrol and diesel-fuelled vehicles only, other fuels and statistically not identified vehicles are not expected to affect these averages significantly.
- (2) New passenger cars put on the EU market by manufacturers not covered by the Commitments would not influence the EU average significantly.
- (3) The figures for 2001, 2002 and 2003 are corrected by 0.7 % for the change in driving cycle. For 2002 and 2003 the data provided by Member States is taken.
- (4) Percentages are calculated from unrounded CO₂ figures.
- (5) The first figure is based on data from Member States; the second figure is based on data from ACEA.
- (6) The first figure is based on 2003 data from Member States and 1995 data from ACEA; the second figure is based solely on data from ACEA.
- (7) The ACEA figures given in this Communication include Rover/MG. However, since Rover/MG - which was initially covered by the Commitment as part of BMW- is no longer an ACEA member, ACEA has stated that the association cannot take any responsibility for Rovers CO₂ achievements up to 2008.

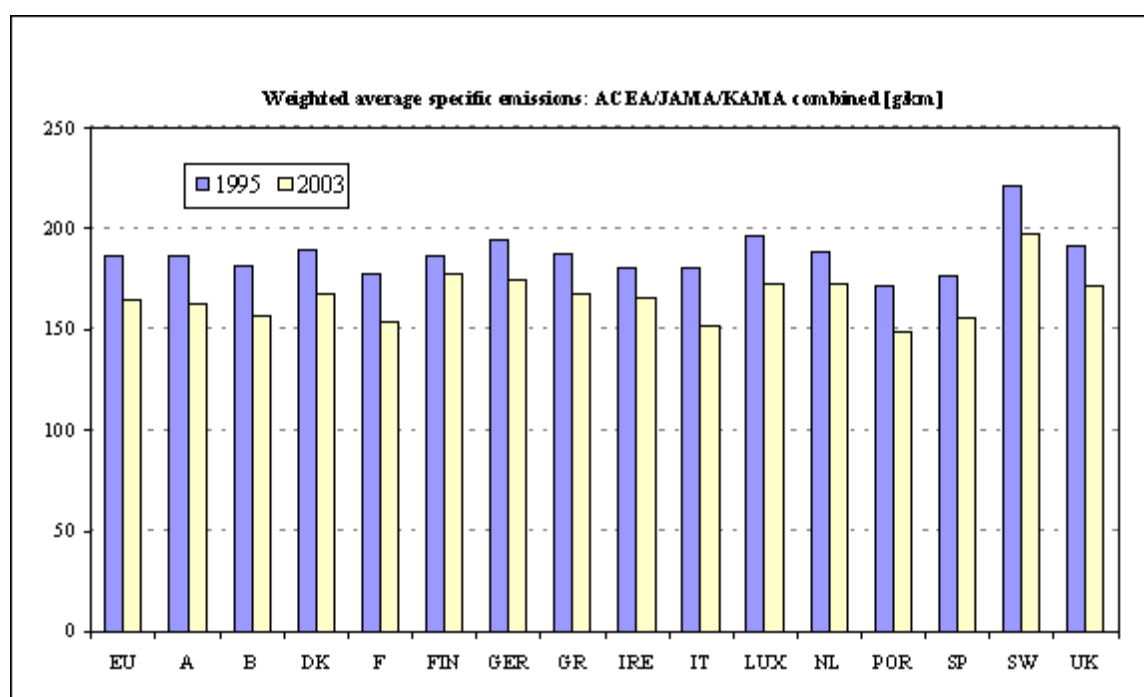
Table 2: Meeting the 140g/km target in 2008/2009

	140g/km Target: gap					
	1995	2003	Total		Per annum	
			% from 2003 to 2008/9	g/km from 2003 to 2008/9	% from 2003 to 2008/9	g/km from 2003 to 2008/9
ACEA all fuels*	185	163/161	14.1/ 13	23 / 21	2.8 / 2.6	4.6 / 4.2
JAMA all fuels**	196	172	18.6	32	3.1	5.3
KAMA all fuels**	197	179	21.8	39	3.6	6.5

* First figure is based on Member States' data; second figure is based on ACEA's figure

**Based on Member States' data

Figure 1: Average Specific CO₂ emissions of new passenger cars in the EU and in Member States in 1995 and 2003 (weighted averages based on the data for diesel and gasoline vehicles)²⁰



1995 data as delivered by the associations; for 2003 the official EU data are displayed

2003 data are corrected by 0.7 % for cycle change adjustment

²⁰

EU 1995 does not include data for Greece or Finland because of insufficiency of available data. For 2003 these two Member States are included.

Table 3: Trends in composition of new cars registered on the market, for each association and the EU

ACEA	1995	1996	1997	1998	1999	2000	2001	2002 (4)	2003 (4)	Change '95-03' (2)
Petrol	73.4%	72.9%	73.1%	70.3%	65.8%	60.9%	58.2%	56.3%	52.4%	-21.0
Diesel	24.0%	24.3%	24.3%	27.0%	31.0%	35.8%	39.4%	43.6%	47.5%	23.5
All fuels	10241651	10811011	11226009	11935533	12518260	12217744	12552498	11649782	11533323	12.6%
JAMA	1995	1996	1997	1998	1999	2000	2001	2002 (4)	2003 (4)	Change '95-03' (2)
Petrol	82.1%	82.1%	83.2%	81.6%	80.4%	80.8%	79.1%	77.3%	71.8%	-10.3
Diesel	9.5%	10.4%	11.2%	13.1%	14.9%	16.5%	17.4%	22.6%	28.2%	18.7
All fuels	1233975	1342144	1510818	1666816	1716048	1667987	1520643	1501937	1703960	38.1%
KAMA	1995	1996	1997	1998	1999	2000	2001	2002 (4)	2003 (4)	Change '95-03' (2)
Petrol	87.9%	87.6%	89.2%	85.9%	81.9%	80.9%	85.2%	77.8%	73.9%	-14.0
Diesel	1.6%	1.8%	2.3%	6.1%	7.4%	8.3%	13.9%	22.0%	26.1%	24.5
All fuels	169060	236454	275453	373230	463724	491244	396792	325436	427341	152.8%
EU-15 (1)	1995	1996	1997	1998	1999	2000	2001	2002 (4)	2003 (4)	Change '95-03' (2)
Petrol	74.5%	74.2%	74.6%	72.1%	68.0%	63.9%	61.2%	59.2%	55.4%	-19.1
Diesel	22.2%	22.4%	22.3%	24.7%	28.4%	32.6%	36.4%	40.7%	44.4%	22.2
All fuels (3)	11644686	12389609	13012280	13975579	14698032	14376975	14469933	13477155	13664624	17.3%

(1) New passenger cars put on the EU market by manufacturers that are not covered by the commitments do not effect the numbers significantly.

(2) The change over the period 1995 to 2003 for gasoline and diesel driven cars represents the change in the absolute share of each fuel type of total registrations. The change for the total cars is the growth or drop in absolute new registrations. The change in total cars represents the growth in the EU-15 new registrations over the period.

(3) Totals include statistically unidentified vehicles and vehicles using 'other fuel' types.

(4) For 2002 and 2003 the data provided by Member States is taken

ANNEX (SEC(2005) 826)

- (1) Monitoring of ACEA's Commitment on CO₂ Emission Reduction from Passenger Cars (2003), Joint Report of the European Automobile Manufacturers Association and the Commission Services, Final version of 5.10.2004
- (2) Monitoring of JAMA's Commitment on CO₂ Emission Reduction from Passenger Cars (2003), Joint Report of the Japan Automobile Manufacturers Association and the Commission Services, Final version of 5.10.2004
- (3) Monitoring of KAMA's Commitment on CO₂ Emission Reduction from Passenger Cars (2003), Joint Report of the Korea Automobile Manufacturers Association and the Commission Services, Final version of 5.10.2004.

The annexes are available only in English