

Reducing CO2 emissions from new cars

2006 progress report on the car industry's voluntary commitment

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**European Federation for
TRANSPORT and ENVIRONMENT**

Background and Chronology

EU climate change policy

The European Union is committed under the Kyoto Protocol of the United Nations Convention on Climate Change to reduce greenhouse gas emissions by 8 per cent by 2008-2012 compared to the 1990 level. This is a first step towards the EU objective of limiting man-induced global warming to 2 degrees Celsius.

EU leaders recently committed to cut greenhouse gas emissions by 20 to 30% depending on international action.

Carbon dioxide (CO₂) is the most important greenhouse gas. Emissions of CO₂ are directly linked to fuel consumption. Burning a kg of petrol, diesel, kerosene and the like in a car, van, lorry, aircraft or ship leads to approximately 3.15 kg of CO₂ emissions.

The role of transport

Transport is the worst performing sector under 'Kyoto' and seriously jeopardizes the achievement of the Kyoto targets. Transport CO₂ emissions in the EU grew by 32% between 1990 and 2005. The share of transport in CO₂ emissions was 21% in 1990, but by 2005 this had grown to 27%¹.

Emissions from so-called 'light duty vehicles' (passenger cars and vans) are responsible for approximately half of this.

The oil used to power the wheels of cars and vans also greatly increases the EU's oil import dependence, currently standing at 80 per cent and rising. At € 55 a barrel, cars and vans cost the EU an extra €92 billion in oil imports.

All these figures would come down considerably if cars and vans were made more fuel efficient, something that would automatically follow from stricter CO₂ limits.

The EU's long term target for cars and CO₂: 120g/km

The EU target to reduce average new car emissions to 120 g/km was first proposed by Germany, following informal negotiations with member states, at a meeting of European environment ministers in October 1994. That target translates into fuel consumption figures of 4.5 litres/100 km for diesel cars and 5.0 litres/100 km for petrol cars and represents a 35% reduction over 1995 levels.

After further endorsements the 120g/km target was formally announced in a European Commission communication in 1995.

The target has now been postponed three times. Originally the target date was set for 2005. The 1996 Council Conclusions introduced the term 'by 2005, or 2010 at the latest'.

The car industry commitment: 140 g/km of CO₂ on average for new cars by 2008/9

In 1998 the European Automobile Manufacturers Association (ACEA²) committed to the EU on behalf of its members to reduce the average CO₂ emissions from their new car sales in the EU to

¹ Source: EEA, Annual European Community greenhouse gas emissions inventory and inventory report 2007, http://reports.eea.europa.eu/technical_report_2007_7/en European Environment Agency, Copenhagen, 2007

² ACEA's members include the following carmakers: BMW Group, DaimlerChrysler, General Motors Europe, Porsche AG, PSA Peugeot Citroën, Renault, Fiat, Ford of Europe, Volkswagen and Volvo. The commitment covers only passenger cars.

140 g/km by 2008. This is a reduction of 25% over 1995 levels, and equivalent to a fuel consumption of 6.0 litres per 100 km for petrol cars and 5.3 litres for diesel cars.

In 1999, the Japan Automobile Manufacturers Association (JAMA) and the Korean Automobile Manufacturers Association (KAMA³) made similar commitments for their EU sales. The only difference is that their target year to achieve an average 140 g/km CO₂ figure is one year later, 2009. All three associations, in other words, were given a decade to comply.

The EU's 120 g/km objective was informally put back to 2012, the second postponement.

Future EU legislation

In February 2007 the Commission proposed a legally-binding target of 130 g/km by 2012, effectively delaying the original 120g/km objective for a third time.

T&E firmly believes that the EU should stick to achieving 120 g/km by 2012 through improved fuel efficiency of cars. Other measures should come on top of, rather than instead of, this measure.

The target has been in place for 13 years now (since October 1994 when it was first put forward) so by 2012 the industry will have had 18 years of lead time to implement it. After a series of delays and weakenings, the EU's credibility on climate change policy is at risk unless it maintains its long-standing commitment to the original target.

Longer term targets are also necessary, not least to address the long-term challenge of climate change, but also to give long term certainty to the car industry. T&E has proposed a series of interim targets leading to 80g/km by 2020.

T&E's comprehensive position paper on the European strategy on cars and CO₂ can be downloaded from: www.transportenvironment.org/Article454.html

³ JAMA includes Daihatsu, Fuji Heavy Industries (Subaru), Honda, Isuzu, Mazda, Nissan, Mitsubishi, Suzuki and Toyota, KAMA includes Hyundai Motor Company, and Kia Motor Corporation

Progress of the Voluntary Commitment in 2006

The European Commission has not yet made public the CO₂ figures for the years 2005 or 2006.

T&E analysed sales and CO₂ information in the European Commission database that forms the basis of the official EU monitoring mechanism on cars and CO₂⁴.

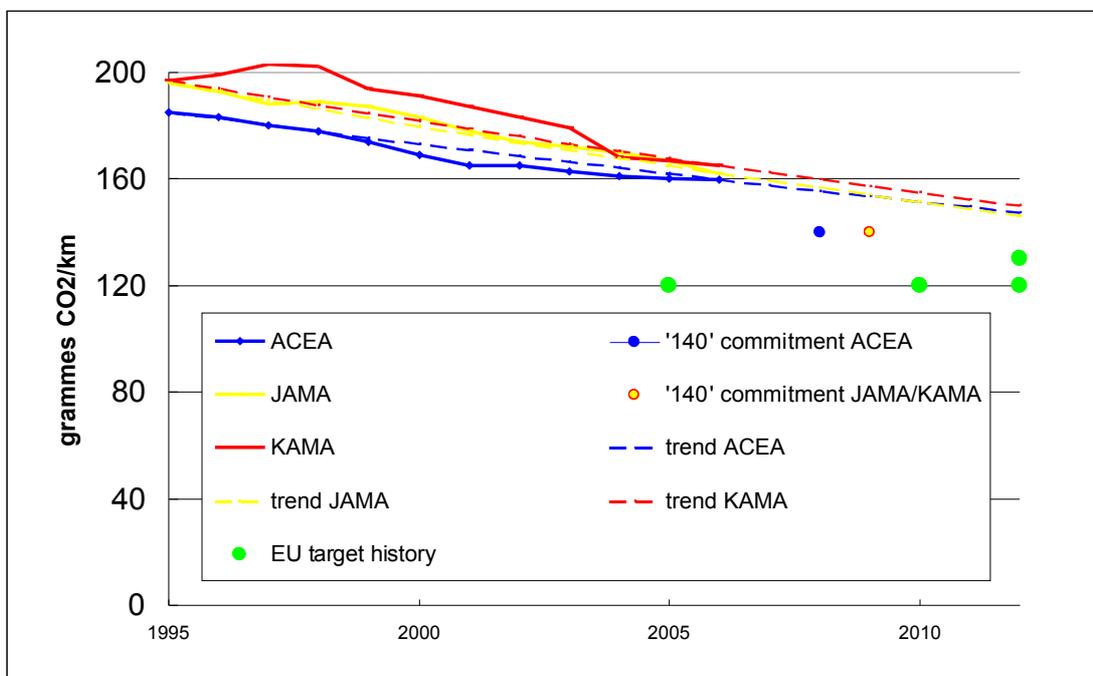
T&E was granted access to the database following a request under EU access to documents law⁵.

The progress of the commitment as of 2006 is shown below in a table and a graph.

Table 1⁶: progress in the CO₂ commitment of the three car manufacturing associations 2004-2006 - fleet average new car CO₂ emissions.

	ACEA	JAMA	KAMA	total
2004 ⁷ (g CO ₂ /km)	161	170	168	162
2005 (g CO ₂ /km)	160	166	167	161
2006 (g CO ₂ /km)	160	161	164	160

Graph: progress over time in the CO₂ commitment of the three car manufacturing associations, and distance to target if historic rate of improvement is not changed: EU 15 figures.



National figures

⁴ http://ec.europa.eu/environment/co2/co2_monitoring.htm

⁵ http://ec.europa.eu/transparency/access_documents/index_en.htm

⁶ Note on data analysis

- The figures are based on sales data from 24 European countries (EU25 excluding Malta).
- T&E has followed the convention of the official EU monitoring reports in revising figures downward by 0.7% to reflect changes to the EU test cycle.
- 2006 data was corrected for the absence of Latvia and Poland (Malta is absent for both 2005 and 2006 so was disregarded). This was calculated by assuming the market shares of Latvia and Poland in total car sales in 2006 were equal to 2005, and assuming that both countries have made the same progress as the average of the other 22 countries. On that basis T&E calculated the outcome for the EU24 in 2006. It should also be noted that Latvia and Poland account for less than 2% of total new car sales.

⁷ 2004 figures were published by the European Commission in August 2006:

http://ec.europa.eu/environment/co2/pdf/com_2006_463_en.pdf

The table below shows average new car CO2 figures for the EU25, excluding Malta.

Table 2: Average CO2 emissions of new cars in the EU24 in grams per kilometer

Member State	2006				2005				
	ranking	all	ACEA	JAMA	KAMA	all	ACEA	JAMA	KAMA
Portugal	1	144	145	140	150	144	144	141	148
Italy	2	148	148	148	153	148	147	151	158
France	3	149	147	157	172	151	149	167	174
Slovakia	4	151	149	159	149	156	155	159	160
Poland	5	*				154	151	161	161
Belgium	6	153	152	152	171	154	153	157	174
Czech Republic	7	153	153	157	147	154	153	162	152
Hungary	8	154	154	153	157	155	157	151	161
Slovenia	9	154	153	161	159	156	154	166	160
Spain	10	155	152	170	160	154	151	173	164
Denmark	11	161	160	166	157	163	164	162	159
Lithuania	12	162	160	165	166	185	177	196	183
Austria	13	163	162	162	174	161	159	164	173
Ireland	14	165	164	162	184	166	165	164	181
Greece	15	165	167	168	150	166	167	171	154
Netherlands	16	165	166	160	168	169	169	166	170
UK	17	167	167	166	168	169	167	173	171
Luxembourg	18	167	167	167	166	167	167	174	167
Cyprus	19	169	174	160	162	172	176	164	171
Germany	20	171	172	164	172	172	173	169	172
Finland	21	178	181	173	176	178	179	177	181
Estonia	22	181	179	186	176	182	180	189	177
Latvia	23	*				186	180	197	175
Sweden	24	187	190	175	182	192	195	184	185
EU24		160	160	161	164	161	160	166	167

*See footnote 6 on page 5

Progress in 2006: conclusions

Overall progress was a reduction of just 1g/km, just 0.7% below the 2005 figure.

ACEA's progress dropped to an all-time-low: a reduction of just 0.2%.

For the remaining two or three years, carmakers will have to reduce the CO₂ emission and fuel consumption of their products at an annual rate of 5 to 6 per cent. This is an unprecedented rate and 3 to 5 times the rate of reduction achieved in previous years.

Extrapolation of historic reductions would lead to ACEA missing the 140 g/km target by approximately 15 grams and JAMA and KAMA their 2009 target by 13 and 16 grams respectively.

Average emissions of new cars sold in Austria and Spain increased in 2006.

Sweden remains at the bottom of the national league table with the highest average emissions in the EU.

Car Weight Increased Again in 2006

In 2006, the average weight of new cars sold in Europe rose by 18kg, the continuation of a long-term trend (see table 3 below).

Table 3: Average weight in kilograms of new cars sold in Europe.

	Total	ACEA	JAMA	KAMA
2004	1347	1355	1310	1298
2005	1356	1365	1340	1340
2006	1374	1382	1317	1384

Reducing weight is one of the most important methods of improving fuel efficiency and cutting CO2 emissions. The ever-increasing weight of new cars is a key reason why carmakers have failed to cut CO2 emissions to the extent required to meet their commitment.

The car industry regularly claims that European safety requirements are responsible for the increased weight of cars and therefore safety policy conflicts with the emissions target⁸. But the chairman of the Euro NCAP car safety agency has stated categorically that this is not the case⁹.

The car industry is actively lobbying to make new CO2 standards dependent on the weight of the car. In other words the industry argues that heavy cars should be subject to weaker CO2 standards than light ones¹⁰.

Using vehicle weight as the attribute to base car CO2 standards on has serious negative consequences for safety, emissions and costs. In short, weight-based standards will perpetuate and boost the existing trend towards heavier cars when compared to the outcome if a single CO2 standard were used.

T&E is calling on the EU to stick to a single fleet average standard of 120g/km by 2012.

Alternatively, T&E says car 'footprint', the area between the four wheels, could be used as a temporary measure to define what CO2 standard individual car models would have to apply.

'Footprint' is the attribute used in new North American CAFE fuel efficiency standards for light trucks and was chosen, amongst other reasons, because it avoids the dangerous safety implications of using a weight-based standard. 'Footprint'-based standards also leave more paths to reducing emissions open to carmakers.

*For further information see the T&E report of August 2007:
www.transportenvironment.org/Article457.html*

⁸ See, for example http://www.acea.be/1998_commitment "Conflicting EU regulations, particularly on safety and air quality, have hampered the CO2 reduction (*sic*) efforts from the European car industry."

⁹ http://www.etsc.be/documents/CO2_emissions_speed.pdf

¹⁰ "Europe's cars may get weight-based emissions allowances" (EUObserver 07/08/07 <http://euobserver.com/?aid=24574>); "Verheugen adds fuel to car CO2 debate" (ENDS Europe Daily, 13/08/07 <http://www.endseuropedaily.com/articles/index.cfm?action=article&ref=23721&searchtext=weight&searchtype=A>); "Auch kleine Autos müssen sauberer werden!" (Bild am Sonntag, <http://www.bild-t-online.de/BTO/news/2007/08/12/verheugen-quenter/autos-klima.geo=2299902.html>); "Audi CEO Stadler backs weight-based CO2 system" (Automotive News Europe, 13/08/07 <http://www.autonews.com/apps/pbcs.dll/article?AID=/20070813/ANE01/70813003/1116/EUROPE&refsect=EUROPE>), "Proposed CO2 scheme would help Germans" (Automotive News Europe, 20/08/07 <http://www.autonews.com/apps/pbcs.dll/article?AID=/20070820/ANE/70817027&SearchID=73291017426277>)

For further information:

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Contacts

Kerstin Meyer, Aat Peterse
kerstin.meyer@transportenvironment.org
aat.peterse@transportenvironment.org

Transport and Environment (T&E)
Rue de la Pépinière, 1
B-1000 Brussels
Tel: +32 2 502 9909

www.transportenvironment.org