

Reducing CO<sub>2</sub> Emissions from New Cars:  
A Study of Major Car Manufacturers'  
Progress in 2008

September 2009



**Reducing CO<sub>2</sub> Emissions from New Cars:  
A Study of Major Car Manufacturers' Progress in 2008**

**September 2009**

© 2009 European Federation for Transport and Environment (T&E)

***Editeur responsable***

Jos Dings, Director

**T&E – European Federation for Transport and Environment AiSBL**

Rue d'Edimbourg, 26 | B-1050 Brussels | Belgium

[www.transportenvironment.org](http://www.transportenvironment.org)

## Note on data source

The data source used for this report is the EU car CO<sub>2</sub> monitoring mechanism database. It was obtained by T&E following submission of a request under laws granting access to official documents.

The source is an updated version of the one used for our 2007 and 2008 reports of the same name.

It should be noted that the geographical coverage of the figures is not the entire EU27, but the EU minus Bulgaria and Slovakia. These Member States had not yet submitted their data by the time T&E requested access to the EU database. Together these missing countries represented less than 1% of total 2008 sales in the EU27<sup>1</sup>.

In earlier reports, the CO<sub>2</sub> data was adjusted downwards by 0.7% to reflect changes to the EU test cycle that took place over the period covered by the voluntary commitments on new car CO<sub>2</sub> reduction (1998/9 - 2008/9). Following the adoption of the EU's legally binding CO<sub>2</sub> targets (Regulation 2009/443), this modification is no longer relevant or necessary. Consequently, the data have not been adjusted downwards in this report.

## Acknowledgements

T&E would like to thank the Esmée Fairbairn Foundation for funding this publication.

---

<sup>1</sup> The T&E report published in 2008 (based on data for 2007) covered the 'old' EU15 plus Hungary, Lithuania and Slovakia, representing 94% of EU27 new car sales. The T&E report published in 2007 (based on data for 2006) also covered the Czech Republic, Cyprus, Estonia, and Slovakia (96% coverage of EU27 new sales).

## Table of Contents

Note on data source .....	3
Acknowledgements.....	3
Table of Contents .....	4
Introduction.....	5
EU climate and energy policy and the role of transport.....	7
EU policy on cars & CO <sub>2</sub> : a history of postponements and weakening.....	7
Cars and CO <sub>2</sub> : the road ahead.....	8
Carmaker progress in 2008 .....	9
1. Progress by carmaker.....	10
2. Distance to regulatory targets, by carmaker.....	12
3. Distance to targets in 2007 vs. progress in 2008.....	14
4. Status and progress by Member State.....	15
Regulating CO <sub>2</sub> emissions from vans.....	16

## Introduction

This report is the fourth T&E has published on the annual progress Europe's major car manufacturers have made in reducing CO<sub>2</sub> emissions and fuel consumption of new cars. The first report was published in October 2006, followed by a second in November 2007 and a third in August 2008<sup>2</sup>.

2008, the year covered by this report, was special in several respects:

- In December the Council of Ministers and the European Parliament agreed on a regulation<sup>3</sup> to reduce fleet-average CO<sub>2</sub> emissions of cars sold in Europe to (nominally) 130 g/km by 2015, and to 95 g/km by 2020. This law replaces the failed voluntary commitment (see below). This report is the first to assess the degree to which carmakers are on track to meet the requirements of the new law.
- Throughout the year, carmakers began introducing a range of fuel- and CO<sub>2</sub>-saving technologies branded as BlueMotion (Volkswagen), Econetic (Ford), Eco2 (Renault) etc. This occurred in reaction to the impending regulation, record-breaking oil prices, and the introduction of CO<sub>2</sub>-based car taxes in several Member States.
- It was also the delivery year for the 1998 voluntary commitment of the European car industry (ACEA) to cut average CO<sub>2</sub> emissions from new cars sold in Europe to 140 g/km. By 2006 it was already quite clear that the commitment would not be honoured. In fact, the recognition of that failure was the inspiration for the legally binding targets that followed. Nonetheless, this report will definitively show the extent of the failure of European carmakers to honour their voluntary commitment.<sup>4</sup>

In the second half of 2008, the global recession took hold, and car sales were reduced as a result. But although the effect was clearly noticeable, it was far from a 'collapse'. That impression has perhaps been created by exaggerated media coverage of the financial crisis and carmakers eager to receive government support in the form of subsidies. The reality is that EU15 car sales were less than 7% below the ten-year (1999-2008) average, and less than 2% below the twenty-year (1990-2008) average. Government subsidies for new cars, to support sales, had not yet taken off in 2008. In that sense, 2008 was less unusual, in historical terms, than might have been expected.

The most recent progress made by carmakers is currently relevant in light of a similar follow-up proposal for light commercial vehicles (vans) that the European Commission is expected to announce in late September 2009.

T&E began this series of annual reports to bring public attention to the progress of carmakers on delivering CO<sub>2</sub> reductions. The voluntary commitment mentioned

---

<sup>2</sup> 2006 report: [www.transportenvironment.org/Publications/prep\\_hand\\_out/lid:442](http://www.transportenvironment.org/Publications/prep_hand_out/lid:442)

2007 report: [www.transportenvironment.org/Publications/prep\\_hand\\_out/lid:481](http://www.transportenvironment.org/Publications/prep_hand_out/lid:481)

2008 report: [www.transportenvironment.org/Publications/prep\\_hand\\_out/lid:513](http://www.transportenvironment.org/Publications/prep_hand_out/lid:513)

<sup>3</sup> 443/2009, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0001:0015:EN:PDF>

<sup>4</sup> Japanese and Korean manufacturers signed a separate voluntary commitment in 1999 which expires in 2009.

above contained a non-disclosure clause which prevented company-specific information being published by the EU.

Fortunately, from 1 January 2010 the new CO<sub>2</sub> regulation demands that progress by carmaker be officially published. T&E will closely monitor this process and will not hesitate to publish the data should there be any delays or attempts to keep it away from public attention.

**Fuel efficiency and CO<sub>2</sub> emissions** are used interchangeably in this report because the two are directly linked. One litre of petrol consumption leads to about 2.34 kg of CO<sub>2</sub>, one litre of diesel consumption to approx. 2.62 kg of CO<sub>2</sub>. Reducing CO<sub>2</sub> emissions is therefore not only beneficial in the context of mitigating climate change, but it also helps to reduce Europe's oil import burden and drivers' fuel bills at the pump.

## EU climate and energy policy and the role of transport

The European Union is committed under the Kyoto Protocol to reduce greenhouse gas emissions by 8 per cent by 2008-2012 compared to the 1990 level. In addition, the EU has committed to a 20% cut in its greenhouse gas emissions by 2020, and a 30% cut if other countries follow suit when a new climate deal is agreed at Copenhagen at the end of this year. The EU has also adopted a target of improving energy efficiency in the European Union by 20% by 2020.

These targets were legally implemented with the adoption of the 'climate and energy package' in December 2008. The package contains laws on the emissions trading scheme (ETS), 'effort sharing', carbon capture and storage, renewable energy, transport fuel quality, and car emissions. A directive to include aviation in the trading system was adopted a few months earlier.

Although the package is a step forward it is unlikely in its current form to deliver the 20% cut in domestic EU emissions, let alone the higher 30% target. The 40% target, scientists say is necessary to hit the EU's 'maximum 2 degrees warming' target, seems a distant dream. Both the effort sharing and ETS laws allow offsets to replace real emissions reductions, and the renewable energy law allows biofuels which could have the effect of increasing rather than decreasing transport emissions. Just three examples of where climate policy has gone off track.

Transport is the worst performing sector under Kyoto and seriously jeopardises the achievement of the targets. Transport CO<sub>2</sub> emissions in the EU grew by 36% between 1990 and 2007. Other sectors reduced their emissions by 9% on average over the same period. The share of transport in CO<sub>2</sub> emissions was 21% in 1990, but by 2007 this had grown to 28%<sup>5</sup>. The European Environment Agency estimates that cars are responsible for 14% of the EU's total CO<sub>2</sub> emissions<sup>6</sup>.

Transport is also critical in the debate on Europe's energy dependence. By mid-2008, Europe imported approximately €1 billion worth of oil every day. Cars are the single biggest consumer in the EU, using around 4.4 million barrels a day, and responsible for 40 per cent of imports.

## EU policy on cars & CO<sub>2</sub>: a history of postponements and weakening

The EU target to reduce average new car emissions to 120 g/km was first proposed by Germany at a meeting of European environment ministers in October 1994. It was presented as the ambition to lower fuel consumption of new petrol cars to 5 litres per 100 km and new diesel cars to 4.5 litres per 100 km. The target was formally announced in a 1995 European Commission communication (COM(95)689) and represented a 35% reduction over the 1995 level of 186 g/km.

---

<sup>5</sup> Source: [www.transportenvironment.org/Publications/prep\\_hand\\_out/lid:545](http://www.transportenvironment.org/Publications/prep_hand_out/lid:545), based on EEA data

<sup>6</sup> [tinyurl.com/5hrwod](http://tinyurl.com/5hrwod)

Originally the target date was set for 2005. But before it became legally-binding, the target was postponed or weakened four times.

The first postponement occurred in 1996 when the Environment Council introduced the term 'by 2005, or 2010 at the latest'.

The second postponement took place in 1998 when the European Automobile Manufacturers Association (ACEA) committed to the EU to reduce the average CO<sub>2</sub> emissions from new cars sold in the EU to 140 g/km by 2008. The Commission agreed to postpone the deadline for delivery of the '120' target to 2012.

The third weakening was in December 2007 when the European Commission proposed to move the target for 2012 from 120 to 130 g/km. The Commission said that the missing 10 g/km should be taken up by non-car-related measures such as the use of biofuels, tyres and by emission reductions in vans.

The fourth weakening took place when the law was finally adopted, in December 2008. The law further postponed full compliance with '130' from 2012 to 2015, and added several loopholes that would even allow a fleet average CO<sub>2</sub> figure of approximately 140 g/km to go unpenalised. In total, this has resulted in a 10 year delay and a weakening of the target by 20 g/km.

But the law does offer a legal framework, including penalties, to deal with CO<sub>2</sub> emissions from cars. Significantly, it also adds a new 95 g/km target for 2020.

## Cars and CO<sub>2</sub>: the road ahead

The new law nominally strives to reduce the average CO<sub>2</sub> emissions from new cars to 130 g/km by 2015 (approx. 5.6 litres per 100 km for petrol cars and 5.0 litres for diesel cars). That is 18% below the average in 2007, which stood at 158 g/km.

For the 2012-14 period, a so-called 'phase in' is provided for, in which 65% (2012), 75% (2013) and 80% (2014) of cars from each manufacturer will have to comply. Carmakers are free to select 'compliance vehicles' and will therefore leave out the worst gas guzzlers such as SUVs. The effect is a postponement of the 130 target to 2015<sup>7</sup>.

Significantly the law adds a 95 g/km target for 2020, the 'modalities' and 'aspects of implementation' of which will be reviewed by the Commission in January 2013.

Carmakers are responsible for delivering the reductions. The company target is an average for all cars sold, not a fixed limit that no car may exceed. Manufacturers can average the CO<sub>2</sub> emissions from all cars they sell.

Individual manufacturers' targets will be differentiated on the basis of the weight of the cars they produce in the target year. For example, if a manufacturer's cars are 100 kg heavier than the industry average, they are allowed a 4.6 g/km higher CO<sub>2</sub> target. Conversely, if their cars are lighter than average they get a tougher target.

Manufacturers can also file for joint-compliance with other manufacturers, in order to average emissions over a larger pool of vehicles. This flexibility mechanism is called 'pooling'.

---

<sup>7</sup> T&E issued a short paper written by IEEP on this subject: *The Impact of Phasing in Passenger Car CO<sub>2</sub> Targets on Levels of Compliance*, [www.transportenvironment.org/Publications/prep\\_hand\\_out/lid:515](http://www.transportenvironment.org/Publications/prep_hand_out/lid:515)

Enforcement will take place through a system of fines. For every g/km a manufacturer exceeds its company target, it has to pay a €95 fine per vehicle sold, in principle.

The law also includes several loopholes:

- Up to 7 g/km credits for, currently unmeasured and undefined, 'eco-innovations' that could be exchanged for measured reductions;
- 'Supercredits' for very low-emission cars, which would count for more than one car and hence water down overall CO<sub>2</sub> reductions which are based on fleet averages;
- Much lower penalties for small exceedances of the target until 2018. The penalties for the first, second and third g/km of exceedance are only €5, 15 and 25 per g/km respectively instead of €95;
- Exemptions for small-volume carmakers.

All these loopholes together in practice mean that the target for 2015 is close to 140 g/km, rather than 130 g/km.

## Carmaker progress in 2008

T&E analysed sales and CO<sub>2</sub> information in the European Commission database that forms the basis of the official monitoring mechanism on cars and CO<sub>2</sub><sup>8</sup>. T&E was granted access following a request under freedom of information laws<sup>9</sup>.

This database includes figures for all cars sold in Europe in 2008 including weight and CO<sub>2</sub> emissions. On the basis of this data we were able to produce the rankings published in this report. It is important to note that all the data is sales-weighted i.e. based on the actual number of cars sold by each manufacturer in each country. This is relevant because the CO<sub>2</sub> law and its predecessor the voluntary commitment are also based on sales-weighted figures.

It should be noted that the geographical coverage of the figures is not the entire EU27: Bulgaria and Slovakia are not covered. These Member States had not yet submitted their data by the time T&E requested access to the EU database. Together these two 'missing' countries represent less than 1% of total sales in the EU27<sup>10</sup>.

Only the volume car manufacturing groups (those that sold over 200,000 vehicles in the EU25 in 2008) were included in the study. These were the same 14 manufacturers reported in the 2008 study (on 2007 data).

In this report we present three rankings:

1. The progress made by the 14 manufacturers in cutting their fleet average CO<sub>2</sub> emissions in 2008;
2. The improvements the 14 manufacturers still have to make in order to hit their individual targets as set by the new cars and CO<sub>2</sub> law (Regulation 443/2009);
3. The average 2008 CO<sub>2</sub> emissions of new cars sold in the 25 EU Member States for which we have data.

<sup>8</sup> [http://ec.europa.eu/environment/co2/co2\\_monitoring.htm](http://ec.europa.eu/environment/co2/co2_monitoring.htm)

<sup>9</sup> [http://ec.europa.eu/transparency/access\\_documents/index\\_en.htm](http://ec.europa.eu/transparency/access_documents/index_en.htm)

<sup>10</sup> Note: the T&E report published in 2008 (based on data for 2007) included the 'old' EU15 plus Hungary, Lithuania and Slovenia (94% coverage of EU27 new sales).

## 1. Progress by carmaker

Table 1 shows the improvement in fleet-average CO<sub>2</sub> emissions of each carmaker group in 2008 compared with the previous year.

Manufacturer group	Ranking 2007	Sales 2008	Average CO <sub>2</sub> emissions (g/km)		
			2008	2007*	%
<b>Ranking by average CO<sub>2</sub> in 2008</b>					
1 Fiat	2	1,131,005	138	142	-2.9%
2 PSA Peugeot-Citroen	1	1,794,593	139	142	-2.0%
3 Renault	3	1,253,371	143	147	-3.2%
4 Toyota	4	784,054	147	150	-2.4%
5 Hyundai	7	467,673	149	161	-7.6%
6 Ford	8	1,388,335	152	163	-6.7%
7 GM	5	1,366,069	153	157	-2.3%
8 Honda	6	245,395	154	157	-2.2%
9 BMW	12	784,736	154	172	-10.2%
10 Suzuki	9	229,074	156	164	-4.9%
11 Mazda	13	229,596	158	172	-8.2%
12 Volkswagen	10	2,870,570	159	165	-3.3%
13 Nissan	11	323,340	161	168	-4.0%
14 Daimler	14	760,925	175	182	-3.8%
<b>Ranking by progress in 2008</b>					
1 BMW	1	784,736	154	172	-10.2%
2 Mazda	2	229,596	158	172	-8.2%
3 Hyundai	3	467,673	149	161	-7.6%
4 Ford	4	1,388,335	152	163	-6.7%
5 Suzuki	5	229,074	156	164	-4.9%
6 Nissan	6	323,340	161	168	-4.0%
7 Daimler	7	760,925	175	182	-3.8%
8 Volkswagen	8	2,870,570	159	165	-3.3%
9 Renault	9	1,253,371	143	147	-3.2%
10 Fiat	10	1,131,005	138	142	-2.9%
11 Toyota	11	784,054	147	150	-2.4%
12 GM	12	1,366,069	153	157	-2.3%
13 Honda	13	245,395	154	157	-2.2%
14 PSA Peugeot-Citroen	14	1,794,593	139	142	-2.0%
Average			153.5	158.7	-3.3%
ACEA*			152	157	-3.1%
JAMA*			154	159	-3.6%
KAMA*			150	160	-6.7%

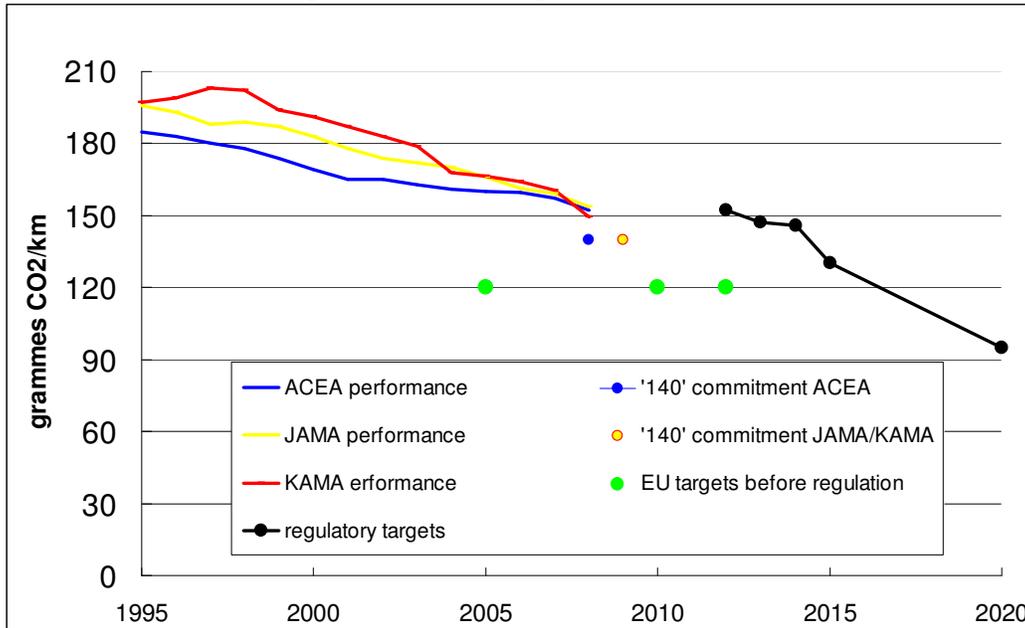
\* Note that 2007 data are taken from last year's report but corrected upwards by 0.7%, except for the data of the associations ACEA, JAMA and KAMA, where for the purpose of monitoring the voluntary commitment we have kept the 0.7% reduction. See page 3 for an explanation of the correction factor.

### Notes

- Note that data apply to the EU27 minus Bulgaria and Slovakia. Last year's report on 2007 data referred to the 'old' EU15 plus Hungary, Lithuania and Slovenia (94% of the EU27 market). Compared with 2007 this year's survey includes as 'new' countries Poland, Romania, Czech Republic, Estonia, Cyprus, Latvia and Malta.
- The European Automobile Manufacturers Association (ACEA) is the industry association of European manufacturers. [www.acea.be/index.php/about\\_us/members/](http://www.acea.be/index.php/about_us/members/). In 2008 Toyota joined ACEA, but for the purpose of reporting on the voluntary commitment, Toyota is still counted as a JAMA member.

- The Japan Automobile Manufacturers Association (JAMA) is the industry association of Japanese manufacturers. [www.jama.org/about/members.htm](http://www.jama.org/about/members.htm)
- The Korea Automobile Manufacturers Association (KAMA) is the industry association of Korean manufacturers. [www.kama.or.kr/eng/MC/K\\_eng\\_mc1.jsp](http://www.kama.or.kr/eng/MC/K_eng_mc1.jsp)

The graph 1 below sets out historic progress by the three associations, and the historic and future EU targets for fleet-average CO<sub>2</sub> of new cars



Note: The 2012-2020 target line does not include allowances for earlier-described loopholes such as 'eco-innovations'. The 2012-2014 'phase-in' targets, in which 65, 75 and 80% of each carmaker's fleet has to comply with the regulation, have been based on research carried out by the Institute for European Environment Policy (IEEP) for T&E and can be found at [www.transportenvironment.org/Publications/prep\\_hand\\_out/lid:515](http://www.transportenvironment.org/Publications/prep_hand_out/lid:515).

The following conclusions can be drawn from the table and the graph:

- Fiat has taken PSAs top spot with respect to the average CO<sub>2</sub> emissions from new cars. Both are now below 140 g/km;
- BMW is, for the second year running, the carmaker that made the greatest year-on-year CO<sub>2</sub> and fuel efficiency improvement. Given the fact that the weight of its vehicles has remained virtually the same, this improvement is not due to a shift towards smaller cars (e.g. the Mini) but is most likely due to its 'Efficient Dynamics' programme, a range of fuel-saving measures that has been introduced across the full range. Progress since 2006 stands at 16%;
- Hyundai also recorded a second year of significant improvements, with reductions in the 2006-8 period equalling 11%;
- Ford also saw a significant drop of almost 7%, but more than half of this reduction is explained by selling Jaguar and LandRover to Tata. Without that sell-off, Ford's 2008 emissions would have stood at 158 g/km, a reduction of 3.2% compared with 2007;

- Japanese carmakers other than Toyota (Mazda, Suzuki, Nissan) have made deeper cuts compared with last year;
- Improvements at Toyota and Honda, the two companies selling most hybrid cars, were below average. Progress at Volkswagen group, Europe's biggest carmaker, remains average. All three companies have a strategy of selling fuel efficiency as an option, rather than as standard;
- French and Italian carmakers top the list of fleet average CO<sub>2</sub>, but are below average in terms of improvements in 2008;
- ACEA has failed its voluntary commitment of reaching 140 g/km in 2008 by 12 g/km. Since 1995, emissions have been cut by 34 instead of 46 g/km, or by 18 instead of 25%. JAMA and KAMA have until the end of 2009 to meet their target, so can only be judged next year;
- Overall the industry's average improved by 3.3%, which is more than in any other year under the voluntary commitment;
- Progress was much more unevenly spread than in previous years, ranging from 2% (PSA) to 10% (BMW).

## 2. Distance to regulatory targets, by carmaker

The regulation on cars and CO<sub>2</sub> strives to achieve a 130 g/km average figure by 2015. The targets are differentiated by manufacturer, based on the average weight of the vehicles they will produce.

Table 2 shows a ranking on the basis of the percentage reduction in CO<sub>2</sub> each carmaker has to make in order to hit its target.

Manufacturer	CO <sub>2</sub> target 2015* (g/km)	Year 2008			Year 2007			Rank
		CO <sub>2</sub> (g/km)	Weight (kg)	Distance to target	CO <sub>2</sub> (g/km)**	Weight (kg)	Distance to target**	
1 PSA Peugeot-Citroën	128	139	1,333	8%	142	1,313	11%	1
2 Renault	129	143	1,341	10%	147	1,318	14%	2
3 BMW	138	154	1,540	11%	172	1,541	20%	10
4 Fiat	121	138	1,172	13%	142	1,198	14%	3
5 Hyundai	130	149	1,365	13%	161	1,436	18%	6
6 Toyota	127	147	1,305	14%	150	1,317	15%	4
7 Ford	129	152	1,354	15%	163	1,428	19%	8
8 Honda***	130	154	1,381	15%	157	1,403	16%	5
9 GM	128	153	1,327	17%	157	1,355	18%	7
10 Volkswagen	133	159	1,429	17%	165	1,447	19%	9
11 Nissan**	131	161	1,395	19%	168	1,376	23%	11
12 Mazda***	125	158	1,256	21%	172	1,361	25%	12
13 Suzuki	122	156	1,190	22%	164	1,215	25%	14
14 Daimler	135	175	1,494	23%	182	1,529	25%	13
Average	130	<b>153.5</b>	<b>1,374</b>	<b>15%</b>	<b>158.7</b>	<b>1,379</b>	<b>18%</b>	

Note: The targets assume the average weight of each company's cars will not change between 2008 and 2015.

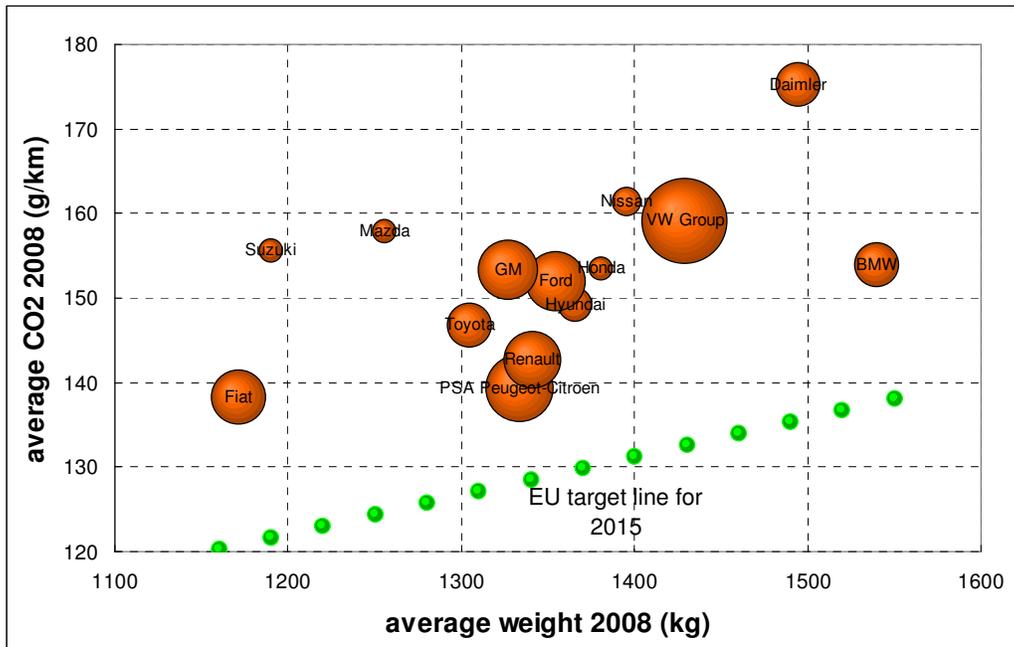
\* Assuming the average weight of the company's new cars will not change between 2008 and 2015

\*\* Figures are 0.7% higher than in last years' report because of scrapping the test cycle correction (see page 3)

\*\*\* We have less confidence in the accuracy of weight figures from Honda, Nissan and Mazda where a high share of weight data was missing

The data in the table above are represented below as a graph.

**Graph 2: fleet-average weight and fleet-average CO<sub>2</sub> emissions by carmaker, compared with EU target curve.**



The following conclusions can be drawn from the table and the graph:

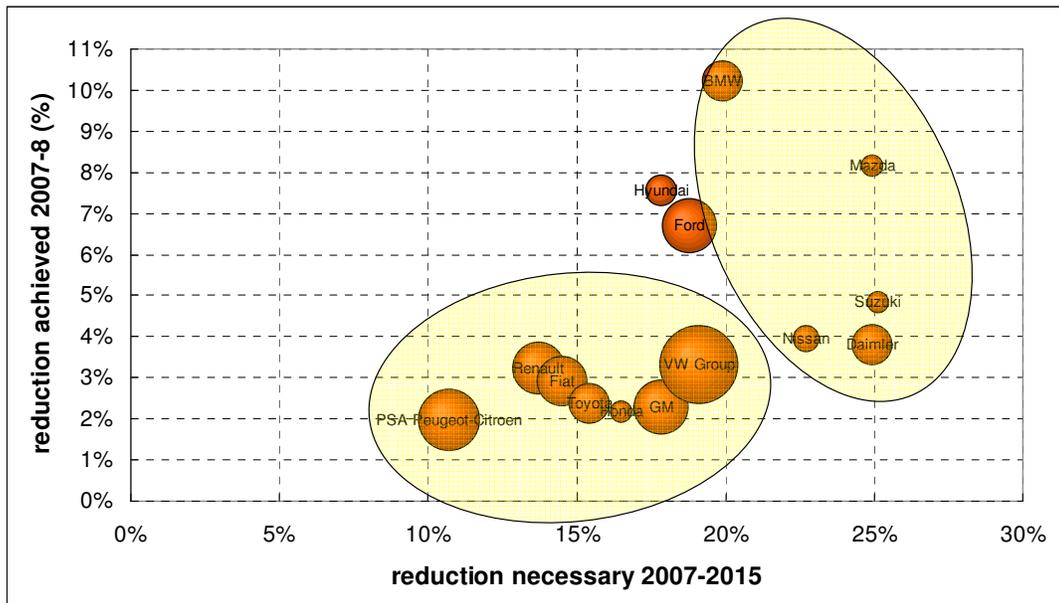
- As in 2007, PSA Peugeot-Citroën is the best-placed carmaker; it needs to cut emissions by only 8% over the next seven years. Fiat, despite having lower emissions than PSA, is number four in the list because it receives a tougher target for making vehicles that are on average 160 kg lighter than PSA's;
- Ford and Mazda hardly moved position despite cutting emissions sharply. Like Fiat, this is a weight issue. The sell-off of Jaguar and LandRover reduced Ford's average fleet weight by 60 kg, tightening the company's CO<sub>2</sub> target from 132 to 129 g/km. Mazda reduced its fleet weight even more, although gaps in Mazda's weight data do not allow for firm conclusions;
- Although the smaller Japanese carmakers Nissan, Suzuki and especially Mazda made better progress than in 2007, they are still, together with Daimler, furthest from hitting the targets, with more than 20% cuts to be made;
- BMW moved from 10<sup>th</sup> to 3<sup>rd</sup> place, it is therefore the closest of the German carmakers to reaching its target;
- For the first time in the decade since the voluntary commitment was agreed, the average weight of cars dropped. However the drop was marginal, at only 5 kg.

The two French carmakers and Nissan (partnered with Renault), are an exception – the average weight of their cars increased in 2008.

### 3. Distance to targets in 2007 vs. progress in 2008

The graph below shows the reductions carmakers had to make on the basis of their 2007 performance (last year's report) and what they actually did to close the gap in 2008.

Graph 3: what carmakers need to do between 2007 and 2015, and what they have done in 2008.



The graph shows that in 2008 badly-placed carmakers were much bolder in cutting emissions than well-placed carmakers:

- well-placed carmakers, those who needed to cut emissions by less than 18%, cut their emissions by less than 4% last year. PSA, the best-placed carmaker, made the least cuts in 2008; Hyundai was an exception,
- badly placed carmakers, those who needed to cut emissions by more than 20%, made cuts of 4% and more.

BMW, Hyundai and Ford stood out in terms of progress in 2008 compared to what they have to do. As we have already said, more than half of Ford's progress is explained by the sell-off of Jaguar and LandRover.

In summary, in 2008 carmakers clearly responded to the impending regulation by taking steps towards compliance (changes in technology and fleet mix). Carmakers that have to speed up are speeding up, whereas carmakers that do not have to do much to hit their targets are much less active. As in the end the regulation was postponed to 2015 instead of 2012, it is not clear to what extent this pace of progress will be maintained over the next years.

## 4. Status and progress by Member State

Table 3 shows average CO<sub>2</sub> figures of new cars sold in the 25 Member States for which data was available as well as the percentage improvement made over the last year.

	Registrations 2008 (1,000)	Average CO <sub>2</sub> 2008	Average CO <sub>2</sub> 2007*	Improvement 2007-2008	Rank 2007
1 Portugal	215	138	144	-4.1%	1
2 France	2,037	140	149	-6.2%	4
3 Italy	2,162	145	147	-1.2%	2
4 Denmark	146	146	160	-8.3%	12
5 Malta	5	147	148	-0.6%	3
6 Belgium	536	148	153	-3.2%	5
7 Spain	1,045	148	153	-3.4%	6
8 Poland	302	153	154	-0.4%	7
9 Hungary	163	153	155	-1.0%	10
10 Czech Republic	134	154	154	0.1%	8
11 Slovenia	71	156	156	-0.3%	11
12 Romania	285	156	155	0.7%	9
13 Ireland	151	157	162	-3.0%	13
14 Netherlands	481	158	165	-4.2%	15
15 Austria	294	158	163	-2.9%	14
16 UK	2,084	158	165	-4.0%	16
17 Luxembourg	52	160	166	-3.8%	18
18 Greece	276	161	165	-2.6%	17
19 Finland	137	163	177	-8.2%	22
20 Germany	3,044	165	169	-2.7%	19
21 Cyprus	24	166	170	-2.8%	20
22 Lithuania	21	170	177	-3.7%	21
23 Sweden	248	174	181	-4.1%	23
24 Estonia	24	177	182	-2.3%	24
25 Latvia	19	181	183	-1.5%	25
Total / average	13,957	153.5	158.7	-3.3%	

\* The figures are 0.7% higher than those presented in last year's report because we have left out the test cycle correction (see page 3).

- This table shows that Portugal is, for the third year running, the country where the most efficient cars are sold on average. France, Italy and Denmark took second to fourth place respectively. Denmark 'jumped' from twelfth place to fourth, likely as a result of changes in the Danish car registration tax.
- Scandinavia (with the exception of Denmark), the Baltic states and Germany continue to perform poorly. With Cyprus they occupy the last seven places. Finland climbed three places, also likely due to changes in the Finnish car registration tax.
- France made most progress of the 'big' member states with a more than 6 per cent reduction. France alone, due to its size, was responsible for more than a quarter (26%) of the improvements in fuel efficiency in the EU;
- On the negative side, Italy and most 'new' Member States stand out by showing below-par improvement. Fuel efficiency actually got worse in Romania and the Czech Republic.

# Regulating CO<sub>2</sub> emissions from vans

## Background

In late September or early October 2009 the European Commission is expected to publish a proposal for reducing CO<sub>2</sub> emissions from vans.

This proposal is part of the so-called 'integrated approach' carmakers have been calling for. Under the 'integrated approach' carmakers have to do less to improve fuel efficiency of their cars (i.e. 130 g/km instead of 120). The 10 g/km shortfall would be compensated for through measures on fuels, tyres, gear shift indicators, vehicle air conditioners and, last but not least, vans. This was announced in a Communication from the Commission as early as February 2007<sup>11</sup>.

According to the Commission the proposal was held back because it first wanted clarity on the outcome of the debate on cars and CO<sub>2</sub>, so that the proposal for vans could be modelled in a similar way. This preparatory work is now done and a proposal is reported to be imminent.

The 2007 Communication announced targets for average CO<sub>2</sub> emissions from vans of 175 g/km for 2012 and 160 g/km for 2015, 14 and 21% respectively down on 2007 emissions that stood at 203 g/km<sup>12</sup>.

T&E believes the upcoming proposal should be published as a matter of urgency and contain the following three key points:

1. The Commission should stick to its original ambition level of 175 g/km by 2012 and 160 g/km by 2015.
2. A 2020 target should be set at 125 g/km. This represents a 38% reduction based on 2007 levels, and matches in ambition the 40% reduction required for cars to achieve 95 g CO<sub>2</sub>/km by 2020.
3. Vans should be equipped with speed limiters set at 100 km/h. This would reduce on-road CO<sub>2</sub> emissions by a further 8%.

The following considerations have led us to this conclusion:

### **1. A response to the environment, energy and economy crises**

Van fuel efficiency legislation would:

- i) reduce CO<sub>2</sub> emissions, oil use and oil imports
- ii) create value, as well as high tech and secure jobs in the automotive industry through increased use of low carbon technologies,

---

<sup>11</sup> EC (2007) Communication from the Commission to the Council and the European Parliament. Results of the review of the Community Strategy to reduce CO<sub>2</sub> emissions from passenger cars and light-commercial vehicles {SEC(2007) 60}, p.8, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52007DC0019:EN:NOT>

<sup>12</sup> AEA (2008) Assessment of options for the legislation of CO<sub>2</sub> emissions from light commercial vehicles [http://ec.europa.eu/environment/air/transport/co2/pdf/final\\_report\\_lcv\\_co2\\_250209.pdf](http://ec.europa.eu/environment/air/transport/co2/pdf/final_report_lcv_co2_250209.pdf)

iii) reduce the €30bn fuel bill that Europe's businesses, particularly small and medium-sized enterprises, currently pay every year to fill up their vans.

## **2. Meaningful legislation closes a loophole**

If the law for vans is weak or absent, there is a real risk that carmakers will classify (type-approve) passenger cars as vans in order to circumvent car CO<sub>2</sub> standards.

## **3. CO<sub>2</sub> emissions from vans and minibuses are rising rapidly**

Currently, 13% of Europe's road vehicle stock are vans, but their number is rising fast. Between 2002 and 2007, the total fleet of vans increased by about 50%.<sup>13</sup>

Light commercial vehicle (LCV) traffic is increasing. In the UK, for example, LCV traffic rose by 40% between 1997 and 2007, and accounted for 31% of all new traffic in that period. LCV emissions were rising at the highest rate of any road vehicle. They contributed 3.6% of total UK CO<sub>2</sub> emissions in 2006, compared to just 1.8% in 1990.<sup>14</sup>

## **4. Emission reductions are urgently needed**

The EU's climate effort sharing agreement (Decision 406/2009/EC) sets out a 10% reduction target, compared to 2005 levels, for all sectors not covered by the Emissions Trading Scheme, including transport. This target is likely to rise to 15% in the case of an international climate agreement. In that context, the transport sector in particular will present a significant challenge. Its emissions increased by 36% between 1990 and 2007, while emissions from other sectors decreased by 9%.

## **5. The vans market is less 'rational' than often thought**

It has been claimed that vans are already very fuel-efficient because professional customers take into account fuel consumption when buying vans.

But the car industry itself admits that there are large discrepancies between models with similar functionality: *'If everybody buying a new van bought the most fuel efficient model in its class the average buyer could save up to 17% on both CO<sub>2</sub> emissions and fuel costs'*<sup>15</sup>.

In addition, engine power of vans has been going up dramatically, although rationally it's more economical to mount smaller (i.e. cheaper and more fuel efficient) engines and keep the power constant.

---

<sup>13</sup> ACEA (2009) Motor Vehicles in Use 2007

[http://www.acea.be/images/uploads/files/20090218\\_EU\\_Motor\\_Vehicles\\_in\\_Use\\_2007.pdf](http://www.acea.be/images/uploads/files/20090218_EU_Motor_Vehicles_in_Use_2007.pdf)

<sup>14</sup> DfT (2009) Van Activity Baseline Survey 2008: Provisional Results

<http://www.dft.gov.uk/pgr/statistics/datatablespublications/freight/vanactivitybaseline08/vabs08.pdf>

<sup>15</sup> <http://www.smmmt.co.uk/articles/article.cfm?articleid=19726>. The SMMT is the Society for Motor Manufacturers and Traders, the UK car industry association

## 6. Emissions from new vans are decreasing at a snail's pace

Consultants advising the European Commission estimate that fleet average CO<sub>2</sub> emissions of new LCVs decreased by no more than 0.4 to 0.5% yearly between 2002 and 2007.<sup>16</sup> This is even less than car emissions over the same period.

## 7. The car market shows small measures can yield big gains

The Commission's consultants assume that achieving a 160 g/km target will require mild or full hybrid power trains and will hence be very costly.

In reality, reductions of about 20% have been reached on diesel cars without hybridisation but with a range of less expensive measures (see Table 1 below). In a couple of cases engine power even went up in parallel, suggesting more savings would have been possible had engine power been kept constant.

**Table 4: Improvement of CO<sub>2</sub> performance of 'best practice' diesel cars between 2007 and 2009<sup>17</sup>**

Brand and model	CO <sub>2</sub> of best available diesel variant (g/km)		Decrease (%)	Fuel-saving programme	Remark
	2007	2009			
VW Golf	135	99	-27%	BlueMotion	Power remains 77kW; scheduled for autumn 2009
VW Passat	151	114	-25%	BlueMotion	Power remains 77kW; scheduled for autumn 2009
Volvo S40	129	104	-19%	DrivE	Power remains 80kW
Ford Fiesta	116	98	-16%	Econetic	Power 50→66kW
Mercedes C220	169	127	-25%	BlueEfficiency	Power 105→125kW
Mercedes E220	167	139	-17%	BlueEfficiency	Power remains 125kW
BMW 118	150	119	-21%	Efficient Dynamics	Power 90→105kW
BMW 318	150	125	-17%	Efficient Dynamics	Power 90→105kW

As fuel saving technologies deployed are largely transferable to diesel vans, similar reductions can be achieved. A 160 g/km by 2015 is therefore feasible and does not require excessive technology investment.

## 8. A target of 125 g CO<sub>2</sub>/km by 2020

A 2020 target is needed to provide planning certainty for the industry, to increase CO<sub>2</sub> savings and to make this legislation consistent with the legislation for CO<sub>2</sub> and

<sup>16</sup> AEA (2008) Assessment of options for the legislation of CO<sub>2</sub> emissions from light commercial vehicles [http://ec.europa.eu/environment/air/transport/co2/pdf/final\\_report\\_lcv\\_co2\\_250209.pdf](http://ec.europa.eu/environment/air/transport/co2/pdf/final_report_lcv_co2_250209.pdf)

<sup>17</sup> The year 2007 is chosen because it is the baseline for van emission data, which has been used in the supporting study.

cars. A target of 125 g CO<sub>2</sub>/km would represent a 38% reduction over 2007 levels, less than the 40% cut expected from cars.

### **9. A speed limiter at 100 km/h would further reduce CO<sub>2</sub> emissions by 8%**

With higher speeds, fuel consumption and CO<sub>2</sub> emissions increase rapidly. Scientific studies carried out in the Netherlands<sup>18</sup> show that limiting the speed of vans to 100 km/h would increase CO<sub>2</sub> savings by 7-8% by 2020. Apart from climate benefits, limiting the speed of vans would also improve safety, reduce noise as well as wear and tear on tyres and engines.

EU law already limits the top speed of lorries and buses, to 89 and 100 km/h respectively. Vans are the only commercial vehicles without a speed limiter, although they can be driven with a normal 'B' type licence, in contrast to lorries over 3.5 tonnes. Quite a few, usually large, companies already use speed limiters on vans to minimise total cost of ownership (TCO). Examples are British Gas, TNT and Royal Mail. Their experiences are positive and there is no reason why the rest of the market should not be obliged to fit limiters as well.

---

<sup>18</sup> Vermeulen, J.P.L. & Klimbie, P.B. (2002) Begrenzing op bestelling. Resultaten van een praktijkproef met snelheidsbegrenzing van bestelauto's en lichte vrachtauto's [http://www.ce.nl/publicatie/begrenzing\\_op\\_bestelling/116](http://www.ce.nl/publicatie/begrenzing_op_bestelling/116) and Dings, J.M.W. et al (1998) Speed limiters on vans and light trucks, CE Delft, 1998

