POLICY UPDATE

12 JULY 2012

European CO_2 Emission Performance Standards for Passenger Cars and Light Commercial Vehicles

ICCT **POLICY UPDATES** SUMMARIZE REGULATORY AND OTHER DEVELOPMENTS RELATED TO CLEAN TRANSPORTATION WORLDWIDE.

On July 11, 2012 the European Commission put forward two regulatory proposals that would implement mandatory 2020 CO_2 emission targets for new passenger cars and light-commercial vehicles (vans). The proposals now need only be confirmed by the European Parliament and European Council to become law.

BACKGROUND

The European Union (EU) first introduced mandatory CO_2 standards for new passenger cars in 2009.[1] The 2009 regulation set a target of 130 g/km for 2015 for the fleet average of all manufacturers combined.[2] Individual manufacturers are allowed to have a higher CO_2 emission value, depending on the average vehicle weight of their fleet. The heavier the average weight of the cars sold by a manufacturer, the higher the CO_2 emission level allowed. A similar standard for new light-commercial vehicles (vans) was introduced in 2011.[3] It set a target of 175 g/km for 2017.[4] The European Commission is required by law to come forward with proposals to amend both regulations with target values for 2020 before the end of 2012. These proposals were published[5] on July 11, after a technical and economical analysis[6] and intense discussions with stakeholders and within the Commission.

1 "The Importance of Mandatory Standards," http://www.theicct.org/blogs/staff/importance-mandatory-standards

2 Regulation (EC) No. 443/2009 of the European Parliament and of the Council of 23 April 2009, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0001:0015:EN:PDF

3 "European CO2 emission performance standards for light commercial vehicles," http://www.theicct.org/european-co2-emission-performance-standards-light-commercial-vehicles

4 Regulation (EU) No 510/2011 of the European Parliament and of the Council of 11 May 2011, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2011R0510:20120313:en:PDF

5 "More CO_2 emission cuts from cars and vans: a win for the climate, consumers, innovation and jobs," http://ec.europa.eu/clima/news/articles/news_2012071101_en.htm

6 "Support for the revision of Regulation (EC) No 443/2009 on CO2 emissions from cars: Service request #1 for Framework Contract on Vehicle Emissions," November 25, 2011, http://ec.europa.eu/clima/policies/transport/vehicles/cars/docs/study_car_2011_en.pdf; "Support for the revision of regulation on CO2 emissions from light commercial vehicles: Service request #3 for Framework Contract on Vehicle Emissions," April 26, 2012, http://ec.europa.eu/clima/policies/transport/vehicles/vans/docs/report_co2_lcv_en.pdf

THE SITUATION TODAY

The existing CO_2 regulation for passenger cars has already led to impressive results: the average CO_2 emission level of new cars dropped from about 160 g/km in 2006 to 136 g/km[7] in 2011 as measured on the European driving cycle,[8] a 15% reduction. The annual reduction rate is about twice as much as it was before introduction of mandatory emission targets.[9] Hence, the 2015 target is close to being reached in 2012.

Some companies (PSA, Toyota, Fiat) have already met their 2015 reduction targets (Figure 1 and Table 1). Others are further away from their individual target values. Yet, some of those manufacturers have publicly announced that they will meet or exceed their 2015 targets ahead of time.[10]

For vans the latest available data suggests that the CO_2 level in 2010 was 180 g/km.[11] That is, the 2017 target of 175 g/km for vans is also close to being reached in 2012.

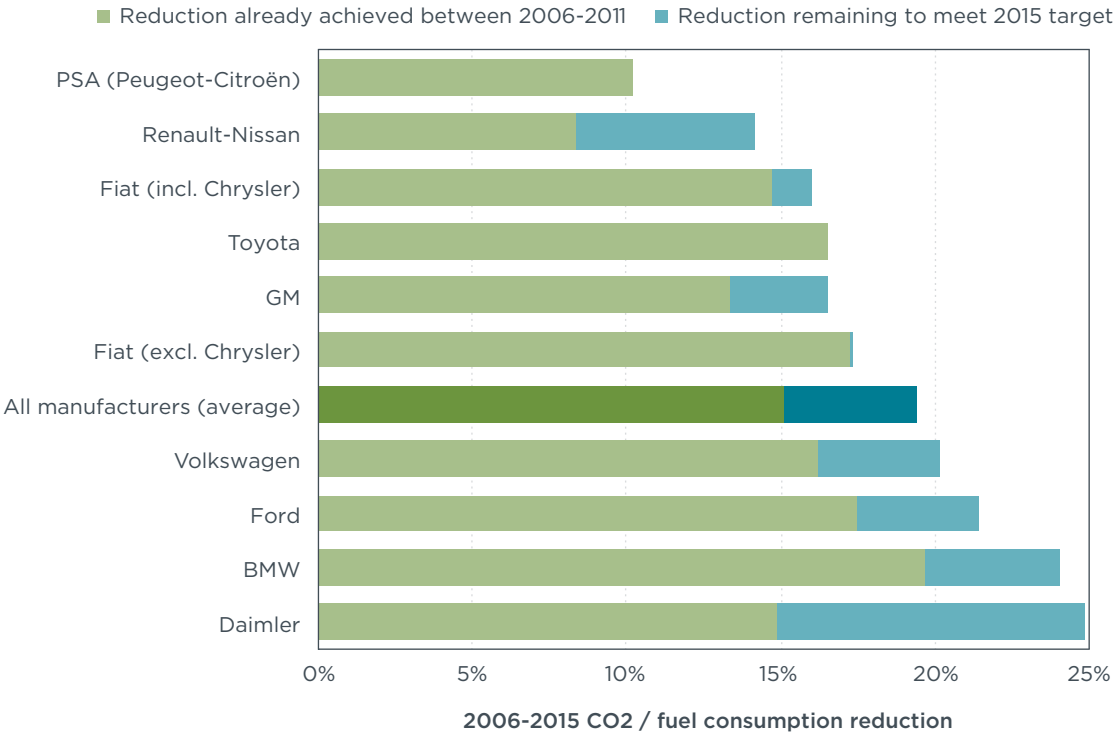

Figure 1. Percentage CO_2 reduction required to meet 2015 target, based on 2006, for selected manufacturers in Europe (passenger cars only).

7 "Climate change: CO2 emissions from new cars dropped by 3% in 2011," 20/06/2012, http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/12/458&format=HTML&aged=0&language=EN&guiLanguage=en

8 "Discrepancies between type-approval and real-world fuel consumption and CO2 values in 2001-2011 European passenger cars," http://www.theicct.org/fuel-consumption-discrepancies

9 "EU car manufacturers likely to meet 2015 CO2 target early ," http://www.theicct.org/blogs/staff/eu-car-manufacturers-likely-meet-2015-co2-target-early

10 "Go-ahead for fundamental ecological restructuring - Volkswagen Group commits to 120g CO2 target," 6 March 2012, https://www.volkswagen-media-services.com/medias_publish/ms/content/en/pressemitteilungen/2012/03/06/go-ahead_for_fundamental.standard.gid-oeffentlichkeit.html. "Daimler presents new Sustainability Program 2010-2020," April 13, 2011, http://www.daimler.com/dccom/0-5-876574-1-1383216-1-0-0-0-0-0-16696-0-0-0-0-0-0-0-0.html. Renault Atlas, March 2011, http://www.renault.ua/upload/file/Company/atlas.pdf.

11 European Vehicle Market Statistics, December 2011, http://www.theicct.org/european-vehicle-market-statistics

Table 1. CO_2 emission and weight in 2011 by manufacturer and corresponding 2015 and 2020 targets (passenger vehicles only).

	2011		2015	2020
Daimler	154 g/km	1571 kg	138 g/km	101 g/km
BMW	145 g/km	1572 kg	138 g/km	101 g/km
Ford	132 g/km	1323 kg	127 g/km	93 g/km
Volkswagen	137 g/km	1427 kg	132 g/km	96 g/km
All manufacturers (average)	136 g/km	1389 kg	130 g/km	95 g/km
Fiat (excl. Chrysler)	119 g/km	1148 kg	119 g/km	87 g/km
GM	135 g/km	1411 kg	131 g/km	96 g/km
Toyota	127 g/km	1327 kg	127 g/km	93 g/km
Fiat (incl. Chrysler)	122 g/km	1188 kg	121 g/km	88 g/km
Renault-Nissan	134 g/km	1315 kg	127 g/km	93 g/km
PSA (Peugeot-Citroën)	127 g/km	1341 kg	128 g/km	93 g/km

* 2015 and 2020 targets calculated by ICCT assuming no future change to 2011 vehicle weight; data source for 2011: European Environmental Agency EEA; vehicle weight is 'mass in running order', i.e. weight of empty vehicle + 75 kg

KEY ELEMENTS OF THE PROPOSALS

For the cars regulation:[12]

- A target value of 95 g/km of CO_2 for 2020 for the new car fleet.
- Vehicle weight as underlying utility parameter, i.e., the heavier a manufacturer's car fleet, the higher the CO_2 emission value allowed by the regulation. The factor used is 0.0333, meaning that for every 100 kg additional vehicle weight, 3.33 g/km more of CO_2 is allowed.
- Super-credits for low-emission vehicles. Between 2020 and 2023 every car with specific CO_2 emissions of less than 35 g/km will be counted as 1.3 cars. This is allowed for a maximum of 20,000 new registrations per manufacturer.
- Eco-innovations: As for the 2015 regulation, manufacturers can apply for a maximum of 7 g/km of credits for the use of 'innovative technologies' which are not covered by the test cycle.

12 "Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EC) No 443/2009 to define the modalities for reaching the 2020 target to reduce CO2 emissions from new passenger cars," http://ec.europa.eu/clima/policies/transport/vehicles/cars/docs/regulation_2012_393_en.pdf

- Excess emission premium for manufacturers failing to meet their emissions target: €95 for any g/km of excess emissions.
- A review clause that, by 31 December 2014, requires the European Commission to review the specific emission targets, modalities and other aspects of the regulation in order to establish the CO_2 emission targets for the period beyond 2020.

Table 1 shows the expected 2020 passenger vehicle CO_2 emission targets for selected manufacturers. Actual targets will depend on the average vehicle weight of a manufacturer's fleet in the future.

For the vans regulation:[13]

- A target value of 147 g/km of CO_2 for 2020.
- Vehicle weight as underlying parameter, with a slope factor of 0.0960, a much steeper slope than for passenger vehicles.
- Same eco-innovations regulation as for passenger cars.
- Same excess emission premiums as for passenger cars.
- A review clause to set targets for the period beyond 2020 by end of 2014.

EXPECTED EFFECTS OF THE REGULATIONS

In an underlying impact assessment,[14] the European Commission quantifies the expected effects of the proposed cars and vans regulations:

- Fuel cost savings per car of around €340 in the first year, and an estimated total of €2,904–€3,836 over the car's lifetime, as compared with the 2015 target. For vans fuel cost savings are estimated to be around €400 in the first year and €3,363–€4,564 lifetime savings.
- €30 billion per year in total fuel cost savings to consumers.
- An increase in EU GDP by €12 billion annually and spending on employment by €9 billion per year.
- A 25% reduction in fuel consumption, saving 160 million tons of oil between 2020 and 2030 at around €70 billion at today's prices.
- Avoided CO_2 emissions of around 420 million tons in the period to 2030.
- Negative abatement cost for CO_2—that is, a net savings of between €80 and €295 per ton of CO_2 avoided.

13 "Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) No 510/2011 to define the modalities for reaching the 2020 target to reduce CO2 emissions from new light commercial vehicles," http://ec.europa.eu/clima/policies/transport/vehicles/vans/docs/regulation_2012_394_en.pdf

14 Full document not published yet, for summary see http://europa.eu/rapid/pressReleasesAction.do?reference=IP/12/771&format=PDF&aged=0&language=EN&guiLanguage=en

INTERNATIONAL CONTEXT

Figure 2 provides a comparison of the proposed EU CO_2 passenger vehicle standards with similar regulations around the world[15]. The chart converts all regulatory programs to the European test cycle to make them comparable. The EU passenger vehicle standard of 95 g/km for 2020 can be compared to similar targets for the US (93 g/km for 2025[16]), Japan (105 g/km by 2020), and China (117 g/km by 2020).

As vans make up about 10% of the light-duty vehicle market in Europe, the average CO_2 emission standard for the European light-duty vehicle fleet in total in 2020 is equivalent to about 100 g/km. When taking into account light trucks, the US standard is equivalent to 107 g/km when adjusted for European driving cycle.

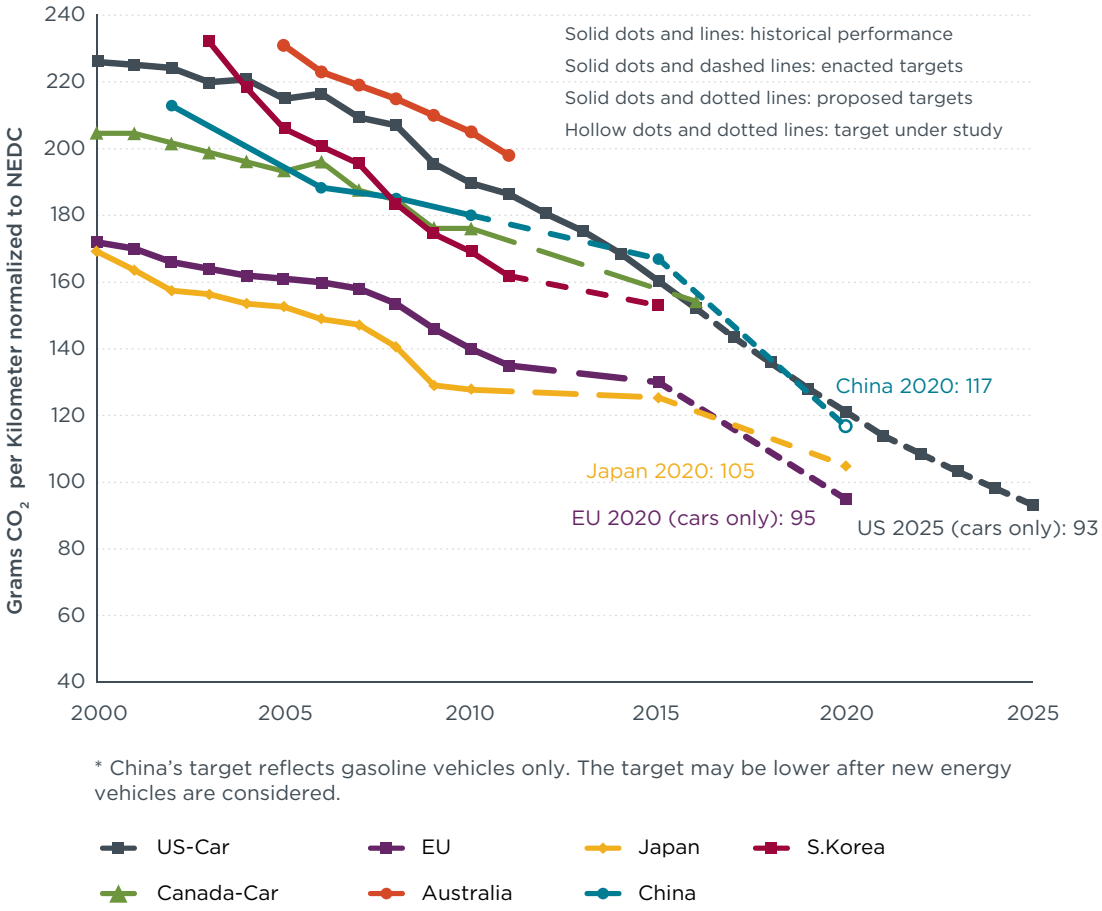

Figure 2. Comparison of global CO_2 regulations for passenger vehicles, in terms of NEDC gCO_2/km

15 ICCT, "Global passenger vehicle standards update," http://www.theicct.org/global-passenger-vehicle-standards-update

16 Thought experiment: Applying the proposed U.S. 2025 PV standards to the EU fleet, http://www.theicct.org/blogs/staff/thought-experiment-applying-proposed-us-2025-pv-standards-eu-fleet

NEXT STEPS

The regulatory proposals now put forward by the European Commission will be submitted to the European Parliament and the European Council for discussion and adoption. This is expected to happen between September 2012 and mid-2013. Based on previous experience, it is likely that details of the Commission proposals will be modified by the Parliament and/or Council, eventually taking into account requests brought forward by various stakeholder groups.[17]

17 "T&E FAQ on cars CO2 standards," http://www.transportenvironment.org/publications/te-faq-cars-co2-standards. ACEA, "Tough Co2 Targets for Auto Industry in Difficult Economic Times," http://www.acea.be/index.php/news/news_detail/tough_co2_targets_for_auto_industry_in_difficult_economic_times. CLEPA position paper, 15.06.2012, http://www.clepa.eu/index.php?type=1001&damId=6028&cuid=&file=fileadmin%2Ffiles%2FPRESS%2FCLEPA_position_paper_CO2doc.pdf.