

## Consultation on reducing CO2 emissions from road vehicles Greenpeace contribution

### Background

The European Union (EU) has, rightly, positioned itself as a global leader in fighting catastrophic climate change. It has signed up to the objective of keeping global average temperature rise below 2 degrees Celsius and put measures in place to reduce its greenhouse gas (GHG) emissions. Whilst Europe's overall emissions decreased by 17.4% between 1990 and 2009, emissions from road transport increased by 18% over the same period, and so road transport's share in the overall emissions has risen steadily.<sup>1</sup>

One reason for this is that the road sector depends almost entirely on oil, a fossil energy source. While the oil consumption per kilometre driven has declined due to vehicle efficiency improvements, the overall amount remains high at about 180 million tonnes of oil a year burnt in cars and vans alone. This represents more than a third of overall EU oil consumption.<sup>2</sup> The consequences are not only excessive levels of GHG emissions but also an increasing dependency on oil imports, with the associated risks of supply shortages and price shocks.

Greenpeace has calculated that the implementation of stringent CO2 standards could reduce oil consumption of cars and vans by 42 million tonnes in 2020 and 58 million tonnes in 2030, compared to business as usual. This would amount to a GHG reduction of 134 MtCO2 compared to BAU in 2020 and 186 MtCO2 by 2030. An annual saving of around \$16 billion (\$2008) in 2020 and of \$42 billion (\$2008) by 2030 could be made.<sup>3</sup>

The EU has adopted CO2 emission standards for passenger cars and light commercial vehicles (vans). A review of both laws is scheduled "by 2013" to decide on the implementation details of the two 2020 targets, and confirm the level of the vans target.

### Greenpeace contribution to the Commission consultation

This contribution to the consultation focusses on cars and vans. However, Greenpeace is also concerned that stringent CO2 standards for trucks should be set urgently to counter the continuous rise in oil consumption and GHG emissions from this sector.

As regards the EU's CO2 standards for cars and vans, Greenpeace is asking the European Commission to not only consider the 2020 timeframe but to set further targets for passenger cars of 60 gCO2/km, and 100 gCO2/km for vans, by 2025. The first part of this paper explains why these targets are necessary, feasible and beneficial to Europe's car industry. The second part sets out a number of elements to be considered to achieve these targets.

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<sup>1</sup> European Commission, Progress toward achieving the Kyoto objectives, October 2011, [http://ec.europa.eu/clima/policies/g-gas/docs/com\\_2011\\_624\\_en.pdf](http://ec.europa.eu/clima/policies/g-gas/docs/com_2011_624_en.pdf)

<sup>2</sup> Greenpeace, Steering clear of oil disasters, October 2010, <http://www.greenpeace.org/eu-unit/en/Publications/2010/steering-clear-of-oil-disaster/>

<sup>3</sup> Greenpeace, Steering clear of oil disasters, October 2010

## New targets for 2025

### (1) Necessary to put the brake on climate change

The best scientific knowledge available today suggests that even a 90% reduction of global greenhouse gas emissions by 2050 will not be sufficient to stay below the 2 degree threshold.<sup>4</sup> In order to prevent dangerous climate change, more reductions will be needed.

For developed nations this means that they need to practically eliminate all GHG releases into the atmosphere by 2050. To obtain these reductions, all sectors have to strive for zero emissions. Cars and vans have the potential to reach that level, based on currently known measures and technologies, whereas this will be harder to achieve for other sectors, including shipping and agriculture.<sup>5</sup>

Today, car technologies exist that can eliminate GHG emissions entirely by using energy from renewable sources. To make sure that cars and vans no longer emit any greenhouse gases by 2050, new cars being brought to market in Europe must have zero tailpipe emissions sometime before 2040. In less than 30 years, a complete technological changeover must have happened in the sector, not only in Europe but in the whole of the industrialised world, if we are to have any chance of preventing the worst impacts of global climate change.

Such transformational change will not happen unless legal standards are put in place to drive the development and roll-out of new technologies. This requires early investments. Therefore, standards should provide ample lead time for industry to prepare their implementation.

### (2) Feasible from a technical and economic perspective

Once the EU's first legally binding CO<sub>2</sub> targets were set, car manufacturers have been advancing not only faster than before but even faster than required by the law. Whilst some companies are very close to delivering their 2015 targets already, others have independently set themselves targets to exceed their legal standards.<sup>6</sup> According to projections by the European Commission, the EU's 130 gCO<sub>2</sub>/km target is likely to be achieved earlier than set out in the law.<sup>7</sup> Clearly, even greater improvements are possible if also those companies that have chosen to advance more slowly are legally obliged to accelerate improvements.

The European GHG- TransPoRD project has found that it is technically and economically possible to reduce new car emissions to 70 to 90 gCO<sub>2</sub>/km by 2020 and 50 to 60 gCO<sub>2</sub>/km by 2030. These targets would be achieved by either implementing all available efficiency technologies for petrol and diesel cars, or by combining efficiency advances in conventional vehicles with the introduction of battery and fuel cell electric vehicles. The researchers recommend that CO<sub>2</sub> emission targets for new cars should be set at these levels.<sup>8</sup>

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<sup>4</sup> Greenpeace Climate Vision, May 2009, <http://www.greenpeace.org/international/en/publications/reports/greenpeace-climate-vision/>

<sup>5</sup> Stockholm Environment Institute, Europe's Share of the Climate Challenge, November 2009, <http://www.sei-international.org/news-and-media/1732>

<sup>6</sup> Greenpeace, Claims vs reality – how the European car lobby proved itself wrong, December 2011, <http://www.greenpeace.org/eu-unit/en/Publications/2011/car-myths/>

<sup>7</sup> TNO et al., Support for the revision of Regulation (EC) No 443/2009 on CO<sub>2</sub> emissions from cars, November 2011, [http://ec.europa.eu/clima/policies/transport/vehicles/cars/docs/study\\_car\\_2011\\_en.pdf](http://ec.europa.eu/clima/policies/transport/vehicles/cars/docs/study_car_2011_en.pdf)

<sup>8</sup> GHG-TransPoRD, Final Conference Summary Note, November 2011, [http://www.ghg-transpord.eu/ghg-transpord/downloads/Final\\_Conference/GHG\\_TransPoRD\\_Summary\\_Final\\_Conference.pdf](http://www.ghg-transpord.eu/ghg-transpord/downloads/Final_Conference/GHG_TransPoRD_Summary_Final_Conference.pdf)

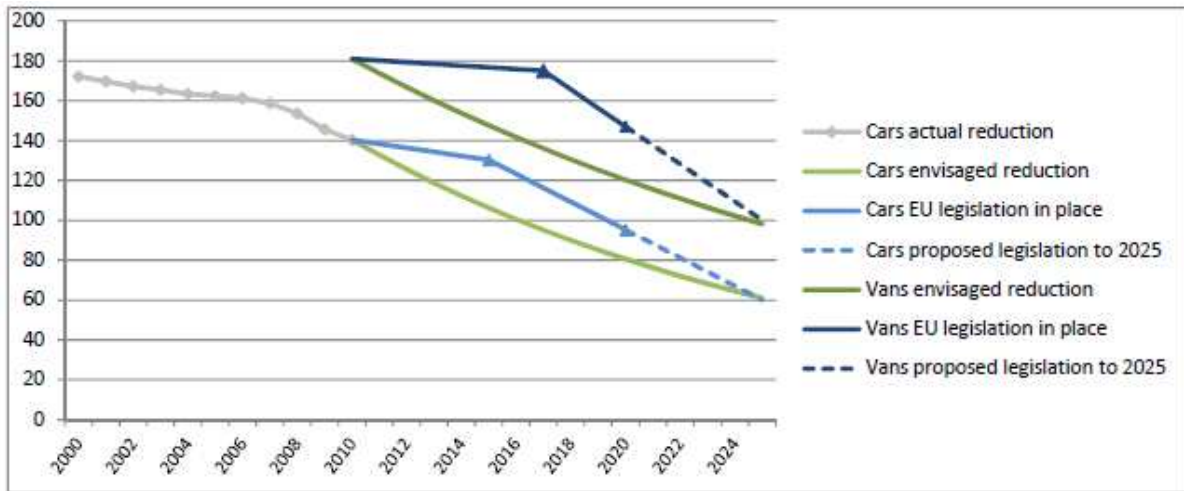


Fig. 1 Actual and projected tailpipe CO2 emission reductions to 2025

### (3) Beneficial to the European industry

Today, Europe is a frontrunner in car efficiency worldwide. However, other markets have meanwhile developed standards that come close to the EU’s benchmark target for 2020. The United States, for example, have proposed new standards until 2025 which would require a reduction in passenger car CO2 emissions by 5% per year between 2016 and 2025.<sup>9</sup> The graph below illustrates how this will bring the US market, which still has significantly higher levels than the EU, much closer to EU levels.

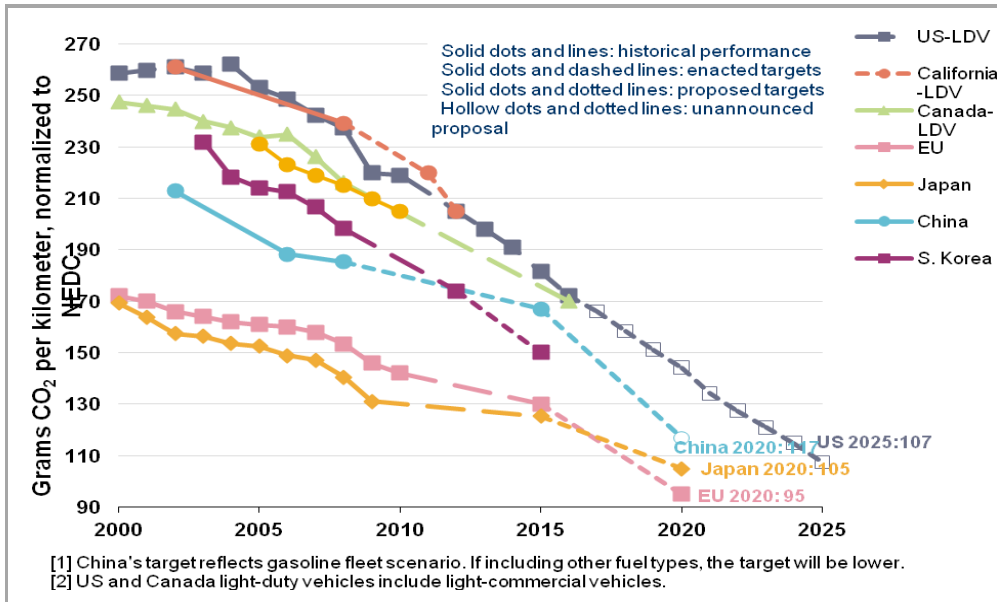


Fig. 2 Historical fleet CO<sub>2</sub> emissions performance and current or proposed standards<sup>10</sup>

<sup>9</sup> US EPA, Fact Sheet ‘EPA and NHTSA Propose to Extend the National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks’, November 2011, <http://www.epa.gov/otaq/climate/documents/420f11038.pdf>

<sup>10</sup> ICCT, Global Comparison of Light-Duty Vehicle Fuel Economy/GHG Emissions Standards, August 2011, <http://www.theicct.org/passenger-vehicles/global-pv-standards-update/>

While it is too early to judge how the European industry has fared on the EU's CO<sub>2</sub> standards there is some evidence that the US carmakers have suffered from the absence of tighter rules. Former Vice-Chairman of General Motors, Bob Lutz, has argued that part of the reason why GM failed in the US was because of poor US fuel economy standards.<sup>11</sup> This may well be the reason why the proposed US rules to 2025 have the support of 13 global manufacturers.<sup>12</sup>

A new EU target of 60 gCO<sub>2</sub>/km for passenger cars, and 100 gCO<sub>2</sub>/km for vans, will allow Europe, still the world's largest car market, to retain its position at the forefront of the global race toward cleaner cars, and foster the European industry's strong position in the global marketplace.

## **Standards and flanking measures to achieve these targets**

The following elements should be part of the new proposals.

### **(1) New targets for 2025**

The current EU standards set targets to 2020. It is crucial that the EU sets out further demands on the car industry early on to ensure they are reflected in companies' plans. These targets should be in line with the requirements of the global climate crisis and Europe's pole position in developing and producing technologically advanced vehicles that reduce oil consumption and CO<sub>2</sub> emissions, and lower our dependency on oil imports. Greenpeace advocates targets of 60 gCO<sub>2</sub>/km for cars, and 100 gCO<sub>2</sub>/km for vans, by 2025.

It is these CO<sub>2</sub> targets, not the inclusion of "multipliers" for ultra-low emission vehicles, that will be the key driver for the market introduction of new technologies. The existing "multipliers" or "super-credits" should not be continued as this would only lead to higher CO<sub>2</sub> emissions overall.<sup>13</sup>

### **(2) Re-assessment of 2020 targets**

We are also asking the European Commission to reconsider the 2020 targets set in the existing legislation, in particular for vans.

Latest data show that the EU's van standard would achieve less than a 20% reduction in CO<sub>2</sub> emissions from new vans between 2010 and 2020, from 181 to 147 gCO<sub>2</sub>/km. With such a standard, the EU would do too little to drive technology improvements in the sector, and miss an important opportunity to reduce its oil consumption and CO<sub>2</sub> emissions. In our view, an average of 120 gCO<sub>2</sub>/km for vans can and should be achieved by 2020.

The car standard would achieve more than a 30% reduction between 2010 and 2020, from 140 to 95 gCO<sub>2</sub>/km. However, recent developments indicate that faster reductions are possible, and EU research recommends a target in the range of 70 to 90 gCO<sub>2</sub>/km.<sup>14</sup> Greenpeace believes that average CO<sub>2</sub> emissions should be reduced to no more than 80 gCO<sub>2</sub>/km by 2020.

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<sup>11</sup> Automotive News, How GM cars got better, May 2011,

<http://www.autonews.com/apps/pbcs.dll/article?AID=/20110523/OEM02/305239961/1432#ixzz1NBkqvFJV>

<sup>12</sup> Stakeholder Commitment Letters, July 2011, <http://www.epa.gov/otaq/climate/letters.htm#2011a>

<sup>13</sup> TNO et al., Support for the revision of Regulation (EC) No 443/2009 on CO<sub>2</sub> emissions from cars, November 2011,

[http://ec.europa.eu/clima/policies/transport/vehicles/cars/docs/study\\_car\\_2011\\_en.pdf](http://ec.europa.eu/clima/policies/transport/vehicles/cars/docs/study_car_2011_en.pdf)

<sup>14</sup> GHG-TransPoRD, Final Conference Summary Note, November 2011

### **(3) Footprint not weight as the basis for differentiation**

The current law sets different targets for different vehicles on the basis of weight - heavier cars get a more lenient CO<sub>2</sub> limit than lighter cars. To make sure that all avenues of CO<sub>2</sub> reduction are fully exploited, including the reduction of vehicle weight, the EU should move toward a size-based approach as customary in the US.<sup>15</sup>

### **(4) Regulating the real climate impact of cars**

To provide for a maximum impact in the real world, and public acceptance of the measures, the EU should make sure it regulates the real climate impact of cars.

#### **a. An accurate measurement of tailpipe emissions**

Today, tailpipe CO<sub>2</sub> measurements return results that are far from reality. New procedures should be put in place to ensure that official CO<sub>2</sub> levels provide a more accurate reflection of the reality. This new official EU test procedure should be the sole means to measure CO<sub>2</sub> reductions in new cars and vans. No CO<sub>2</sub> credits should be given for so-called “off-cycle” or “eco-innovation” technologies whose impact cannot be measured under this procedure.

#### **b. Capturing the full climate impact of cars**

With new technologies such as hybrid and battery electric cars, some of the savings in tailpipe emissions will be wiped out by increases in GHG emissions linked to the production of the vehicles<sup>16,17,18</sup> and energy supply for the operation of the vehicles<sup>19</sup>.

As these new technologies gain ground, driven by the EU's CO<sub>2</sub> standards, it will be necessary to move beyond tailpipe CO<sub>2</sub> standards in order to capture a wider range of climate impacts, and to differentiate between different vehicles with zero tailpipe emissions. These changes should be made in a way that promotes both the reduction of energy consumption and the use of renewable energy.

### **(5) Bringing the message to consumers**

The EU should also look to ensure that consumers are well-informed about the climate impact of the vehicle they choose to buy or rent. A clear and honest labelling scheme will help to increase the market demand for the vehicles produced to meet the EU's CO<sub>2</sub> standards.

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<sup>15</sup> ICCT, Evaluation of parameter-based vehicle emissions targets in the EU, July 2011, [http://www.theicct.org/pubs/ICCT\\_EUemissionstargets\\_jun2011.pdf](http://www.theicct.org/pubs/ICCT_EUemissionstargets_jun2011.pdf)

<sup>16</sup> Ricardo, Preparing for a Life Cycle CO<sub>2</sub> Measure, May 2011, [http://www.lowcvp.org.uk/assets/reports/RD11\\_124801\\_4%20-%20LowCVP%20-%20Life%20Cycle%20CO2%20Measure%20-%20Final%20Report.pdf](http://www.lowcvp.org.uk/assets/reports/RD11_124801_4%20-%20LowCVP%20-%20Life%20Cycle%20CO2%20Measure%20-%20Final%20Report.pdf);

<sup>17</sup> AEA et al, The role of GHG emissions from infrastructure construction, vehicle manufacturing, and ELVs in overall transport emissions, April 2011, <http://www.eutransportghg2050.eu/cms/assets/Uploads/Meeting-Documents/EU-Transport-GHG-2050-II-Task-2-Report-21April-2011-DRAFT.pdf>

<sup>18</sup> CE Delft, April 2011, Assessment of electric vehicle and battery technology, [http://ec.europa.eu/clima/studies/transport/vehicles/docs/d2\\_en.pdf](http://ec.europa.eu/clima/studies/transport/vehicles/docs/d2_en.pdf)

<sup>19</sup> AEA et al, Exploration of the likely knock-on consequences of relevant potential policies, June 2011, <http://www.eutransportghg2050.eu/cms/assets/Uploads/Meeting-Documents/EU-Transport-GHG-2050-II-Task-3-Preliminary-Report27042011.pdf>