

December 9, 2011

## **European Commission consultation on Reducing CO<sub>2</sub> emissions from road vehicles – Additional comments**

The International Council on Clean Transportation (ICCT) would like to thank the European Commission for the opportunity to provide comments on the issue of reducing carbon dioxide (CO<sub>2</sub>) emissions from road vehicles in the European Union (EU).

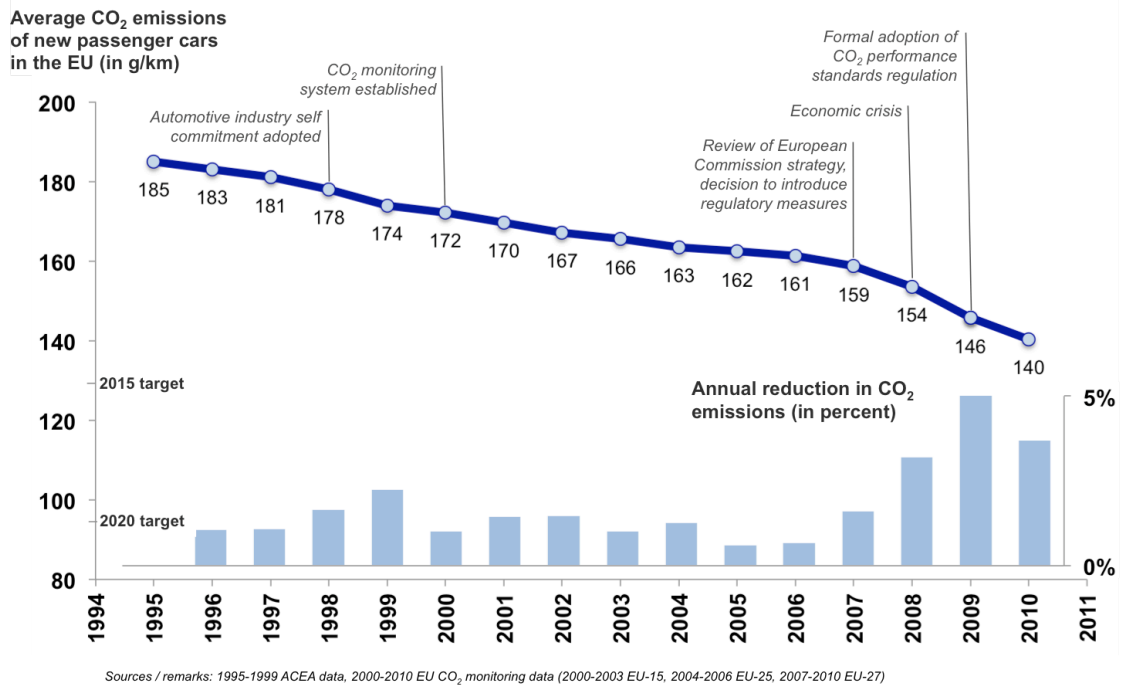
The goal of the ICCT is to dramatically reduce conventional pollution and greenhouse gas emissions from personal, public, and goods transportation in order to improve air quality and human health, and mitigate climate change. The Council is made up of leading government officials and experts from around the world that participate as individuals based on their experience with air quality and transportation issues. The ICCT promotes best practices and comprehensive solutions to improve vehicle emissions and efficiency, increase fuel quality and sustainability of alternative fuels, reduce pollution from the in-use fleet, and curtail emissions from international goods movement.

We commend the EU for its continuing work to promote more efficient road vehicles and, in addition to our responses provided in the questionnaire, would like to offer the following comments.

EU Regulation (EC) No 443/2009, setting mandatory CO<sub>2</sub> emission requirements for new cars, has spurred CO<sub>2</sub> reductions in Europe. As can be seen in figure 1 annual emission reductions were only 0.6 to 2.2% during 1998 and 2006 while the car manufacturers voluntary agreement was in place. Discussion and adoption of mandatory requirements resulted in much higher annual reduction rates since 2007. The current level of 140 g/km of CO<sub>2</sub> is already close to the 2015 target, with most manufacturers on a good track towards complying or even over-complying with the 2015 target<sup>1</sup>.

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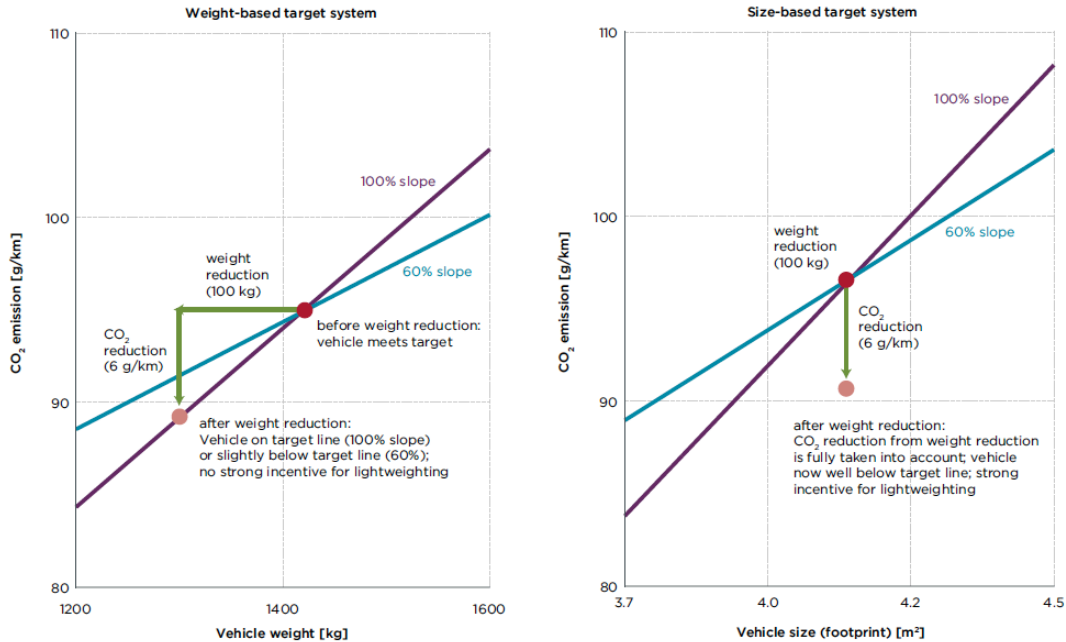
<sup>1</sup> T&E (2011). How clean are Europe's cars? – An analysis of carmaker progress towards EU CO<sub>2</sub> targets in 2010. Brussels: Transport & Environment (T&E).



**Figure 1: Historic development of CO<sub>2</sub> emissions in the EU – New passenger cars 1995-2010**

In order to outline a trajectory for meeting the EU’s long term greenhouse gas reduction targets and to provide sufficient planning security to industry now the modalities for reaching the 2020 target of 95 g/km need to be defined and CO<sub>2</sub> emission requirements for the time beyond 2020 need to be set.

This includes re-assessing the current target system that is based on the weight of a vehicle. As figure 2 illustrates, under the current system a reduction in vehicle weight automatically results in a lower CO<sub>2</sub> target, thereby making weight reduction a less attractive measure to reduce CO<sub>2</sub> emissions compared to other technical measures. A target system that is based on the size of a vehicle, its footprint, is technology neutral and adds weight reduction as an equitable technical option to comply with future CO<sub>2</sub> requirements. We see this as an important issue for the future when only a comprehensive combination of various technical measures, including light-weighting, will result in the most cost-efficient pathway for reaching upcoming CO<sub>2</sub> emission targets.



**Figure 2: Impact of vehicle weight reduction under a weight and size based emission target system**

Reference: Mock, P (2011). Evaluation of parameter-based vehicle emissions targets in the EU – How regulatory design can help meet the 2020 CO<sub>2</sub> target. Washington, DC: International Council on Clean Transportation (ICCT).

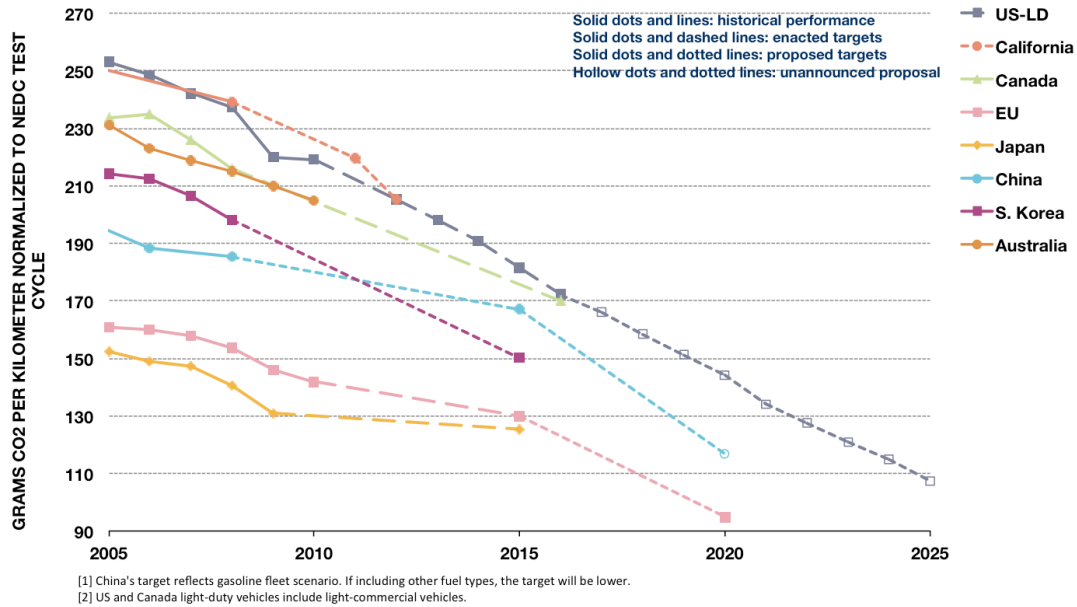
The according regulation No 510/2011, setting CO<sub>2</sub> requirements for light commercial vehicles (vans), was only adopted in 2011. Hence, it is difficult to draw any conclusions on the effect of the regulation at this point in time. However, recent data shows that the level of CO<sub>2</sub> emissions for vans in 2010 was 180 g/km, suggesting that the 2017 target of 175 g/km and possibly the 2020 target of 147 g/km will be reached ahead of time.

From an international perspective, by adopting mandatory CO<sub>2</sub> requirements for cars and setting a 2020 target the EU has been a pace-setter in the past for promoting the development and application of innovative technologies and reducing greenhouse gas (GHG) emissions. In the meantime, other countries are moving ahead (see figure 3). In particular, the recently published US regulatory proposal sets a mandatory target for 2025, which is about 50% lower than the current fleet average. Other countries are likely to follow this example, with China already having set a 2020 target and Japan currently evaluating its post-2015 legislation.

The US regulatory proposal has been accompanied by letters of support from 13 automakers representing 90% of light-duty vehicle sales as well as an extensive technical and economic analysis. The responsible agencies, the Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA), have spent more than \$10 million on studies that include detailed vehicle simulations and transparent tear-down cost assessments. Given the thoroughness of the recent US analysis and the transferability of vehicle technologies in a global car market, ICCT would like to suggest to the European Commission to make use of the available US data for its own assessments, complementing the ongoing technical studies in the EU.

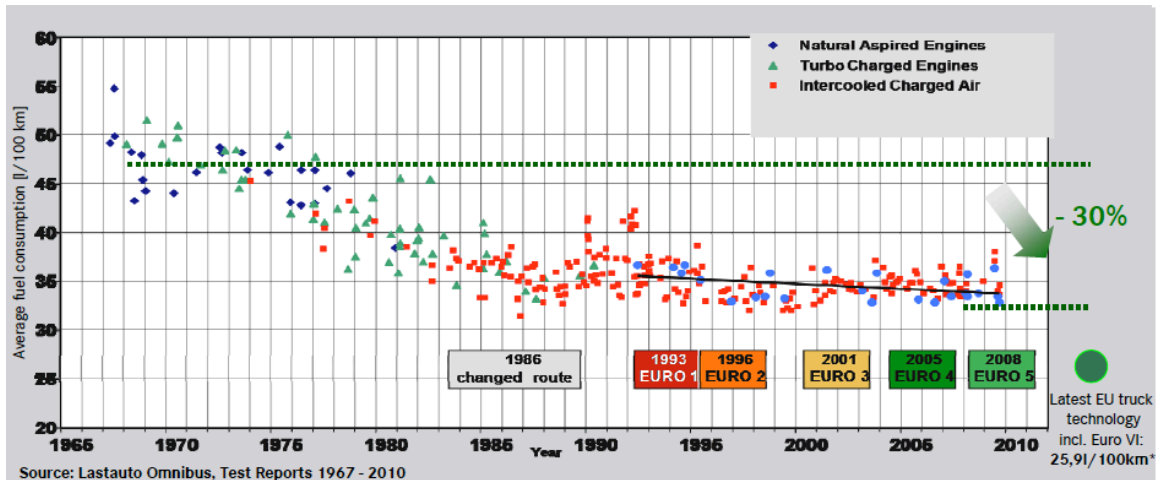
At the same time we acknowledge that when applying the available information to the European market differences in baseline vehicles and other aspects have to be taken into account. ICCT

therefore has commissioned the respective engineering companies to carry out this task and to deliver a dataset of available vehicle technologies for reducing CO<sub>2</sub> emissions of cars and vans and the associated costs that is directly applicable to the European vehicle market. We expect the final results of the study to be public shortly and trust that they will be helpful for the work of the European Commission in assessing the impacts of setting mandatory CO<sub>2</sub> requirements for cars and vans for 2020 and beyond.



**Figure 3: Historical fleet CO<sub>2</sub> emissions performance and current or proposed standards worldwide**  
 Reference: ICCT (2011). <http://www.theicct.org/global-passenger-vehicle-standards-update>

Heavy-duty vehicles are responsible for approximately a quarter of the CO<sub>2</sub> emissions from road transport in Europe. This diverse sector ranges from large vans to refuse haulers to buses and road tractor-trailer combinations. They are primarily employed in commercial applications, a great number in freight transport. Commercial vehicle owners have a significant incentive to purchase the most efficient vehicles for their application as any fuel cost savings positively impacts their bottom-line. Despite this a range of off-the-shelf technologies such as wide base single tires, trailer boat tails or hybrid systems have limited fleet penetration. Historical efficiency improvements have been modest since the 1990's when the focus became the control of conventional pollutants (see figure 4). Among the numerous barriers to efficiency improvement in today's market are the very short return on investment targets (12 to 18 months) and the lack of trusted standardized information on efficiency performance.



\* Test cycle not fully comparable to Lastauto Omnibus

**Figure 4: Historic EU long-haul truck fuel consumption measurements.**

Reference: Schuckert, M. *CO<sub>2</sub>/FE regulatory developments around the world. EU / ICT heavy-duty vehicles workshop*, Brussels, November 10, 2011, <http://www.theicct.org/hdv-workshop-nov2011>

The EU is currently engaged in establishing the knowledge base and the tools to curb growing emissions from the heavy-duty vehicle sector. Its recent consultant report found that on a per vehicle basis about 30% to 50% reduction in fuel consumption was possible in the 2020 timeframe depending on vehicle type. A consortium of consultants is developing a methodology that will allow the measurement of CO<sub>2</sub> emissions using a combination of testing and simulation modeling.

The next step, the development of the European policy, can draw direct lessons from regulatory experience around the world. Japan was the first country to establish efficiency standards for trucks and buses in 2006 requiring engine efficiency improvements. The recently adopted US program sets the first GHG standards for trucks and buses that cover engines and vehicles. Europe is in the position to leverage these programs' regulatory innovations. We encourage Europe to take them a step further by establishing the first program to address emissions from the full vehicle including the trailer.

Thank you again for the opportunity to comment on the issue of reducing CO<sub>2</sub> emissions from road vehicles in the EU.

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