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Introduction

FuelsEurope is of the opinion that the EU's transport greenhouse gas (GHG) reduction policy should be holistic, and include in addition to lower carbon fuels and vehicles, traffic demand, infrastructure improvements, and driver education/training/behavior. We believe that the current tank-to-wheel (TTW) approach for the vehicle efficiency standards has been effective in promoting improvements in the internal combustion engines (ICE)– based vehicles. A sensible continuation in the short term of the CO₂-efficiency targets is supported, provided the following points are considered.

We call for a technology neutral approach towards ambitious but achievable targets such that they can be cost-effective and delivered by different technologies

Credible academic¹ work shows the considerable potential in further efficiency improvements of the ICE-based vehicles. Therefore CO₂-efficiency targets should be set that are mostly achievable with foreseeable ICE vehicle technologies to encourage their further development.

Counting electricity used in vehicles as zero CO_2 emissions does not reflect the reality of their actual contribution to CO_2 emissions across the economy. There should be a clear plan on how to address real life cycle CO_2 emissions of vehicle drive-train technologies for the longer term

The use of electricity is not zero CO_2 emissions across the economy. Regulations and marketing approaches claiming vehicles have zero tail-pipe CO_2 emissions, do not represent the full picture and may misinform consumers. The production of electricity (with reference to the current EU generation mix), extraction of raw materials and feedstocks for and the manufacturing of batteries for electrical vehicles are CO_2 emission intensive. Academic analyses that take into account the different life cycle aspects² demonstrate that using LCA, there is a significantly lower CO_2 saving for electrical vehicles versus ICE vehicles than when compared using tail-pipe CO_2 emissions.

Therefore life cycle considerations should at least be considered immediately and preferably included to ensure the GHG emissions for each drive-train are fully accounted. This should also be the case in the definition of a clean vehicle.

FuelsEurope is of the opinion that the inclusion of life cycle analysis in vehicle CO₂-efficiency regulation should be evaluated in-line with the regulation review process. While a TTW approach is recognised for the time being to enable comparison of indicated performance with real driving results, FuelsEurope supports to start looking into ways to include LCA-based real GHG emissions of drive-train technologies in future vehicle efficiency legislation. FuelsEurope also believes that the current work on LCA is already at a stage where it can be used to inform consumers of the real CO₂ savings of different drive-train technologies, as well as help to find an appropriate definition of a clean vehicle.

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¹ NTNU Trondheim data

² Life cycle analysis (LCA) components are the CO_2 emissions associated with the production and recycle of the vehicle and its components together with the production and use of fuel and/or energies



Recognise fuel CO₂ reduction contribution to CO₂ vehicle efficiency standards

Fuel providers will be expected to deliver fuel improvements, for example CO_2 savings associated with renewable components in the fuel. Those improvements should be recognised in the CO_2 -efficiency standards of vehicles. In the TTW approach the CO_2 emissions are measured without making a distinction between CO_2 originating from fossil, biogenic or other technology-based sources. In the case of CO_2 of biogenic origin (for example from sustainable biofuels³), this biogenic CO_2 should be recognised in-line with the GHG emission treatment of biofuels in the legislation in force⁴ in the total CO_2 emitted by the vehicle as long as the vehicle efficiency regulation remains based on a TTW approach.

The recognition of fuel CO_2 reductions will create clear and aligned interest for the auto and fuel sectors and encourage investment in new fuel technologies.

The non-compliance penalty should be revised downward

Although a target with a penalty can be considered as an effective approach, the penalty value should be reevaluated. The penalty⁵ is currently set at a level corresponding to a very high carbon price (about $500^6 \notin$ /tonne CO₂). The combination of the "zero CO₂" from electricity and the high penalty creates an environment that does not produce an acceptable societal cost for reduction of GHG emissions of transport by forcing OEMs to preferentially sell electrical vehicles instead of the efficient ICE vehicles. FuelsEurope believes the penalty value should be revised downward.

The FuelsEurope proposal for the post-2020 CO₂-vehicle efficiency regulation aims to support and recognise all technologies equally so as to promote consumer choice and to encourage the most cost-effective solutions over the long term.

In the short term, CO₂-vehicle efficiency standards should:

- Be based on ambitious but realistic TTW targets which enable the contribution of all vehicle drive-train technologies in a technology neutral way.
- Recognise the contribution of fuel improvements in the vehicle emission standards. Biofuels GHG
 emission saving should be treated in-line with the legislation on biofuels in force if the current TTW
 approach is continued unchanged after 2020.
- Evaluate how an LCA approach could be introduced in vehicle CO₂-efficiency regulation in-line with the review process of the regulation. Inform consumers immediately and transparently about the life cycle CO₂ performance of different drive train technologies.
- Revise the non-compliance penalty downwards.

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³ As per the renewable energy EU legislation in place

⁴ Amongst which are the Renewables Energy Directive (RED) and the European Trading System (ETS)

⁵ 95 € penalty per 1 g/km above the fleet average CO₂-efficiency

⁶ Assuming 200.000 km driven over the vehicle life time : 95 € / (1g/km over 200.000km)



In the medium term:

- Assess CO₂-vehicle efficiency standards in-line with the review process of the regulation to take into account the real GHG savings based on LCA CO₂ emissions.

In the long term:

 The regulatory approach currently in place is sectorial, and the implicit cost for reducing emissions in transport can be much higher than in other sectors due to the technological immaturity of alternatives.
 FuelsEurope is of the opinion that over the long term an economy-wide approach to reduce emissions is more cost-effective than a sectorial one. It is important that a regulatory transition be considered, leading to the eventual convergence of the cost of emission reduction in transport and other sectors.

FuelsEurope, the voice of the European petroleum refining industry

FuelsEurope represents with the EU institutions the interest of 40 companies operating refineries in the EU. Members account for almost 100% of EU petroleum refining capacity and more than 75% of EU motor fuel retail sales.

FuelsEurope aims to promote economically and environmentally sustainable refining, supply and use of petroleum products in the EU, by providing input and expert advice to the EU institutions, Member State Governments and the wider community and thus contributing in a constructive and pro-active way to the development and implementation of EU policies and regulations.

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