AmCham EU
SPEAKING FOR AMERICAN BUSINESS IN EUROPE

Our position

FINAL

AmCham EU's position on the proposal for post-2020 CO_2 emissions standards for cars and vans

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Introduction

The transport sector, including automotive manufacturers, energy providers and transport companies, is the backbone of the European economy. The automotive industry alone represents 6.3% of EU GDP and employs more than 12.5 million Europeans directly or indirectly, representing 5.7% of total EU employment. It makes a significant contribution to powering economic growth and creating jobs and it spurs innovation and provides mobility for millions of Europeans. The industry generates a €90 billion trade surplus and motor vehicles account for almost €396 billion in tax contributions in just 15 EU countries. The automotive industry is also the largest private investor in R&D in Europe, with more than €50 billion invested annually, much of which is dedicated to fuel-efficiency technologies. In 2016, about 8,000 patents were granted to the automotive sector by the European Patent Office.

Climate change is a global challenge that requires efforts from all sectors and during the last decades, the transport sector has made significant advances in deploying emission reduction technologies[1]. The industry is committed to delivering further greenhouse gas (GHG) emissions reductions in line with the climate objectives set by the EU for 2030. It is important that any future regulation aimed at contributing to these objectives sets a policy framework that secures the environmental contribution whilst safeguarding the competitiveness of the industry and ensuring affordable mobility for consumers.

Executive Summary and Key Issues

In order for the policies to be effective in meeting their societal objectives, reducing emissions in transport and achieving the long-term climate change goals in a sustainable way while safeguarding EU industry competitiveness, all stakeholders must contribute to the solutions. Policies must achieve the following:

- **Recognise that the new revised test cycle, the Worldwide Harmonized Light Vehicles Test Cycle, is accompanied with regulatory challenges** that will also add to the stringency;
- **Set an ambition level that ensures technological and economic feasibility, cost-efficiency and technology neutrality** to reduce road transport CO_2 emissions effectively; targets can only be met with an appropriate regulatory framework, without defining the means or technologies by which industry should meet the targets.
- **Refrain from setting mandates or imposing a penalty for not reaching the low-emission benchmark**, to maintain the technology neutrality of the regulation;
- **Recognise the difference in CO_2 reduction potential between passenger cars and light commercial vehicles** by creating separate feasible targets for each;
- **Recognise the untapped potential of measures other than vehicle technology** that can contribute to the reduction of CO_2 emissions in transport, within an integrated approach;
- **Safeguard the competitiveness** of the automotive industry.

[1] EEA

Regulation setting post-2020 CO_2 standards for Passenger Cars and Light Commercial Vehicles

In setting new CO_2 reduction targets for cars and vans up to 2030, the Commission rightly acknowledges that action is required by multiple stakeholders and at different levels of policymaking, with vehicle technology being one of the areas in focus.

In this paper, we would like to address some important issues that will need further attention when setting new emissions reduction targets for vehicles.

New European Driving Cycle/Worldwide Harmonised Light-Duty Vehicle Test Procedure test cycle transition

The current regulation is based on a CO_2 fleet average. In view of the current transition from the New European Driving Cycle (NEDC) to the Worldwide Harmonised Light-Duty Vehicle Test Procedure (WLTP), this approach should be maintained.

Since 1 September 2017, a new emission and consumption test cycle has been implemented throughout the EU and is applicable to new vehicle certifications – the WLTP. It will be binding for all **new vehicle** registrations from 1 September 2018. Vehicles registered before that date, tested on the current NEDC will still be driving on our roads for at least 10 years, hence the full effects of the WLTP will only be achieved after that time.

The 'correlation method' from the current to the new cycle is consequently a very important factor for achieving the CO_2 targets applicable to the automotive industry. As a result of the high degree of complexity of CO_2 calculations within the complete vehicle, we expect imprecise simulation results. Current estimates indicate that WLTP may result in > 5% additional stringency in testing after the correlation exercise[2]. For this purpose, to meet the 'comparable stringency'[3] principle it is paramount to alternatively permit physical duplicate testing as per today's NEDC regulations until 2020 in addition to the CO_2MPAS[4] simulation results. Furthermore until today, there is no clarification from EU Member States regarding when the WLTP-based CO_2 value will be applicable to taxation incentives etc. A harmonised approach and implementation with the EU will be necessary to avoid any further confusion.

Characteristics of effective policy targets

In order for policy to be effective in meeting its societal objectives, it must meet two key conditions:

- Technology neutrality: policy should set goals that require achievement of a policy objective – in this case, reduction in CO_2 emissions – inside an appropriate regulatory framework, without defining the means or technologies by which industry should meet the targets. This ensures that the societal objective is achieved in the most efficient and effective manner, enabling innovation to flourish.

- Feasibility: policy can only be effective if technologically and economically feasible. This requires legislation to be based on robust impact assessment and to set appropriately ambitious goals that are cost-effective for industry and consumers. Without feasibility, environmental targets are jeopardised, consumers' preferred products become unaffordable and industrial competitiveness is impaired.

The legislative provisions (ambition level and zero and low-emission vehicle benchmark) are assessed according to these criteria.

[2] ACEA, "The European Commission's proposal on post-2021 CO2 targets for cars and vans"

[3] European Commission, Implementing Regulations (EU) 2017/1152 and 2017/1153 and Delegated Regulations (EU) 2017/1499 and 2017/1502

[4] CO_2MPAS is a backward-looking longitudinal-dynamics CO2 and fuel-consumption simulator for light-duty M1 & N1 vehicles

Ambition level for cars

The current CO_2 regulation for passenger cars sets a fleet average target of 95g/km by 2021, based on the NEDC test cycle. The new legislative proposal sets further reduction targets of -15% in 2025 and -30% in 2030 (after the correlation to WLTP). AmCham EU members welcome the new approach to set efficiency targets expressed as a percentage reduction rather than in absolute numbers. This will help during the transition phase from the current test cycle based on NEDC to the WLTP. As defined, these limits meet the requirement for technology neutrality.

Any CO_2 emissions target whose ambition level exceeds the feasible CO_2 reduction capacity of conventional vehicles will by consequence require a share of the fleet to be low tailpipe emission (plug-in hybrid) and zero emission (battery or fuel cell electric vehicles). The European Commission's impact assessment[5] projects the share of such vehicles required to meet the 2030 target to be 20%. However, an in-depth reanalysis of the data shows that the impact assessment significantly overestimates the CO_2 reduction potentials of conventional technologies. Accordingly, the required sales share of electric vehicles may be much higher, up to about 35%[6]. This would require an unprecedented transition in consumer demand and expectations, which cannot be guaranteed, even if sufficient affordable vehicle models are on offer. The 2030 target does not therefore fulfil the feasibility test.

An ambition level of 20%-25% fleet average CO_2 reduction for passenger cars in 2030 based on WLTP, with the actual achievement in 2021 as the baseline level, would be in line with the targets set in other sectors. This ambition level reflects a feasible rate of technology development and consumer uptake, encouraging innovation that can contribute to climate protection and a stronger industry. Unfeasible targets, however, lead to unintended consequences. Specifically, targets that significantly increase vehicle costs and prices or mandate consumer choices may substantially slow down vehicle renewal, forgoing many of the advantages of new vehicles. Consumers may not reap the intended policy benefits if alternative technologies are not sufficiently developed to offer the utility they need at affordable prices. The competitiveness of Europe's industry will suffer if the targets do not reflect feasible technological development, economic realities and consumer choices.

Similarly, the proposed timeframe, for the 2025 target – only 4 years after the existing 2021 target – is not sufficient to ensure the necessary market shift to alternative fuelled vehicles can take place. Furthermore, the results of the annual monitoring of CO_2 emissions from vehicles and the correlation exercise that will define the net value for Original Equipment Manufacturers (OEM) will be available in 2023 at the earliest, potentially only in 2024. Even the Commission's estimate for 2025 of 14% plug-in electric vehicles – including nearly 7% fully electric – requires a strong growth in this market over a short period of time. This target may be especially difficult to achieve due to the recently reported indication that the 95g/km (NEDC) target in 2021 may not be met. The mandatory sanction-based 2025 target should, therefore, be revisited to reflect the current realities and the short lead-time, to give industry the flexibility to make the necessary long-term technology developments and to allow the consumer market-uptake. The long development and production cycles of passenger cars and vans make this target near-impossible to meet, especially for the van segment (see also later section on vans).

Zero and low emission vehicle benchmark

The zero and low emission vehicle (ZLEV) benchmark[7] seeks to encourage the take up of electric vehicles by allowing vehicle manufacturers a higher fleet average CO_2 target if their share of vehicles with emissions of less than 50g/km exceeds 15% of their fleet in 2025 and 30% of their fleet in 2030. Due to the sliding scale of credits on which the share of ZLEVs is calculated, a full credit is only received for battery and fuel cell electric vehicles, whilst most plug-in hybrids are likely to receive only a fraction of a credit[8]. This is therefore not a technology neutral standard, since plug-in hybrids can achieve average CO_2 reduction potential approaching that of battery

[5] European Commission, SWD(2017)650

[6] According to an upcoming study by an AmCham EU member

[7] European Commission, COM(2017)676, Annex I Paragraph 6

[8] Sliding scale between 0g/km = 1 credit, 50g/km = 0 credits. E.g. plug-in hybrid with 45g/km receives 0.1 credits.

electric/fuel cell vehicles, without compromising consumer choices. The calculation mechanism should be amended such that plug-in hybrids and other low-emission technologies receive an appropriate credit.

In order to maintain the technology neutrality of the regulation, a penalty for not meeting the benchmark should be avoided. This would be a de facto technology mandate for electric vehicles (thereby not technology neutral).

Such mandates in China and California have been presented by some stakeholders as a successful model for the EU system. However, the Chinese regulation mandates production, not sales, and is employed as a tool for industrial policy. The Chinese market itself is very different from the European one, with a large proportion of electric vehicles being ultra-compact and low-speed cars and more than half in total not homologated for sale in Europe.

The California mandate was set originally for 10% zero emission vehicles in 2003 and has been revised downwards several times due to lack of technological maturity and consumer demand. The share of electric vehicles sales in California in 2017 was 4.5% of the market (of which 2% plug-in hybrids)[9] even with the mandate and incentives. In this sense, the mandate has failed in its mission to meet its original ambitions, has not provided regulatory certainty nor been enforceable and would be an inappropriate model for an EU regulation.

The above arguments lead to the conclusion that a penalty for not meeting the benchmark or a technology mandate would neither be technology neutral nor feasible and should therefore be avoided.

Common proposal for passenger cars and light commercial vehicles

Until now, passenger cars (PCs) and light commercial vehicles (LCVs) were covered by two separate EU CO_2 emission regulations, with the level of ambition tailored for each. The post-2021 proposal merges these regulations into one and sets the same level of fleet average CO_2 reduction for both vehicle types. This approach raises serious concerns about technical/economic feasibility and practicality for users.

As demonstrated by figures presented in the Commission's impact assessment and technical study, PCs and LCVs have very different characteristics, in terms of engine type, body size and shape and utility function. These factors influence the potential for reducing emissions. In particular, over 90% of LCVs currently employ diesel engines, due to their efficiency, range and robustness. The CO_2 reduction potential of diesel engines is lower than for gasoline, as acknowledged in the impact assessment. The proposed CO_2 reductions in 2025 and 2030 could therefore only be achieved through a significant shift to plug-in or fuel cell electric, still greater than that envisaged for PCs (see above section on ambition level).

For the timeframe of this proposed legislation, zero emission LCVs are expected to remain an expensive and restricted solution. While switching to battery electric LCVs may be viable in a limited proportion of cases where the duty cycle is appropriate, the current availability of fuel cells LCVs, which share similar usage and range characteristics with the combustion engine, remains limited. Therefore, an appropriate balance needs to be found between affordable and sustainable mobility that also takes into account the specific characteristics of the price-sensitive LCV market and its customers, who are to a great extent SMEs.

It is apparent that the Commission's impact assessment recognised the difference in CO_2 reduction potential between cars and vans, since the data show that the modelling combined a 25% reduction for vans with the 30% reduction for cars (for 2030). A feasible differentiation should have been preserved in the legislative proposal, instead of applying the same target to these two very different cases. The 2030 target for LCVs should therefore be set at a level significantly lower than the 20% to 25% reduction recommended above for passenger cars.

Integrated approach: securing the potential of all contributions to CO_2 reduction

The current and new regulations set targets for new vehicles only, but do not act to improve the CO_2 emissions of the existing car fleet. In Europe, there are 256 million cars on the road and in 2016 14.6 million new cars were registered, with the average age of a car being 10 years. Therefore, to reduce EU emissions from road transport,

[9] Next 10, "The Road Ahead for Zero-Emission Vehicles in California"

it is necessary to encourage rapid fleet replacement to newer, lower emitting cars, without mandating consumer choices. To achieve this, more investment in alternative fuel infrastructure is needed.

Taking into account the CO_2 reduction contribution from lower carbon fuels in the vehicle regulation could be a possible pathway to further reduce emissions from transport during the coming decade and stimulate the use of renewables. If lower carbon fuels are available in a proven quantity, with a proven sustainability and are cost-efficient, this could offer great potential for the progressive reduction of CO_2 emissions in transport. It could create clear and aligned interest for automotive and fuel sectors and encourage investment in new fuel technologies.

The untapped potential of intelligent transport systems should also be further promoted. For example, eco-driving support can save around 7% to 10% CO_2. Traffic signal systems such as Energy Efficient Intersection Service (giving extended green time to selected buses or trucks) and Green Light Optimised Speed Advisory (giving count-down for the traffic light status change or speed information to help avoid stopping at a red light), can lead to CO_2 savings of around 5% in urban areas. The untapped potential of connected mobility should also be further promoted. Vehicle-to-everything (V2X) communication will enable further CO_2 reductions with the condition of a robust regulatory framework on data flows.

Safeguarding the competitiveness of the automotive industry

In addition to enforcing environmental protection, smart and cost-effective regulation can support a competitive automotive industry by setting harmonised standards, within a technology neutral and feasible framework that enables companies to innovate. Regulation that is not technology neutral and sets unfeasible targets should not be justified on the grounds that it is necessary for Europe to maintain an innovative edge versus competing global regions. The automotive industry is fully globalised and its companies, both OEMs and suppliers, constantly manage their businesses according to their extensive knowledge and experience of global consumer and technological trends. Enforcing a particular technological path or unfeasible targets would instead constrict the ability of the industry to innovate productively and would not enhance the industry's competitiveness.

In particular, the EU automotive industry invests over €50 billion per year in R&D, 50% of which goes into 'clean vehicles'. Europe is a world leader in the automotive industry and to maintain this high level of technological intelligence the focus should be on realising all available potentials, including the further potential of conventional engines alongside the development of alternative fuelled drivetrains. There are a number of possibilities to improve and further reduce CO_2 emissions from the ICE. Only by safeguarding past and current investment in the automotive industry will we be able to finance future investments into alternative fuelled drivetrains.