



European  
Automobile  
Manufacturers  
Association

# ACEA Position Paper The European Commission's proposal on post-2021 CO<sub>2</sub> targets for cars and vans



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## INTRODUCTION

In November 2017 the European Commission presented its Clean Mobility Package containing proposals for further reducing CO<sub>2</sub> emissions from road transport in the future. The European Automobile Manufacturers' Association (ACEA) welcomes various initiatives launched by the Commission in this context – such as expanding support for alternative-fuel infrastructure and promoting investments by member states in that area, stimulating the market uptake of alternatively-powered vehicles through public procurement policy, launching a battery initiative and supporting a more comprehensive approach to future CO<sub>2</sub> policy for cars and vans.

Besides all these initiatives, the key legislative proposal in the Clean Mobility Package is the one dealing with future CO<sub>2</sub> standards for passenger cars and light commercial vehicles (also known as LCVs or vans), which were proposed by the Commission for the years 2025 and 2030.

From industry's side, ACEA members are fully committed to the further decarbonisation of road transport. Over the last years the EU automobile industry has delivered significant reductions in CO<sub>2</sub> emissions from its vehicles. So far, the average CO<sub>2</sub> emissions of new cars have been reduced by 28% since 2005. And by the year 2021 those reductions should amount to 42%. No other EU industry sector has made such progress.

Looking ahead, the auto industry believes that further reductions of CO<sub>2</sub> emissions from passenger cars and vans beyond 2020 are possible – although at rapidly increasing cost and coming with certain socio-economic implications. Europe will need to recognise that new CO<sub>2</sub> targets go hand in hand with structural changes that will have a strong impact on the entire automotive value chain. Hence, it is essential to get the timing and ambition level of the post-2021 CO<sub>2</sub> targets right. This requires a framework that enables a transition to low-carbon mobility based on the following pillars:

- Affordability;
- Cost-efficiency;
- Technology neutrality;
- Conditionality.

In September 2017 ACEA already presented its position on the future CO<sub>2</sub> regime for passenger cars<sup>1</sup> and vans. This paper complements those documents by making nine key recommendations in reaction to the European Commission's recent proposal.

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<sup>1</sup> ACEA Position Paper: Post-2021 CO<sub>2</sub> regime for passenger cars, September 2017, <http://www.acea.be/publications/article/position-paper-post-2021-co2-regime-for-passenger-cars>

## 9 KEY RECOMMENDATIONS

### 1.) FOCUS ON A 2030 TARGET

ACEA welcomes the fact that the date for a new long-term target has been set for 2030. This is consistent with the timings already agreed by the EU heads of state and government under the Climate and Energy Framework to reach the COP 21 climate change objectives. However, meeting new CO<sub>2</sub> targets (based on the WLTP test) will require a wide array of technical and design changes to vehicles, for which industry needs sufficient lead-time.

Even if the European Commission's CO<sub>2</sub> proposal is adopted in 2019, the EU fleet-level starting point for post-2021 CO<sub>2</sub> targets will only be known by October 2022, as it needs to be based on 2021 WLTP CO<sub>2</sub> data (acknowledged by the Commission in its proposal). Setting a 2025 target would therefore leave hardly any time for the auto industry to implement the required changes. In addition, the long development and production cycles of passenger cars and vans make a 2025 target overly ambitious. This is especially the case for the van segment, where the development and production phases are much longer than those of passenger cars.

The manufacturer-specific targets vary greatly as they depend on the average mass of the vehicle portfolio, which looks very different for a producer of small city cars than for those who make premium vehicles. Due to the different technologies used across vehicle segments, it is not possible to predict the spread of manufacturer-specific targets today. Hence, only a long-term 2030 CO<sub>2</sub> target would give auto makers the required lead-time to plan the development of new technologies.

In addition, all key CO<sub>2</sub> targets set by the European Union, both for ETS and non-ETS sectors, specify reductions for the year 2030 – there are simply no 2025 targets in the Climate and Energy Framework. An additional mandatory and sanction-based target for the auto industry in 2025 would thus go against the agreed 'better regulation' principles (confirmed again in last year's GEAR 2030 conclusions). Hence, ACEA recommends that:

- The future CO<sub>2</sub> regulation focuses on an ambitious, but realistic, 2030 target;
- The mandatory, sanction-based 2025 target is revisited.

### 2.) INCLUDE A CONDITIONALITY MECHANISM

The reality is that reaching any CO<sub>2</sub> target beyond 2020 will strongly depend on much higher consumer uptake of alternative powertrains, which in turn is linked to the availability of appropriate recharging and refuelling infrastructure. However, despite the fact that the European Commission's Action Plan on Alternative Fuels Infrastructure recognises that the market uptake of alternatively-powered vehicles and infrastructure availability are intrinsically linked, there is no mechanism that links the implementation of that plan to the proposed CO<sub>2</sub> targets.

Without a mechanism in place that makes the ambition level of the 2030 CO<sub>2</sub> target conditional on

infrastructure availability and the market uptake of alternative powertrains, the Commission's proposal forces the industry to invest in specific technologies without providing clarity on the enabling framework conditions, or taking into account the uncertainty surrounding consumer acceptance.

Therefore, ACEA believes that a conditionality clause linked to the 2030 ambition level should be included in the new regulation. Such a mechanism should allow for a 2025 mid-term review to assess the real market uptake of alternatively-powered vehicles as well as the availability of the necessary infrastructure; adapting the CO<sub>2</sub> targets upwards or downwards accordingly. Today's low market share of these vehicles, as well as the poor implementation of the EU Directive for Alternative Fuels Infrastructure (DAFI) by the member states to date, make the inclusion of such a 'reality check' of the utmost importance.

### 3.) SET A 2030 AMBITION LEVEL OF 20% FOR CARS

EU automobile manufacturers will continue to invest in further reducing CO<sub>2</sub> emissions from their vehicles, and are already spending a large part of the sector's €50.1 billion annual R&D investment on decarbonisation. However, in the end it is the consumer who decides which technology to buy. Today's market trends are having a direct impact on the CO<sub>2</sub> performance of the EU new car fleet.

- This includes first and foremost the sharp decline in the market share of diesel, which has been largely offset by an increase in sales of petrol cars. Yet, diesel cars emit 15-20% less CO<sub>2</sub> emissions than equivalent petrol ones.
- Secondly, although the market uptake of alternatively-powered vehicles shows high percentage increases on a year-to-year basis, absolute sales volumes remain low. Electrically-chargeable cars, for example, accounted for 1.4% of EU car sales in 2017 compared to 0.6% in 2014, and differences among member states are still huge.

The impact of these consumer trends on the CO<sub>2</sub> emissions of new cars is already becoming clear in major EU markets. For example, the United Kingdom's average new car CO<sub>2</sub> emissions rose for first time in two decades in 2017 (up 0.8%), while Germany (+0.9%) and France (+0.7%) saw similar trends last year.

In addition, the move to the new WLTP emissions test for cars has made the 2021 CO<sub>2</sub> target much more stringent. The 95g CO<sub>2</sub>/km target for 2021 was defined in 2009 based on the old NEDC test. Since the introduction of the new WLTP test in September 2017, CO<sub>2</sub> emissions are translated, or 'correlated', back to NEDC-equivalent values to monitor compliance against these targets. However, the European Commission has tightened the NEDC test conditions. This means that, effectively, the existing 2021 CO<sub>2</sub> target has become over 5% more stringent, as confirmed by the European Commission's Joint Research Centre and JATO. This makes it much more challenging for industry to meet current and post-2021 targets.

All these developments, beyond the control of automobile manufacturers, pose additional

challenges to meeting future CO<sub>2</sub> targets. Not only those recently proposed by the European Commission for 2030, but also the existing CO<sub>2</sub> targets set for 2021.

So, when looking at the ambition level of future CO<sub>2</sub> targets for passenger cars, the 30% reduction proposed by the Commission seems to be too ambitious, especially in light of:

- Recent market trends, including the ongoing decline of diesel's market share and customer preference for SUVs;
- Limited room for further technological improvement to the combustion engine;
- Lack of recharging and refuelling infrastructure for alternative powertrains,
- Low market uptake of alternatively-powered vehicles.

Moreover, the 30% target proposed by the Commission goes beyond what was agreed by the 28 national governments under the 2030 Climate and Energy Framework. Clearly, CO<sub>2</sub> targets can provide an impetus for innovation in the auto industry, but the current proposal is very aggressive – especially when we consider the rather low and fragmented market penetration of alternatively-powered vehicles across Europe to date.

That is why ACEA believes that CO<sub>2</sub> reductions from passenger cars between 2021 and 2030 should be at a level of -20%, in line with what is expected of other industry sectors. Europe's auto manufacturers consider a 20% reduction by 2030 to be achievable at a high, but acceptable, cost. This is not only the most realistic and reasonable way forward, but also in line with the Commission's impact assessments for the Climate and Energy Framework and its Strategy for Low-emission Mobility (July 2016).

Nevertheless, it must be understood that the EU automobile industry is ready to go beyond the 20% target, depending on the outcome of the recommended mid-term review in 2025. Concretely, if the market uptake of alternatively-powered vehicles exceeds expectations and the necessary infrastructure has been made available at the time of the mid-term review, car manufacturers would be willing to accept a more ambitious long-term target for 2030.

#### **4.) SET A 2030 AMBITION LEVEL SIGNIFICANTLY BELOW 20% FOR VANS**

When it comes to CO<sub>2</sub>, the situation for vans is completely different to that for passenger cars. Some technological solutions to reduce CO<sub>2</sub> emissions from cars are not applicable to vans, and the lower production volumes of light commercial vehicles (LCVs) do not allow for the same economies of scale. The margin of improvement for vans is also lower, both in terms of the longer development and production cycles as well as the limited uptake of alternatively-powered LCVs.

At the same time, vans play a key role in the logistics chain and they are used by companies as business tools. Especially for SMEs, vans are essential tools that help them to get their job done. Transport efficiency and the total cost of ownership are decisive purchasing factors, especially given

that van users operate on tight margins. Small businesses simply have less flexibility, as they often just cannot afford costly new technologies. That is why the CO<sub>2</sub> ambition level for vans should be significantly lower than that for passenger cars.

## 5.) REVISE THE LOW-EMISSION VEHICLE BENCHMARK

The European Commission has proposed a benchmark system that would reward manufacturers selling a certain share of low-emission vehicles (LEVs), ie at least 15% by 2025 and 30% by 2030. In principle, the benchmark approach is the right way forward and is welcomed by EU automobile manufacturers. Unfortunately, however, it is not technology-neutral in its current shape.

Because of the method of calculating the LEV benchmark, the Commission is effectively pushing for pure battery electric vehicles, and not sufficiently rewarding plug-in hybrid technology. Yet, plug-in hybrid electric vehicles play a critical role in the transition to low-carbon mobility, especially as large-scale recharging infrastructure is still lacking today.

When it comes to decarbonisation, it is the results that should matter, not the pathway that each manufacturer chooses to deliver them. In other words, policy makers should of course fix the overall objectives for CO<sub>2</sub> reductions, but should not impose the technology choice – that would only stifle innovation. Therefore, the calculation method proposed for the benchmark system should be reviewed in order to reward all vehicles below 50g CO<sub>2</sub>/km (WLTP) in a fair way.

There is also a huge gap between the proposed benchmarks and the reality of the market. In 2017, electrically-chargeable vehicles (ECVs) only accounted for 1.4% of total EU car sales, with strong differentiation among the 28 member states. Given the market reality, an increase in the market share of ECVs from 1-2% now to more than 15% by 2025 and 30% in 2030 is difficult to imagine.

In addition, a linear development of ECV uptake is unlikely. Future growth cannot be extrapolated from today's figures, as uptake is influenced by the combination of infrastructure deployment and user incentives (such as fiscal ones); both of which are the responsibility of member states. Today, these policies diverge highly across member states, and many support measures are expected to be phased out around 2020.

It would thus be better to focus on a long-term LEV benchmark for 2030, as is the case for the CO<sub>2</sub> target itself.

## 6.) RULE OUT A LOW-EMISSION VEHICLE MANDATE

In line with the Commission's proposal, the EU auto industry does not believe that a mandate for low- and zero-emission vehicles is the way forward for the European Union.

In China or California, which are often quoted as examples when it comes to such mandates, it is in practice the same entity that both regulates and incentivises the market. On the one hand, the government is responsible for setting the rules and the targets that manufacturers need to comply

with. On the other hand, it is also responsible for setting the framework conditions that allow for a stronger market uptake of low-emission vehicles, such as monetary and non-monetary incentives and stimulating large-scale infrastructure deployment. Effectively, in both cases carrot and stick are controlled by one single player, who is able to adjust and coordinate policies.

However, because of the subsidiarity principle it would be impossible to successfully link supply and demand policies in the European Union. If a mandate were to be implemented in Europe, the EU institutions would be responsible for setting the (supply-side) targets, but they are not in a position to influence the enabling framework conditions. In practice demand-side policies such as infrastructure deployment, incentives and consumer education are not in the hands of the European Commission; instead the 28 national governments control these (highly-divergent) policies.

## 7.) RECOGNISE THE IMPORTANCE OF MODALITIES

Future CO<sub>2</sub> targets should be accompanied by a broad range of 'modalities' to support the industry in reaching the objectives. Modalities can contribute to reducing compliance costs for automobile manufacturers and make an economically-sustainable transition to low-carbon mobility possible.

### **Enable the transfer of credits between segments and manufacturers**

Since the Commission's legislative proposal brings together cars and vans into a single piece of regulation for the first time, it would make sense to have a credit transfer mechanism. The transfer of credits between the car and van segments, as well as between manufacturers, would help auto makers – those active in both segments as well as manufacturers that only focus on one segment. This would support all manufacturers in making the transition to low-carbon mobility, by allowing them to cut CO<sub>2</sub> emissions in a more cost-efficient way. What is more, from an environmental point of view it makes no difference whether CO<sub>2</sub> is reduced by cars or by vans.

### **Improve eco-innovations**

When it comes to eco-innovations (measures to stimulate and reward innovation), the Commission's proposal should also reflect the changes following the switch from the old NEDC test to the new WLTP testing method. The threshold for eco-innovations should therefore be adjusted and increased from 7g to 10g (based on WLTP). Additional off-cycle technologies should be taken into account as well in order to encourage their fleet-wide deployment.

## 8.) ADDRESS THE SPECIFIC SITUATION OF VANS

The European Commission's proposal for post-2021 CO<sub>2</sub> targets deals with passenger cars and vans without much differentiation. However, it must be stressed that it is necessary to treat both vehicle segments differently. Although vans sometimes share certain parts (such as engines and transmissions) with passenger cars, they still have very different engine calibrations and after-treatment systems. This is because vans carry a greater payload than cars, requiring more towing

capacity and better climbing ability. In addition, the possibilities for optimising the aerodynamics of vans are limited. For these reasons, and many others, the specificities of the van segment have to be reflected in the targets and other modalities of the proposed legislation.

### **Allow for weight adjustment of battery-electric vans**

As batteries can take up a lot of space, electrifying vans often conflicts with the mission of these vehicles, which requires a maximum payload. Moreover, batteries also have a big impact on the curb weight of a van. That is why vans (ie N1 vehicles) should remain part of their original vehicle category, even if their mass exceeds the maximum weight because of an alternative powertrain.

Especially in the case of Class III vehicles (heavy vans), including battery weight almost automatically means that the N1 definition threshold will be exceeded. So, in future CO<sub>2</sub> legislation battery weight should be either excluded from the reference mass, or the upper limit of the threshold should be adjusted to accommodate for battery weight.

### **Adjust the low-emission vehicle benchmark for vans**

The electrification potential of vans is lower than for passenger cars. Unlike cars, price sensitivity is extremely high, with purchasing and operating costs being the number one decision factor. This also explains why consumer acceptance of more expensive hybrid and electrified vans has been poor to date. Moreover, customers will only consider purchasing them if their cost and productivity are comparable to those of vans with conventional engines. After all, businesses are simply not willing to sacrifice payload for lower fuel consumption.

Given the limited range of electrically-chargeable vans and their long charging times, such vehicles are generally only used for city centre distribution. That is why diesel vehicles continue to make up more than 96% of the new van fleet. Given the low electrification potential of light commercial vehicles, ACEA recommends that the 2030 low-emission vehicle benchmark proposed by the European Commission is lowered to 10% for vans, and the one for 2025 is removed.

### **Exclude multi-stage vehicles from CO<sub>2</sub> monitoring**

Special attention should also be paid to multi-stage vehicles (MSVs), which are completed by a body builder after leaving a van manufacturer's factory. Obviously, the latter cannot be held responsible for the CO<sub>2</sub> performance of multi-stage vehicles that are completed by independent body builders at a later stage.

The switch to the new WLTP test brought an end to the DAM approach for defining the CO<sub>2</sub> values of a final-stage vehicle, which in the past enabled manufacturers to predict their CO<sub>2</sub> fleet compliance. So, if the base-vehicle manufacturer is not the final one, such multi-stage vehicles should be excluded from CO<sub>2</sub> monitoring in the future.

Given the complexity of multi-stage vehicle production and their small share of the van segment (around 10% of total registrations), their CO<sub>2</sub> impact is rather marginal. Exempting them from the

CO<sub>2</sub> monitoring process would therefore have a negligible CO<sub>2</sub> impact, but would greatly reduce the administrative burden on SMEs, public authorities and the auto industry.

### **Promote vans used for passenger transport**

Certain vans are also used as passenger cars to transport up to nine people, thereby significantly reducing the CO<sub>2</sub> emissions per person transported. When such vehicles are indeed van-based, they should also be seen as part of the N<sub>1</sub> segment and thus fall under the scope of the N<sub>1</sub> CO<sub>2</sub> target calculation (provided that they meet the right technical criteria – dimensions, minimum number of seats, etc – and only with a sound verification process in place).

## **9.) KEEP KEY PRINCIPLES OF EXISTING LEGISLATION**

In line with the European Commission's recent proposal, ACEA believes that the following key elements of the existing CO<sub>2</sub> legislation should be kept for the post-2021 CO<sub>2</sub> regime.

### **Keep mass as the utility parameter**

The Commission's proposal takes account of the 'utility' (or purpose) of a car. Future manufacturer-specific targets are therefore to be set using a 'limit value curve', which is calculated with a formula based on mass (vehicle weight, measured in kg), among other factors. The limit value curve means that heavier cars are allowed higher emissions than lighter cars, while preserving the overall fleet average. This procedure reflects the diversity in the industry, with some manufacturers primarily producing larger premium cars, while others concentrate on the 'volume' segment of smaller cars.

ACEA supports the use of mass as the utility parameter, given that there is a clear and direct relationship between fuel efficiency and mass (the amount of energy needed to accelerate a car is primarily proportional to vehicle mass). Today, four of the largest automotive markets (EU, Japan, China and South Korea) use this parameter.

Footprint (the area between the four wheels of the vehicle, measured in m<sup>2</sup>), on the other hand, does not have as strong a correlation with CO<sub>2</sub> as mass. In addition, as a safety-related parameter linked to the vehicle's stability, it should not be compromised in efforts to reduce CO<sub>2</sub> emissions.

### **Maintain tank-to-wheel responsibility**

Manufacturers' tank-to-wheel responsibility should also be maintained in the future. This makes sense, as tailpipe emissions are those that are under their control. Manufacturers cannot influence well-to-tank emissions, which are already covered by the EU's Emissions Trading Scheme (ETS).

### **Retain g CO<sub>2</sub>/km as the key metric**

Grammes of CO<sub>2</sub> per kilometre driven (g CO<sub>2</sub>/km) should also be retained as the key metric.



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## ABOUT ACEA

- ACEA represents the 15 Europe-based car, van, truck and bus manufacturers: BMW Group, DAF Trucks, Daimler, Fiat Chrysler Automobiles, Ford of Europe, Honda Motor Europe, Hyundai Motor Europe, Iveco, Jaguar Land Rover, PSA Group, Renault Group, Toyota Motor Europe, Volkswagen Group, Volvo Cars, and Volvo Group.
- More information can be found on [www.acea.be](http://www.acea.be) or [@ACEA\\_eu](https://twitter.com/ACEA_eu).

## ABOUT THE EU AUTOMOBILE INDUSTRY

- 12.6 million people – or 5.7% of the EU employed population – work in the sector.
- The 3.3 million jobs in automotive manufacturing represent almost 11% of EU manufacturing employment.
- Motor vehicles account for almost €396 billion in tax contributions in the EU15.
- The sector is also a key driver of knowledge and innovation, representing Europe's largest private contributor to R&D, with more than €50 billion invested annually.
- The automobile industry generates a trade surplus of about €90 billion for the EU.