European Automobile Manufacturers Association

ACEA

ACEA Position Paper

Post-2021 CO_2 Regime for Passenger Cars

September 2017

European Automobile Manufacturers Association

EXECUTIVE SUMMARY

1. The EU automobile industry has delivered significant reductions in CO_2 emissions from new passenger cars and vans in recent years. Looking ahead, European car manufacturers are committed to delivering further reductions in the most cost-efficient way; in line with the objectives of the EU 2030 Climate and Energy Framework and by setting an ambition level that is consistent with what is expected of other industrial sectors.

2. Further CO_2 reductions from road transport should be guided by a more comprehensive approach, looking at what can be done through vehicle technology, fleet renewal and during the actual use of a vehicle (covering the driver's responsibility). Manufacturers' tank-to-wheel responsibility should be maintained, as tailpipe emissions are those that are under their control. Moreover, future CO_2 regulation should recognise the increasingly important role that alternatively-powered vehicles will have to play in further reducing CO_2 emissions.

3. The latest generation of diesel vehicles – emitting very low pollutant emissions on the road under the new RDE test – will make an important contribution to future CO_2 reductions, playing a critical role in enabling the industry to meet its CO_2 obligations. Any significant move away from clean diesel technology will provide additional challenges to meeting post-2021 CO_2 targets. Hence, this uncertainty should be included in the impact assessment when defining the ambition level for a post-2021 target.

4. ACEA and its members advocate the following key principles for a post-2021 CO_2 framework:

   a) Keeping mass as the utility parameter and g CO_2/km as the metric.
   b) A new CO_2 target for passenger cars should be set for 2030, in line with the EU's 2030 Climate and Energy Package that was adopted by the 28 heads of state in 2014.
   c) The ambition level for CO_2 reductions from passenger cars between 2021 and 2030 should be at a level of -20%. This is in line with other industrial sectors and considers progress made by the automotive industry so far (42% reduction between 2005 and 2021).
   d) The regression line will be based on a 2021 'market snapshot' of the WLTP CO_2 performance and WLTP test mass of all EU registrations (see Annex I for details).
   e) A midpoint will then be derived from the translated manufacturer-specific WLTP targets for 2021. The 2030 ambition level will be defined by lowering this midpoint by 20%.
   f) The 2030 target should be conditional. Based on a mid-term review in 2025 (using 2024 CO_2 monitoring data), the -20% target should be adjusted upwards or downwards (see details in Annex II) by defined percentage points based on the real market uptake (ie

registrations) of electrically-chargeable vehicles (ECVs) – recalculated to BEV-equivalent values (ie battery electric vehicles) – and the availability of charging infrastructure for ECVs as well as CNG and H2 vehicles.

g) The 2030 target should be supported by a number of modalities, focusing on off-cycle credits, super credits (or similar measures supporting the market uptake of alternatively-powered vehicles), ITS applications and measures stimulating the use of low-carbon fuels.

5. Bearing in mind the diversity of markets within the EU, their geographical situation and climate conditions, as well as the uncertainty surrounding infrastructure investments for alternatively-powered vehicles and consumer acceptance of such powertrains, no form of mandate for zero-emission vehicles (ZEV) or low-emission vehicles (LEV) should be implemented.

ACEA PROPOSAL

Over the last years, the EU automobile industry has delivered significant reductions in CO_2 emissions from its products, especially compared to other transport sectors. When taking the 2005 baseline of the 2030 Climate and Energy Framework as a starting point, the CO_2 emissions of new cars will be reduced by 42% by 2021. No other sector has achieved comparable reduction rates.

Beyond 2020, however, further CO_2 reductions will get more and more costly as most of the affordable technologies available will already be used by then to meet the 2021 target. As the recent Ricardo-TNO study commissioned by the European Commission confirmed, this will require industry to absorb significant costs.

At the same time, however, our industry is also being confronted by an exponential growth of regulatory costs (eg in order to comply with the new RDE requirements) that are undermining the cost-efficiency of measures required to reach the 95g target by 2021.

The European Commission's 'Strategy for Low-emission Mobility' from July 2016 indicated a clear desire to move to low- and zero-emission transport, while also recognising the need for a coordinated and more comprehensive approach. ACEA members welcome that the Commission explicitly acknowledges that the decarbonisation of transport requires actions to be taken by different stakeholders and policymakers – instead of only focussing on vehicle technology. Meanwhile, the automobile industry remains committed to further reducing CO_2 emissions beyond 2020, in line with the objectives of the EU 2030 Climate and Energy Framework.

It must be stressed that further CO_2 reductions are strongly dependent on increased sales of alternatively-powered vehicles (APVs) and fleet renewal. However, without any adequate action at national level (fiscal incentives and infrastructure for APVs are the responsibility of the member states), a higher market uptake of such vehicles remains beyond reach. In general, wider uptake of APVs is only possible with:

- More investments in the necessary recharging and refuelling infrastructure by the energy sector and member states;
- Further stimulation of consumer acceptance;
- Fiscal and in-use incentives for low- and zero-emission vehicles, which are not the competence of the European Commission but of the individual member states.

Currently, all APVs together account for just 4% of total new car sales, despite fiscal policies and with huge differences between the member states.

ACEA believes that the objectives of future decarbonisation policy should be translated into tangible benefits for citizens and consumers. This will require alignment with member states on how to implement the new WLTP emission test (eg clarifying how to provide consumers with understandable and relevant information) as part of the post-2021 CO_2 framework.

1. Target date: 2030

The EU's 2030 Climate and Energy Framework, which was adopted by the 28 heads of state in 2014, specifies a 30% CO_2 reduction by 2030 (compared to 2005) for non-ETS sectors, such as transport. In line with this timing, a new CO_2 target for passenger cars should also be set for 2030. A clear 2030 CO_2 target would give industry the required lead time to plan the development and accelerate the application of new technologies under the new WLTP framework conditions.

Future legislation thus should take into account the legal uncertainty currently faced by both industry and member states regarding the implementation and use of the new WLTP emission values (eg the uncertain impact of WLTP on the overall CO_2 performance of the fleet). The 2030 target would also allow member states and other stakeholders to implement the steps needed to ensure a higher uptake of alternatively-powered vehicles, for example by providing reliable and uniform charging infrastructure.

2. Ambition level: -20%

CO_2 reductions from passenger cars between 2021 and 2030 should be at a level of -20% (derived

from the 2021 WLTP baseline). This is in line with targets set for other industry sectors and is consistent with the targets agreed by the heads of states with the 2030 Climate and Energy Framework, as well as the COP21 agreement. It is similar to scenarios presented by the European Commission within the impact assessments for the 2030 Framework as well as its 'Strategy for low-emission mobility'.

3. Conditionality

Given that the most cost-efficient solutions will already be used to reach the 2021 target, it will be technically unfeasible to continue improving internal combustion engines at the current rate in the future. Further reductions of CO_2 will therefore be strongly dependent on increased sales of alternatively-powered vehicles, deployment of charging infrastructure and fleet renewal. These factors are critical to meeting the 2030 target, but are unpredictable and beyond the control of manufacturers – relying on actions to be taken by other stakeholders and member states.

For example, supportive fiscal measures are the competence of member states and are not sustainable (as the Dutch market has demonstrated). Neither is there any harmonisation of fiscal and non-fiscal incentives across the EU. In addition, the Directive on Alternative Fuel Infrastructure (DAFI) set clear objectives for the member states. So far, investment in infrastructure is lacking and implementation of DAFI has been poor to date.

A conditional 2030 target will help to deal with the uncertainty surrounding the market uptake of ECVs, which will be crucial to achieving any significant CO_2 reductions beyond 2020. The 2030 target should therefore be conditional on:

- The market uptake of electrically-chargeable vehicles (ECVs); and
- The deployment of recharging/refuelling infrastructure for ECV, CNG and H_2 vehicles.

Based on a mid-term review in 2025 (using 2024 CO_2 monitoring data), the -20% target should be adjusted upwards or downwards (see Annex II for details) by defined percentage points based on the real uptake of ECVs as well as the availability of the necessary charging and refuelling infrastructure. This mid-term review will also enable an assessment of the development of the market share of diesel technology.

4. Baseline: 2021 WLTP 'market snapshot'

The baseline for setting the 2030 target should be derived from a 2021 'market snapshot' of new car registrations, similar to the Commission's proposal from 2007 (see details in Annex I). The key

steps of this process can be summarised as follows:

- 2021 CO_2 monitoring data will form the baseline for the market snapshot, providing a realistic overview of the 14.5 million cars expected to be registered that year, based on their WLTP CO_2 performance and WLTP test mass.
- This snapshot will define the baseline regression line that determines the manufacturer-specific targets.
- The overall reduction level will be composed of two parts:
    - The political ambition level of -20% (midpoint derived from the defined manufacturer-specific WLTP targets for 2021 and the new 2030 midpoint).
    - Difference/gap between the 2021 midpoint derived from the manufacturer-specific WLTP targets and the 2021 midpoint based on the market snapshot (purely looking at the CO_2 performance, not at super credits or eco-innovations).
- The 2030 regression line is constructed as a percentage shift of the 2021 market snapshot baseline regression line (a percentage, equalling ambition level plus gap).
- This methodology only applies when using WLTP test mass as the parameter and does not work for any other approach (eg one based on footprint).

This approach ensures that each manufacturer is treated similarly, as the conversion from NEDC to WLTP is fair and similar for all. Additionally, all manufacturers will have the same starting point for defining their respective 2030 target.

5. Additional modalities

In order to reach the proposed -20% target by 2030, industry needs to be supported through a number of additional modalities, namely:

- Supportive measures to stimulate the uptake of alternative powertrains;
- Supportive scheme for off-cycle technologies that reduce emissions in real life;
- Measures stimulating a quicker uptake of intelligent transport systems (ITS) and safety-related technologies; and
- Measures stimulating the use of a low-carbon fuels.

ANNEX I: TARGET CALCULATION

ACEA proposes the simplest and fairest approach for creating a target-setting mechanism for 2030, based on a WLTP 'market snapshot' of all new passenger car registered in 2021.

- Similar to the mechanism used by the European Commission for defining the current 95g target in 2007.
- The only way to avoid recalculation to WLTP test mass (as the market snapshot approach will already provide these data).
- The relative ambition level is the same for all car manufacturers. With an absolute target system, manufacturers with heavier fleets would need to deliver higher reductions than those with lighter fleets.
- Reflects the already defined (translated) manufacturer-specific WLTP targets for 2021 and onwards.
- Deals with the uncertainty surrounding the use of future WLTP values.
- No manufacturer can be treated disproportionately, as everyone has the same starting point.
- The results of a NEDC-WLTP correlation exercise and the associated target translation do not fully respect the principle of comparable stringency.
- Eco-innovations and super credits are not included in the calculation of the baseline regression line.

Calculation method (the 'market snapshot' approach)

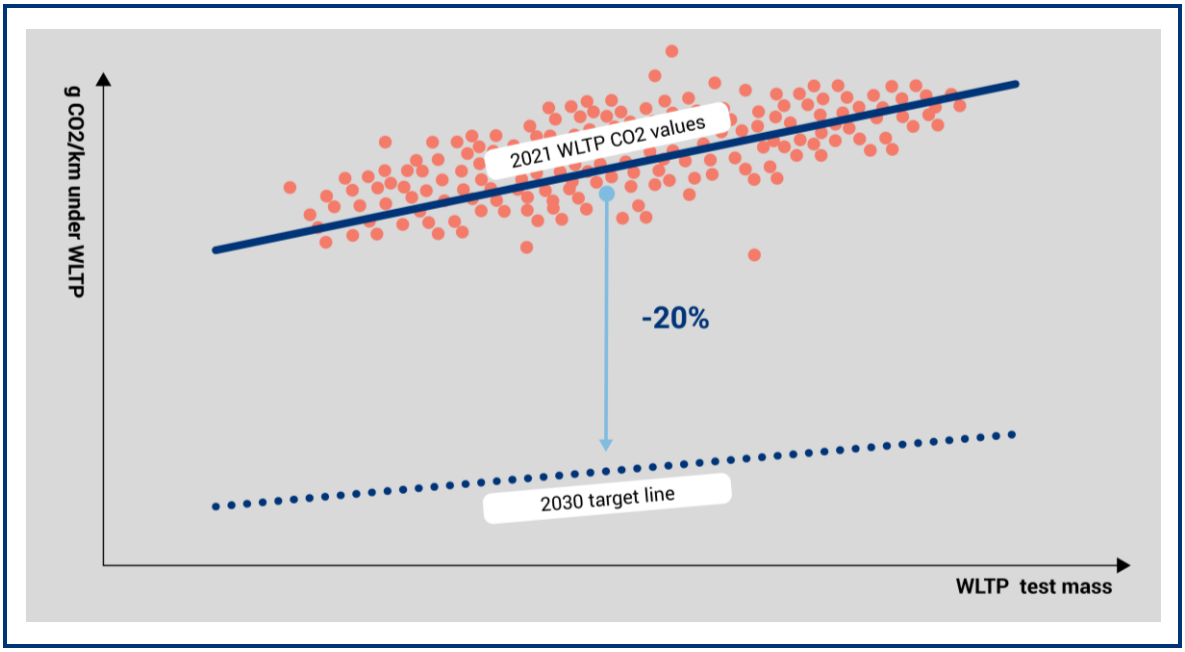
Premises:

1) Using 2021 market values of new passenger cars as a baseline.
2) Using the individual performance of all registrations in the 2021 baseline year (based on their WLTP CO_2 values and WLTP test mass).
3) Excluding eco-innovations from the calculation. They are only to be used for monitoring CO_2 fleet compliance under the old regime, as is the case for super credits.

Calculating manufacturer-specific targets for 2030:

1) The baseline market snapshot will provide a clear picture of the car market in 2021 (around 14.5 million registrations expected), based on WLTP test mass and WLTP CO_2 values.
2) From those data, a baseline regression line will be derived for 2021.
3) The industry average is based on the defined manufacturer-specific WLTP targets for 2021.

4) The overall reduction level is composed of two parts:
    a. The political ambition level of -20% (midpoint derived from the translated manufacturer-specific WLTP targets for 2021 and the new 2030 midpoint).
    b. Difference/gap between the 2021 midpoint derived from the manufacturer-specific WLTP targets and the 2021 midpoint based on the market snapshot (purely looking at the CO_2 performance, not at super credits or eco-innovations).
5) The 2030 regression line is constructed as a percentage shift of the 2021 market snapshot baseline regression line, equalling ambition level plus gap.



ANNEX II: THE CONDITIONALITY PRINCIPLE IN DETAIL

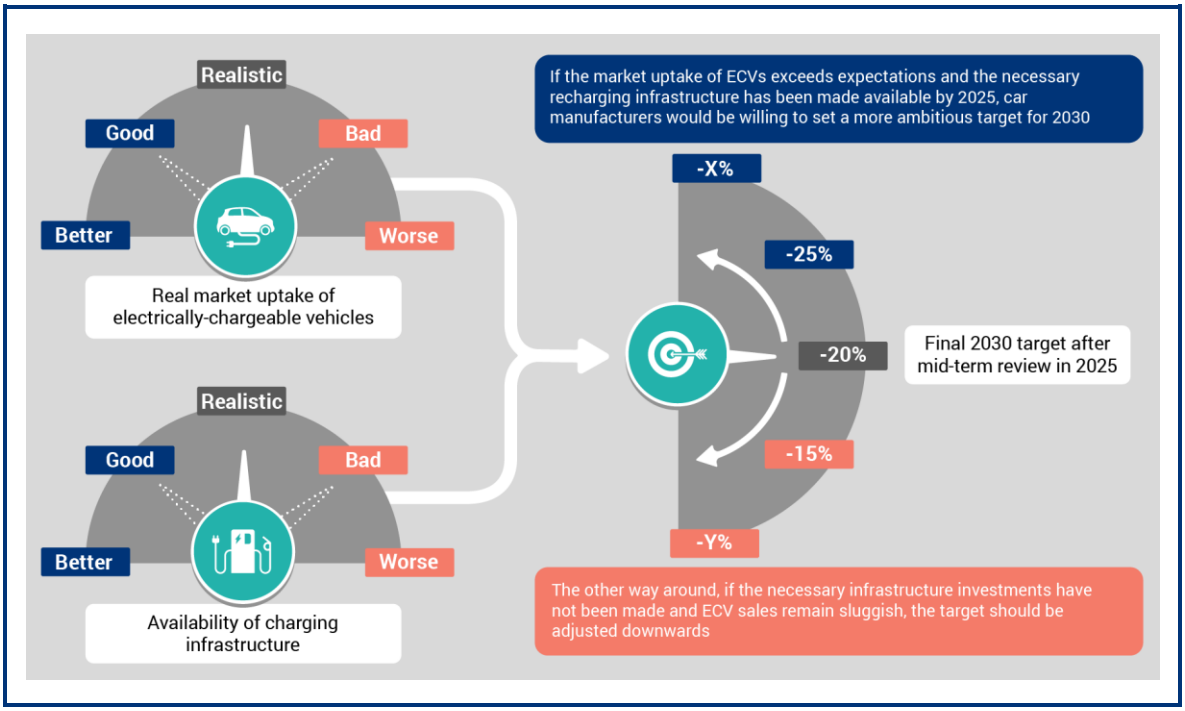
Success in meeting the 2030 target will largely depend on the number of alternatively-powered vehicles in the fleet. Market uptake and consumer acceptance of such APVs depends on several factors that are beyond the responsibility of the automotive industry. These are:

- Investments by member states and infrastructure providers in the necessary recharging and refuelling infrastructure for APVs, as well as the overall readiness of the electricity grid.
- Supportive schemes at EU, national and local level, providing crucial incentives for APV registrations (both financial and non-fiscal measures). Dependency on subsidies is immense; as the Netherlands and Norway have shown, and registrations are directly affected by changes in subsidies.
- Consumer acceptance of the technical parameters of APVs (range, internal space, speed, battery costs, etc) and non-technical factors (eg image, societal status, weather conditions).

Considering the uncertainty surrounding the market uptake and general consumer acceptance of APVs, the following 'conditionality' mechanism should be introduced:

1. The -20% target for 2030 should be conditional based on two key factors:
    a. The real market uptake of electrically-chargeable vehicles;
    b. The deployment of recharging infrastructure for ECVs plus CNG and H2 vehicles.
2. Based on a mid-term review in 2025 (using 2024 CO2 monitoring data), the -20% target should be adjusted upwards or downwards by defined percentage points based on progress in each of these two domains.
3. This review will be based on the 2024 market situation for ECVs (ie registration data) and data on the availability of recharging/refuelling points from the European Alternative Fuels Observatory.
4. Basic assumptions for these data are derived from the European Commission's assessment for its Directive on Alternative Fuel Infrastructure (DAFI) proposal:
    a. Keeping EU registrations constant at level of 14.65 million cars per year;
    b. Assuming linear market uptake of ECVs at a rate of +1 percentage point per year, plus recalculating registrations to BEV-equivalent values.
    c. Assuming for the BEV-equivalent recalculation that BEVs and fuel cell electric vehicles (FCEVs) are counted in relation 1:1, plug-in hybrid electric vehicles (PHEVs) as 1:2 and CNG vehicles in relation 1:5. After all, the absolute market share of alternatively-powered vehicles does simply not reflect the CO2 reduction potential of individual technologies. Therefore, BEV-equivalent figures should be used.

5. The infrastructure requirements for all APVs were derived from the DAFI proposal [1] and updated accordingly. The European Commission assumed that around 8 million charging points were needed, with 10% publicly available by 2020 and a 1:2 ratio for the number of ECVs and charging points. From that perspective, ACEA's minimum requirements are even lower than the Commission's original plan.
6. Based on 2024 CO_2 monitoring data, the target could be adjusted by:
    - +/-X percentage points, if the number of registered vehicles (recalculated to BEV-equivalent values) is in a certain range.
    - +/-X percentage points, if the number of e-charging points is in a given range.
    - +/-X percentage points, if the number of CNG charging points is in a given range.
    - +/-X percentage points, if the number of H_2 charging points is in a given range.



[1] http://ec.europa.eu/transport/themes/urban/cpt_en

European Automobile Manufacturers Association

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, Hyundai Motor Europe, Iveco, Jaguar Land Rover, Opel Group, PSA Group, Renault Group, Toyota Motor Europe, Volkswagen Group, Volvo Cars, and Volvo Group.
- More information can be found on www.acea.be or @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.

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