

POSITION PAPER

Climate neutral transport and CO₂ emission standards

For a technology-open framework that balances environmental, social and economic goals



Achieving carbon neutrality by 2050



TECHNOLOGY SOLUTIONS

Suppliers deliver technology solutions, both efficient and low or zero carbon. Several options will be necessary, this includes battery electric vehicles, fuel cells, plug-in hybrids and efficient combustion engines; circular economy.



POLICY & REGULATIONS

Technology neutral and effective regulatory framework required that rewards efficiency and supports innovation, competitiveness and employment.



FRAMEWORK CONDITIONS

Fleet renewal schemes, necessary charging infrastructure, availability of renewable energy, renewable fuels, e-fuels, and hydrogen. Toolbox for transformation: massive massive re- and upskilling efforts, R&D funding, restructuring support.

Contents



Executive summary 3

Climate neutral transport in 2050 5

The current regulatory framework 6

Principles for the further development of the policy mix 7

Policy suggestions 10

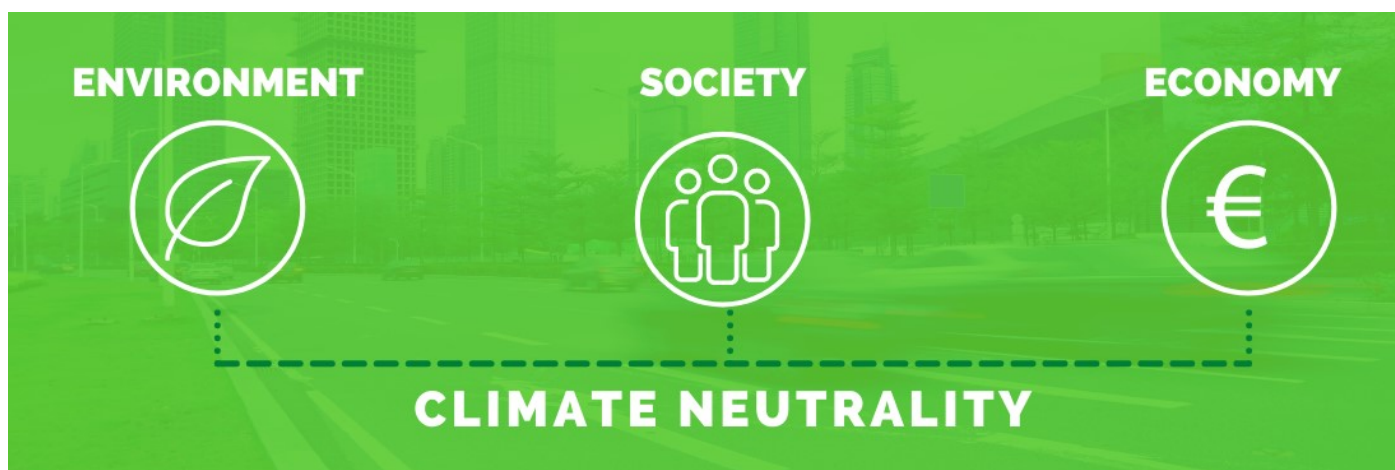
Considerations on stricter CO2 emission standards 12

Conclusion 13

Executive Summary

This paper is a contribution by the automotive suppliers' industry in Europe to the debate on achieving climate neutrality by 2050, the position of the sector on relevant legislation and suggestions for the way forward.

-  **The automotive suppliers' industry supports the Paris Agreement and the even more ambitious objective of climate neutrality.** As world leaders in sustainable mobility, we provide the solutions to achieve the ambitious targets in our sector. We are convinced that the way to climate neutrality is through a technology open environment that balances environmental, social as well as economic goals. It will be necessary to further develop climate policy and its individual elements into a coherent framework which ensures climate neutrality at the lowest cost to society from the status quo up to 2030 and appropriate steps up to 2050. We stand ready to contribute to the design of this framework.
-  **The current regulations are fragmented and not efficient enough:** Achieving climate neutrality by simply increasing the level of ambition of the existing regulations in isolation creates high cost to society. Such an approach risks disrupting revenues and capacity to invest in innovation and employment at a time when scarce resources are needed to counter the COVID-19 crisis. Rather, interplay and cumulative burden resulting from the legislative agenda should be analysed and limited.
-  **Principles for the further development of the policy mix:** The Green Deal is an opportunity to align climate policies and to integrate what are currently strictly sectoral regulations. A robust CO₂-pricing can improve their effectiveness and efficiency by internalising climate externalities and provide clear price-signals for investment and consumers.
-  **Climate neutral mobility requires technology openness in the political approach and regulatory implementation:** We need all technology options to achieve climate neutrality—from battery electric vehicles (BEV), to fuel cell electric vehicles (FCEV), as well as efficient internal combustion engines (ICE) including in hybrid vehicles and plug-in hybrid vehicles (PHEV). Defossilising energy and fuels to meet the demand of a climate-neutral fleet must be a priority.



-  **A ban on the combustion engine would be counterproductive and unnecessary:** We support policies to enable and accelerate electrification, but a ban on the combustion engine is not only potentially highly detrimental to industry, to its employees and to consumers, but would also be counterproductive to reducing emissions. By eliminating affordable low-carbon options for those consumers and businesses for which electrification does not provide the necessary utility or cost effectiveness, it will leave older, higher-emitting vehicles on the road. Investment in engine efficiency will be further disincentivised and the strong technical progress of the past years abandoned. A ban is also not necessary as climate-neutral internal combustion with renewable and low carbon fuels is viable and can cut emissions not only from new vehicles but also from the existing fleet. This technology can reduce emissions during the transition period and can help specific use cases where electric powertrains are not the optimal solution.
-  **Well-to-wheel and life-cycle emissions should be considered in climate policies:** To incentivise technologies with the lowest carbon impact for the entire value chain, emissions from vehicles should ideally be regulated on a life-cycle basis, with well-to-wheel emissions as a first step. Carbon pricing should complement vehicle emission standards to take advantage of the higher efficiency and effectiveness of such an approach and therefore the deeper aggregate emissions cuts that can be achieved.
-  **A voluntary crediting scheme as a first step:** It is encouraging that the Commission considers a mechanism to account for sustainable renewable fuel in vehicle emission standards, including a voluntary crediting mechanism¹.
-  **Complemented by ambitious targets:** Such an approach should be complemented by ambitious but realistic CO₂ emission standards, along with adequate targets for renewable energy, renewable and low carbon fuels² and the deployment of charging and refuelling infrastructure. Emission reduction achieved by these fuels would represent an important first step towards integrating climate regulation and towards a well-to-wheel or life-cycle approach.

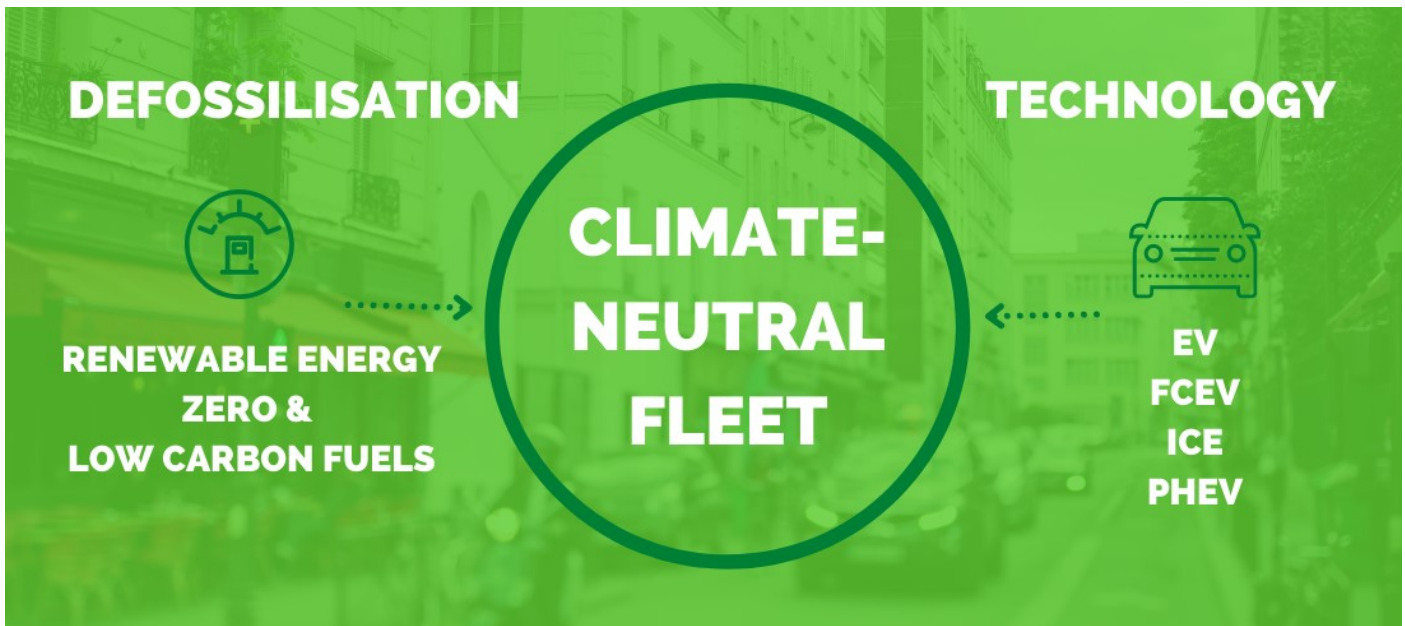
We call on the European Commission to engage with us on promoting those technology pathways to climate neutrality that allow the successful transformation of the value chain and thus create a win-win for climate and society

¹ European Commission (2020) Roadmap for the amendment of the regulation setting CO₂ emission standards for cars and vans

² Renewable fuels cover sustainable biofuels, bioliquids and biomass fuels, as well as renewable hydrogen and renewable synthetic fuels. Low carbon fuels cover hydrogen and synthetic fuels produced through a variety of processes, but with significantly reduced full life-cycle greenhouse gas emissions compared to existing production.

Climate neutral transport in 2050

Complementing electromobility, it is realistic to expect vehicles with an internal combustion engine on the roads up to 2050 and beyond. Sufficient renewable energy as well as renewable and low carbon fuels are essential to power the fleet on the way to climate neutrality.



Transport of goods will require a variety of powertrain technologies

Achieving climate neutral mobility is feasible but presents a substantial challenge to society and industry. Fundamentally different scenarios and pathways to get there have been analysed in detail and are available.³ The design of climate policies for the coming years will strongly influence whether the objective will be achieved in reality, determine the impact on competitiveness and employment, decide how future mobility will be shaped and how innovation will contribute.

Scenarios⁴ suggest that plug-in hybrid and fuel cell and battery electric vehicles, (PHEV, FCEV and BEV), will play an important role in individual mobility, depending on needs, for shorter and longer distances. Transport of goods will require a variety of powertrain technologies, from electric trucks, possibly served by overhead lines, to batteries, fuel cells and internal combustion engines powered by renewable and low carbon fuels depending on their specific needs.

Complementing electromobility, it is realistic to expect vehicles with an internal combustion engine on the roads up to 2050 and beyond. Sufficient renewable energy as well as renewable and low carbon fuels are essential to power the fleet on the way to climate neutrality.

³ BCG Klimapfade, DENA Leitstudie Energiewende

⁴ ibid

Without the use renewable and low carbon fuels CO₂ emissions would rise in the coming years and then decline, whereas with them, CO₂ emissions would decline immediately.

The current regulations in mobility, energy and climate lack long-term predictability and stability, are limited to specific sectoral rather than comprehensive objectives and do not respect the principle of technology openness. Effectiveness and efficiency of the policy mix suffer as a consequence as the following examples illustrate.

The EU Climate Target Plan⁵ (CTP) reinforces the European Commission's tank-to-wheel logic in its transport related policies. According to this logic, fuel suppliers are held accountable for emissions from transport fuels from the original energy source ("well") to the vehicle's "tank" (see Renewable Energy Directive). Car manufacturers, on the other side, are held accountable for direct emissions from the vehicle, i.e. from the "tank" to the "wheel" (see CO₂ emissions performance standards for cars and vans).

More ambitious CO₂ emission standards of, for example, 50% by 2030 compared to 2021—as prioritised by the Commission in the impact assessment (IA) accompanying the CTP—would mean that the share of electric vehicles (BEV and FCEV) and plug-in hybrids the European car fleet would have to increase to more than 60% by 2030. This would discourage any efforts to continue increasing the efficiency of the internal combustion engine and to invest in renewable and low carbon fuels.

Increasing the level of ambition of current regulations would lead to a more complex, less efficient system

Even with the most ambitious ramp up of electric mobility, the time required for fleet renewal means that two thirds of the vehicles on the road in 2030 will still rely on ICE. According to our calculations, without renewable and low carbon fuels, including e-fuels, the CO₂ budget target (the maximum amount of CO₂ allowed to be emitted by transport before 2050) set in the CTP would be exceeded. With the use of renewable fuels, the CO₂ budget target could be achieved or surpassed. This means in concrete terms that without the use renewable and low carbon fuels CO₂ emissions would rise in the coming years and then decline, whereas with them, CO₂ emissions would decline immediately. Similarly, a study by DENA, the German energy agency, comes to the conclusion that e-fuels are necessary to meet the EU climate targets within the transport sector.⁶

There is significant potential for efficiency gains which are unavailable as long as policies and regulations remain limited to their respective silos. Just increasing the level of ambition of current regulations would lead to a more complex, less efficient system. The burden on competitiveness and employment would grow without pushing the innovation needed to achieve the climate targets.

⁵ COM/2020/562 final

⁶ DENA 2017 The potential of electricity-based fuels for low emission transport in the EU

Principles for the further development of the policy mix

We are convinced that the best path to climate neutrality is through a technology open environment that balances environmental, social and economic goals.

Ensure technology openness

Following the principle of technology openness, regulation should set objectives, ensure fair competition in the marketplace and let the most efficient solutions prevail. Technology-specific rules are only justified to remove obstacles to fair competition and should end once this is achieved.

Concretely, ever more ambitious CO₂ emission standards, in a regulation whose scope is limited to tank-to-wheel emissions, will fail to stimulate further efficiency gains in electric or internal combustion engine vehicles and force the latter out of the market.

The full range of efficient powertrain technologies and renewable and low carbon fuels will be needed, so that the right technology can be chosen depending on the use case: highly-efficient ICEs powered by hydrogen or sustainable renewable fuel, electric vehicles (BEV and FCEV), hybrids and PHEVs. Sufficient

renewable and low carbon fuels need to be deployed, including advanced biofuels and e-fuels.

We firmly reject the suggestion of a ban on the internal combustion engine. A ban would also be counterproductive, as it would eliminate affordable low-carbon options for those consumers and businesses for which electrification does not provide the necessary utility or cost effectiveness, thereby leaving older, higher-emitting vehicles on the road. Further investment in engine efficiency would be disincentivised and the strong technical progress of the past years abandoned. A ban is not necessary as climate-neutral internal combustion with renewable and low carbon fuels is a viable option for new vehicles and the existing fleet. The feasibility has been outlined in studies⁷ and is supported by FuelsEurope, the association of companies conducting refinery operations in the EU, in their proposal to phase out fossil fuels⁸ by 2050.



⁷ BCG Klimapfade, DENA Leitstudie Energiewende

⁸ Fuels Europe (2020) Vision 2050 A Pathway for the Evolution of the Refining Industry and Liquid Fuels



Improve effectiveness and efficiency of policies

A fundamental requirement for the climate policy mix is effectiveness, i.e. that it achieves the required emission reduction, and efficiency, i.e. at the lowest possible cost to society. Besides the direct financial cost of emission reduction, it is important to have regard for the impact on industrial competitiveness, innovation and employment. This is particularly relevant in the context of the ambitious legislative agenda outlined in the Green Deal, where not only each individual policy and legislative initiative requires careful calibration of cost and benefit but also the interplay and cumulative burden resulting from the legislative agenda should be analysed and limited.

Regulation needs to focus on the defossilisation of transport along the entire value chain

Concretely, the sectoral approach of the current climate policy has led to very specific regulations for various sectors. CO₂ reduction costs are very different for each sector. An investment in a sector with high emission abatement cost will achieve less than in a sector with lower emission abatement cost. The allocation of investment is currently decided by the policy mix, not by the market and not by the effectiveness of the investment. Efficiency suffers, without a guarantee for effectiveness. Creating links between the silos in a cross-sectoral approach for example through a cap-and-trade system can help internalise climate externalities and provide clear price-signals for investment and consumers.⁹

From CLEPA's point of view, an effective and cost-efficient defossilisation of the transport sector requires a regulatory paradigm shift. Instead of separately regulating energy, vehicles and fuels, regulation needs to focus on the defossilisation of transport along the entire value chain. CLEPA therefore calls for the introduction of a well-to-wheel approach that can be further developed towards a life cycle methodology. This would allow comparing mobility options according to their climate impact. As a first step, emission reductions on the fuels/energy side should be recognised when determining compliance with CO₂ emission standards, for example through the introduction of a voluntary crediting mechanism¹⁰ as is considered by the European Commission. Where vehicle manufacturers invest in additional renewable and low carbon fuels, such investment should be recognised in the context of the CO₂ fleet target, should be limited to the fossil energy replaced and should be in addition to the targets in REDII (thus avoiding double counting) complemented by ambitious but realistic CO₂ emission standards. This would incentivise the market ramp up of renewable and low carbon fuels. **To move closer to a life-cycle approach**, such a crediting system **could in the future** be extended to other parts in the value chain, such as manufacturing, in order to incentivize the uptake of further low carbon options such as green steel or lightweight components.

⁹ See also COM/2020/562 final, p.14.

¹⁰ As described in Frontier Economics et al (2020): Crediting System for Renewable Fuels in EU Emission Standards for Road Transport.



Maintain planning certainty

The energy and transport sectors take a long-term perspective on investments, and the automotive industry develops products for multiyear manufacturing cycles. The regulatory environment has a direct impact on investments and product planning. Changes require adequate lead time to prevent that investments in Europe have to be written off.

The current CO₂ emission standards for 2025/30 were adopted in 2019 and triggered investment decisions and product strategies. These decisions could be invalidated by the revision without a guarantee that investments can be recuperated. And this, in a situation in which the economic survival of many businesses in our industry is already threatened due to the impact of the health and economic crisis as well as the ongoing costly transition towards decarbonisation and digitalisation.

The economic survival of many businesses in our industry is already threatened due to the impact of the health and economic crisis

KEY PRINCIPLES TO A SUCCESSFUL TRANSITION



**TECHNOLOGY
OPENNESS**



**IMPROVE EFFECTIVENESS
& EFFICIENCY OF
POLICIES**



**MAINTAIN
PLANNING
CERTAINTY**

Policy suggestions

A roadmap to climate-neutrality, via a combination of CO₂ regulation and measures targeting the supply chain as well as the use-phase, should be developed for implementation post 2030. The focus should be placed on further integrating sectoral regulations and enabling allocation of investments where these are most effective to reduce carbon emissions.

Short term: Up to 2030

 **CO₂ emission standards for vehicles:** A further increase in the ambition of the CO₂ fleet target regulation whilst keeping the strict tank-to-wheel approach risks disruption rather than the transformation of the industry. Instead, well-to-wheel or life-cycle emissions should be considered in the revision of the regulation to drive fuel and electricity providers with the same ambition and targets as the automotive sector and possibly in addition to introducing a voluntary scheme to take into account the potential contribution of sustainable renewable fuel when determining manufacturers' compliance with their CO₂ emission standards.

 **Renewable Energy Directive (REDII)/Fuel Quality Directive (FQD):** Targets for renewable energy and renewable and low carbon fuels should be increased to ramp up their development and deployment. This requires substantial investments which in turn require a reliable regulatory and policy framework. There is urgency to send out investment signals for the production of renewable and low carbon fuels, given the relatively long lead time to achieve industrial scale and the time needed to build up energy partnerships to meet increasing demands for hydrogen and renewable and low carbon fuels through imports. We need a clear path to phase out fossil fuels which allows a truly technology open approach in the long term.

 **Alternative Fuels Infrastructure Directive:** Targets for deployment of charging and refuelling infrastructure need to be increased to keep with up with demand. These targets should be binding for member states to ensure even implementation.

Modalities to ensure compliance with 2030 target:

 We support the need for incentives for the automotive industry to invest in vehicle efficiency improvements that are not covered by the official test procedure. The current Eco Innovations scheme has proven to be burdensome and needs to be simplified. More concretely, it should promote the implementation of all technologies which can improve real world CO₂ reduction independent of its innovative character in the form of off-cycle credits. The current cap should be adjusted accordingly to reflect the increased potential. Also, a test method to recognise more efficient mobile air conditioning technologies needs to be developed immediately to ensure market uptake by 2025.

 We support and contribute to the implementation of on-board fuel consumption meters (OBFCM) in a fair and transparent way to reflect as much as possible real driving emissions.

 Further, the definition of zero and low emission vehicles (ZLEV) must allow the inclusion of all technologies enabling zero and low emission driving (PHEV, BEV, FCEV, ICEV powered by alternative fuels). PHEVs with an electric range of 80 km should be treated the same way as BEV and FCEV.

There is urgency to send out investment signals for the production of renewable and low carbon fuels

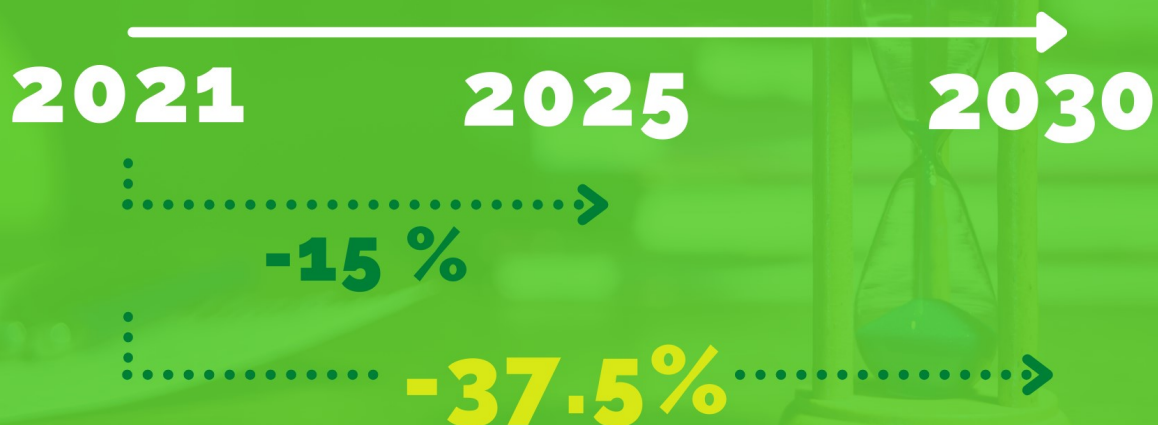


Post 2030

A roadmap to climate-neutrality, via a combination of CO₂ regulation and measures targeting the supply chain as well as the use-phase, should be developed for implementation post 2030. The focus should be placed on further integrating sectoral regulations and enabling allocation of investments where these are most effective to reduce carbon emissions.

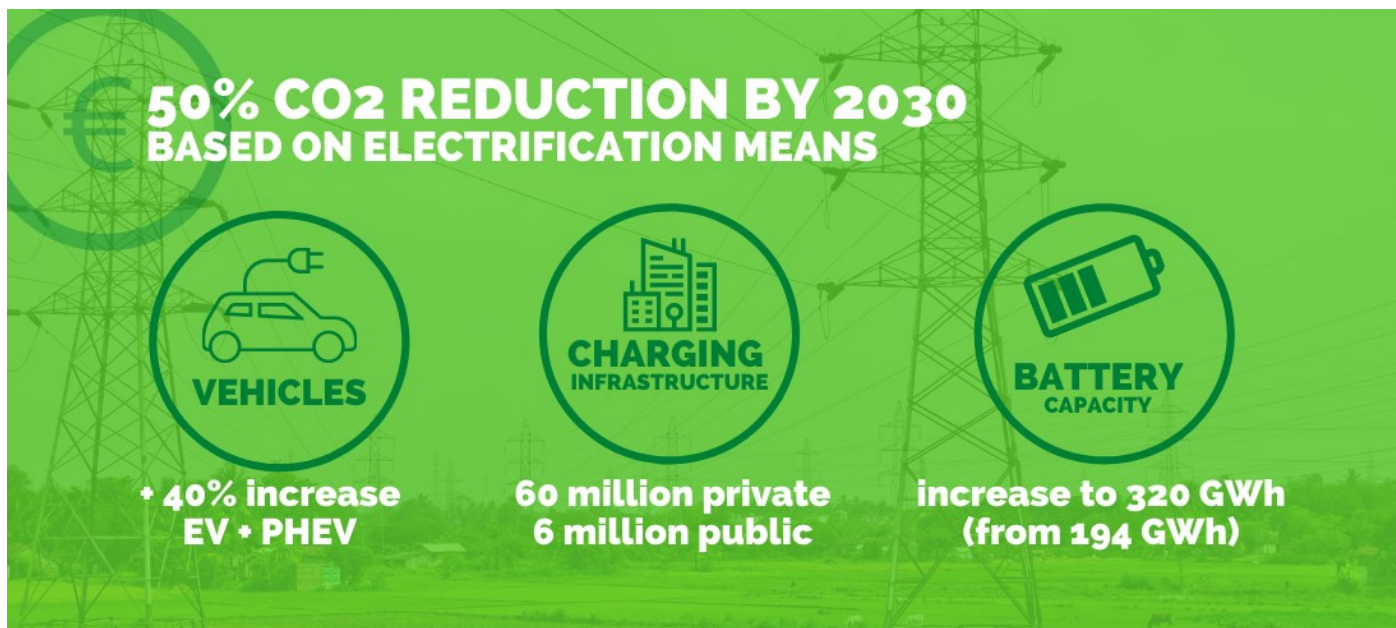
Greenhouse gas regulations for vehicles should be based on an assessment of well-to-wheel or life-cycle emissions. It is important to make this step forward to remove the exclusive push towards BEV inherent in stricter CO₂ targets in a tank-to-wheel regulation. Rather than regulating an end to the internal combustion engine in vehicles coming to the market, a phase-out of fossil fuel is needed.

REDUCTION OF CO₂ EMISSIONS IN LIGHT-DUTY VEHICLES (LDV)



Considerations on stricter CO₂ emission standards

Multiple factors can influence performance against the targets: The price of batteries and supply of raw materials, the build-up of charging infrastructure as well as future fiscal incentives, support schemes and overall consumer trust are uncertain.



A minimum of 60 million private and 6 million public charging points would be required by 2030

The targets for passenger vehicles for 2025 and 2030 foresee an emission reduction of 15% and 37.5% respectively against the 2020 baseline, and for vans a target of 31% applies in 2030. These targets will contribute to delivering against the obligations of the Paris Agreement and will push the transformation towards climate-neutral mobility, but they also pose a substantial challenge to the automotive industry.

However, multiple factors can influence performance against the targets: The price of batteries and supply of raw materials, the build-up of charging infrastructure as well as future fiscal incentives, support schemes and overall consumer trust are uncertain, as are the chances for the successful deployment of BEVs.

The exclusive focus on technologies that deliver zero *tailpipe* emissions is misguided. It is hence no surprise that European Commission's the impact assessment for the post-2020 CO₂ target regulation predicted only relatively small overall CO₂ reductions in the transport sector, even with aggressive tank-to-wheel targets.

Whilst only achieving a reduction of carbon emissions from transport of 3.2% percentage points by 2030, a 50% tail-pipe reduction target would require 60% electric vehicles (BEV and PHEV) in the fleet (up from 40%). As a consequence, a minimum of 60 million private and 6 million public charging points would be required and demand for battery capacity would rise from 194 GWh to 320 GWh. It is unclear how the Commission intends to ensure the availability of charging infrastructure and other conditions whilst keeping mobility affordable.



A manageable transition, for climate, industry and employment rests on competitive technologies

The automotive industry strongly cautions against tougher CO₂ emission standards without a more fundamental revision of the approach to regulating carbon emissions from transport, i.e. linking emission reduction in the value chain, the energy and fuels side as well as the use-phase to the CO₂ emission standards. This should complement regulatory efforts, including the defossilisation of energy and fuels via targets in the REDII as well as FQD, adequate energy taxation etc in a coherent framework leading to climate neutrality in appropriate steps up to 2050.

Simply setting higher targets increases the risk that industry is no longer able to transform in a socially just and inclusive manner but experiences a disruption. Larger companies would shift product portfolios and reduce their business expectation. Many small and medium sized enterprises would not be able to adjust and would go out of business. A manageable transition, for climate, industry and employment rests on competitive technologies such as the ICE, PHEV, FCEV next to BEV. Only a transformation that is industrially successful and socially accepted can be sustainable politically. We currently see no convincing strategy to that effect.

Conclusions

We look forward to a discussion with the European Commission on how to open all pathways to climate neutrality, putting emphasis on those that strike a balance between environmental, industrial and social needs.

The Green Deal is an opportunity to align climate policies and to integrate the now strictly isolated sectoral regulations. We call on the European Commission to engage with us on the best way forward and to manage the transition jointly.



Green Deal?

Let's make it work!



**Supportive and reliable
regulatory framework**



**Transformation, not
disruption**



**Focus on innovation,
investment and employment**



Holistic approach

Would like to know more?

You can contact CLEPA's Head of
Government Affairs Benjamin Krieger at
b.krieger@clepa.be

CLEPA, the European Association of Automotive Suppliers, represents over 3,000 companies supplying state-of-the-art components and innovative technologies for safe, smart, and sustainable mobility.

CLEPA brings together over 120 global suppliers of car parts, systems, and modules and more than 20 national trade associations and European sector associations. CLEPA is the voice of the EU automotive supplier industry linking the sector to policy makers.

- The automotive sector accounts for **30% of R&D** in the EU, making it the number one investor.
- European automotive suppliers invest over **30 billion euros** yearly in research and development.
- Automotive suppliers register over **9,000 new patents** each year.
- Automotive suppliers in Europe generate **five million** direct and indirect jobs.

Status	February 2021
Image licences	CLEPA, Adobe
All rights reserved	European Association of Automotive Suppliers (CLEPA)

Follow our activities:
[@CLEPA_eu](#)