

Revision of the CO₂ Emissions Standards for Cars and Vans

ERCST Feedback

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1. Introduction

The current revision represents a critical opportunity to address structural weaknesses in the bloc's decarbonization pathway for road transport. The regulation's tailpipe-only approach has effectively mandated pure electrification as the exclusive compliance strategy, constraining automotive manufacturers to compete in technological domains where the EU faces increasing global challenges. This approach has triggered unintended deindustrialization risks and inefficient decarbonization outcomes by disregarding the complementary potential of renewable fuels and low-carbon materials. By broadening compliance options to include lifecycle-based accounting and crediting mechanisms for renewable fuels and low-carbon materials, the revised regulation can enable a more flexible, cost-effective, and sustainable transition.

2. Aligning Methodology through LCA

While the CO₂ Standards Regulation employs a tailpipe-only approach that considers only emissions during vehicle operation, other EU climate legislations including the EU ETs, RED, FuelEU Maritime, and ReFuelEU Aviation embrace comprehensive lifecycle methodologies that account for emissions across the entire value chain. This misalignment creates significant policy incoherence, particularly regarding the treatment of renewable fuels. The Renewable Energy Directive recognizes the carbon neutrality of sustainable biofuels, biogas, and RFNBOs based on the principle that emissions during combustion are balanced by carbon originally absorbed from the atmosphere. However, this climate benefit becomes less visible under current vehicle and fuels regulation, even though RED-compliant biofuels and RFNBOs can have carbon intensity values ranging from ~33.5 gCO₂eq/MJ (for certain biodiesels) down to about 14–16 gCO₂eq/MJ (for favorable HVO pathways with waste or residue feedstocks). Under RED II/III, RFNBOs must have a carbon intensity ≤ 28.2 gCO₂eq/MJ to qualify for the minimum 70% GHG savings¹.

Adopting a technology-neutral lifecycle methodology would resolve this inconsistency while creating aligned incentives across the transportation decarbonization value chain. The well-to-

¹ Bieker, G. (2021). *A global comparison of the life-cycle greenhouse gas emissions of combustion-engine and electric passenger cars* (ICCT White Paper). The International Council on Clean Transportation. https://theicct.org/sites/default/files/publications/Global-LCA-passenger-cars-jul2021_0.pdf (ICCT); Kolosz, B. W., & others. (2020). Life cycle environmental analysis of “drop-in” alternative fuels. *Sustainable Energy & Fuels*, Article (c9se00788a). Royal Society of Chemistry; <https://pubs.rsc.org/en/content/articlehtml/2020/se/c9se00788a> (RSC Publishing); European Commission, Joint Research Centre. (2019). *Definition of input data to assess GHG default emissions from biofuels in EU legislation* (Version 1d). https://publications.jrc.ec.europa.eu/repository/bitstream/JRC115952/kj3a28349enn_online.pdf; IEA Bioenergy. (2020). *The Role of Renewable Transport Fuels in Decarbonizing Global Transport: Production Technologies and Costs*. <https://www.ieabioenergy.com/wp-content/uploads/2020/11/Production-Technologies-and-Costs.pdf> (IEA Bioenergy); UK Department for Transport. (2021). *Next steps for the Renewable Transport Fuels Obligation (RTFO)*. <https://assets.publishing.service.gov.uk/media/633d45e98fa8f52a647669e8/targeting-net-zero-rtfo.pdf> (GOV.UK);

wheels assessment approach accounts for emissions from production, distribution, and use of transport fuels, enabling accurate comparisons between different decarbonization pathways.

3. Crediting System for Low-Carbon Products

Introduction of a voluntary crediting system for renewable fuels and low-carbon materials would represent a mechanism to unlock private investment in decarbonization technologies while reducing compliance costs for vehicle manufacturers. Under this approach, fuel suppliers generating renewable fuels would receive tradeable credits corresponding to their emissions reduction value, which vehicle manufacturers could purchase to credit against their fleet targets. Independent analyses confirms the feasibility of aligning the timing of RED verification with CO2 standards compliance procedures, addressing potential implementation concerns².

The economic and environmental case for this mechanism is compelling. Research indicates that without additional compliance flexibility, automotive manufacturers face potential penalties of 19-50 billion euros by 2030 for target exceedances of 10-40%. These financial resources could instead catalyze investments in renewable fuel production, generating 55-215 million tons of additional cumulative emissions reductions by 2030 while stimulating demand for 6-25 billion litres of renewable fuels annually³. By providing a cost-effective compliance alternative, the crediting mechanism would help directing capital toward productive decarbonization investments rather than penalty payments.

The system's voluntary nature ensures it would only be utilized when economically efficient, serving as a complementary safety belt rather than substituting for electrification. Extending similar crediting principles to low-carbon materials like green steel, aluminum, and battery components would further enhance value chain decarbonization while supporting employment in strategic industrial regions.

4. Recognizing Technological Diversity

The current regulatory framework's effective exclusion of plug-PHEVs and REEVs as long-term solutions disregards their potential to deliver deep emissions reductions when operated with renewable fuels. Similarly, ICEVs operating exclusively on carbon-neutral fuels should be eligible for ZEV status, acknowledging that their lifecycle emissions can be comparable or even lower than battery electric vehicles depending on the electrical grid carbon intensity.

² Frontier Economics. (2020, November 30). *Crediting system for renewable fuels: Functionality & benefits* (Report prepared for Neste).

https://www.efuel-alliance.eu/fileadmin/Downloads/crediting-system-for-renewable-fuels.pdf?_gl=1*8auh8z*_ga*MTc5MzM1NzkwLjE3NjAzNTQ2MTQ.*_ga_4X7R3M9DCM*c2E3NjAzNTQ2MTQkbzEkZzEkdDE3NjAzNTQ3NzEkajYwJGwwJGgw

³ Frontier Economics. (2020, November 30).

Furthermore, fuel diversification encompassing RED-compliant biofuels, hydrogen, and synthetic fuels enhances energy security and mitigates supply chain vulnerabilities, a critical consideration in light of recent geopolitical events. Europe's current dependence on imports for clean energy technologies highlights the strategic importance of maintaining multiple technology options. Rather than mandating specific solutions, the regulation should establish emissions performance goals while allowing market actors to determine the most cost-effective means of achievement across different vehicle segments and use cases.

5. Conclusion

The current 2035 100% emission reduction target for new cars and vans creates unnecessary rigidity by effectively mandating exclusive reliance on zero-tailpipe-emission technologies. Maintaining this target without incorporating flexibility for renewable fuels and low-carbon materials risks locking in suboptimal decarbonization pathways and disregarding the substantial emissions reduction potential of alternative technological approaches. The European Commission's own impact assessment should model the economic, social and environmental benefits of integrating provisions for technology-neutral definitions of CO₂-neutral fuels, a Carbon Correction Factor reflecting the increasing share of these fuels in the market, and a dedicated vehicle category for exclusively carbon-neutral fuel vehicles.

Adjusting the 2035 target to accommodate compliance through recognized lifecycle-based credits would maintain environmental integrity while introducing necessary flexibility. The 2035 target should be reformed to focus on lifecycle emissions performance rather than tailpipe emissions exclusively, creating a technology-neutral playing field that rewards actual carbon reduction rather than specific powertrain architectures.