April 2025

UFE's reaction to the debate surrounding the regulation on CO2 standards for cars and vans

UFE, the association representing the French Electricity Industry, considers the decarbonisation of the EU's vehicle fleet as a major issue in achieving carbon neutrality by 2050. **The electrification of light vehicles and light-duty vehicles (LDVs) is the cornerstone of this transition to sustainable mobility, and UFE therefore reaffirms its support to the 2035 zero-emission target**. E-fuels and biofuels will have a role to play in sectors where direct electrification is not feasible, e.g. some heavy-duty transport segments, aviation and industry. However, **today, no technical or economical reason justifies to reopen the regulation on CO2 standards, whether to reconsider the role of e-fuels and biofuels in the decarbonisation of LDVs or more generally to go back on the zero emission target. This would undermine the electrification the of uses**, which has stagnated over the past fifteen years, despite being recognised as a key priority in the European strategy, notably in the Clean Industrial Deal[1], to achieve carbon neutrality and ensure the EU's energy sovereignty.

In this context, the **first part** of this paper reaffirms the need to decarbonise the road transport sector and the relevance of the CO2 standards regulation to this end. The **second part** advocates prioritising investments in the most effective technology to decarbonise LVs in terms of GHG emissions, air pollution, cost to consumers and energy efficiency, namely BEVs. The **third part** provides a set of recommendations aimed at ensuring an adequate demand in BEVs and the development of smart charging solutions.

[1] Which includes notably a KPI to increase economy-wide electrification rate from 21.3% today to 32% in 2030.

I) The relevance of the regulation on CO2 standards in meeting the need to decarbonise the transport sector

The crucial role of the CO2 emissions reduction targets by 2035 in achieving carbon neutrality by 2050

While GHG emissions from the transport sector are the only ones to have increased steadily since 1990, now accounting for a third of EU's GHG emissions, **CO2 standards appear to be the best tool for decarbonising the LV fleet**:

- **It provides the regulatory predictability needed for the industry to confidently invest in the development of zero-emission vehicles [2], by implementing a clear CO2 emissions reduction trajectory for news cars and vans with mandatory targets for 2020, 2025, 2030 and 2035**. This trajectory has contributed to a CO2 emissions reduction of new passenger cars in recent years, that dropped by 28% between 2019 and 2023 according to the European Environment Agency[3]. As the Agency points out, the main driver of this reduction is the surge of EV sales observed since the beginning of 2020[4]. According to the data provided by the European Alternative Fuels Observatory[5], the number of newly registered BEVs in the EU for passenger cars reached 1.536 million in 2023 against 247 408 in 2019 (increasing by a factor of more than 6). According to the European Court of Auditors, this trend is directly linked to the stricter targets adopted in 2019 but also to the provisions of the regulation which have encouraged manufacturers to produce low-emission vehicles (thanks to super-credits for the 2020-2022 period) and stimulated demand through purchase subsidies, zero road tax and free parking in city centers[6].

- **The 2035 objective is a vital step towards achieving carbon neutrality in the transport sector by 2050**. Considering that the average lifetime of an internal combustion car (ICE) in Europe is around 15 years[7], **ensuring that all new passenger cars sold in the EU will be zero-emission by 2035 is the only way to meet the 2050 target**. Therefore, this target cannot be optional.

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[2] According to T&E, the implementation of the 2020 target triggered €60 billion euros investments in EV value chains in Europe in 2019 (against €3.8 billion euros invested between June 2017 and June 2018): https://www.transportenvironment.org/uploads/files/2020_05_Can_electric_cars_beat_the_COVID_crunch.pdf

[3] https://www.eea.europa.eu/en/analysis/indicators/co2-performance-of-new-passenger#:~:text=Average%20CO2%20emissions%20from,new%20car%20fleet%20in%202023.

[4] Especially since CO2 emissions from cars with combustion engines have not dropped in the same period: https://www.eca.europa.eu/ECAPublications/SR-2024-01/SR-2024-01_EN.pdf p.63

[5] Country comparison | European Alternative Fuels Observatory

[6] https://www.eca.europa.eu/ECAPublications/SR-2024-01/SR-2024-01_EN.pdf p. 32

[7] According to a report from the Commission : determining the environmental impacts of conventional-ML0420381ENN.pdf.

- **As the regulation adopts a technology neutral approach based on emissions reduction targets,** all zero-emission vehicles could be considered for reaching the objectives.

UFE therefore strongly believes that the current framework should be maintained. The review of the regulation by the end of 2025, but also the fast-track procedure for the Commission's targeted amendment on the 2025 target, **should under no circumstances be used as an opportunity to go back on the zero-emission target, or to reconsider the role of e-fuels and biofuels**.

Keep the integrity of the 2025 target while considering flexibilities to relieve the automotive sector

UFE is concerned about the Commission's proposal to assess compliance with the 2025 emissions reduction target over the period 2025-2027 instead of only 2025, at a time when electrification needs to be accelerated the most:

- **It would delay the decarbonisation efforts of the sector**, and as a result weaken the cars and vans decarbonisation pathway. According to the International Council on Clean Transportation (ICCT), assessing compliance on a 5-year average period (2025-2029) would "lead to significant excess CO2 emissions" (up to 200 megatons of excess emissions over the period), as "more high-emitting vehicles would get on the roads early on and would keep emitting more emissions throughout their lifetime"[8].

- At this stage, **a significant proportion of manufacturers have already declared that they are on track to meet the 2025 target**, as Volvo cars that already reached its 2025 target.

- **The regulation provides for some flexibilities**. Manufacturers who are furthest behind can form **compliance pools** with manufacturers who are more in line with the objective. In addition, hybrids and plug-in hybrids, improvements to conventional engines, and the deployment of smaller, more efficient vehicles can be used to reach the objective.

However, UFE acknowledges that the recent demand for BEVs has been weaker than expected, with BEV sales slowing down in 2024 compared to 2023[9]. In this context, **UFE proposes to assess compliance over an average period of 2 years (2025-2026)**. This would mitigate impacts on the environmental ambition of

[8] https://theicct.org/public-comments-on-proposed-measures-for-modifying-the-eu-2025-co2-emission-targets-feb25/

[9] According to the European Alternative Fuels Observatory, BEVs sales dropped by 5,9% in 2024 compared to 2023.

the regulation while relieving the automative sector. This flexibility could also be supplemented by other measures to help manufacturers reaching the objective, such as:

- **Spreading the payment of penalties for non-compliance with the target over several years**, where appropriate.

- **Redirecting fines to finance demand-side support mechanisms at EU level for the purchase of BEVs** (e.g. social leasing or ecological bonus), to help the most vulnerable households to gain access to electromobility and, in doing so, ensure adequate demand for manufacturers.

II) Prioritise investments in the most efficient technologies to decarbonise the LDV fleet: BEVs

BEVs are the most efficient technology for reducing GHG emissions and mitigating air pollution

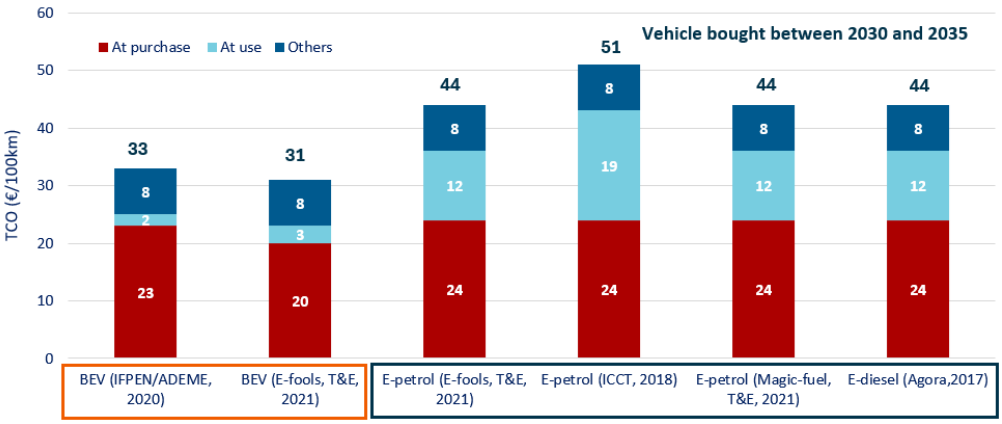
UFE, jointly with Avere-France and CentraleSupélec engineering school, conducted in June 2023 an analysis[10] which compares the results of 14 studies on the differences in terms of GHG emissions, air pollution and costs for the consumers between several alternative fuels[11] for all road vehicle segments. **Including when considering a life cycle analysis (LCA), BEVs are emitting less CO2 in almost all studies.** For instance, according to the Carbone 4 study[12], when considering a LCA, a car running on Ethanol E85 bought between 2030 and 2035 in France emits 76% more CO2 than a BEV.

Furthermore, **BEVs are also the best environmental solution**, **as they do not emit fine particles at exhaust**. Contrary to e-fuels alternatives, according to the T&E study[13], a passenger car running on e-petrol emits almost as much nitrogen oxides (NOx) as an essence car: 22 mg/km against 24 mg/km.

BEVs are the most economical solution for consumers

The UFE's study, which compares the total cost of ownership of BEVs and cars running on e-petrol and e-diesel in different sources**,** also concludes that powering cars with electricity is cheaper than e-fuels:

[10] https://www.avere-france.org/wp-content/uploads/2023/06/20230627_Synthese_Note_Energies_vCA.pdf
[11] Alternative fuels considered are: electricity (BEVs), biofuels (100% bio-CNG, ethanol E85), hydrogen (100% RES and blended), e-fuels (e-petrol and e-diesel).
[12] https://www.carbone4.com/files/wp-content/uploads/2020/12/Transport-Routier-Motorisations-Alternatives-Publication-Carbone-4.pdf
[13] https://www.transportenvironment.org/articles/magic-green-fuels-why-synthetic-fuels-in-cars-will-not-solve-europes-pollution-problems



In addition, the **deployment of smart charging solutions, that only BEVs can provide, contributes further to reducing consumers' energy bills**, while fostering the optimisation of the electricity system, as they enable to optimise consumption by charging during off-peak hours.

According to the estimations from the French TSO RTE, **smart charging would generate 400 to 700 million euros each year for the electricity system from 2035 onwards**. From the consumer side[14], driving electric can save, in average, 1000 euros per year compared to the use of an equivalent ICE car (taking the French case)[15]. Smart charging allows to further reduce the bill, as taking out an electricity contract offering a reduced price during off-peak hours can save up to 140 additional euros per year on average[16]. **In addition, smart charging allows to extend the EV's battery lifespan**[17], thanks to smart management of the vehicle's state of charge when stationery, the depth of discharge, and various battery ageing factors[18].

Beyond the financial benefits for the consumers, **a more widespread deployment and use of smart charging solutions will also contribute to optimising and decarbonising the electricity system**, by allowing to charge outside peak hours and releasing energy during peak hours, thus avoiding relying on the use of the most polluting production assets.

BEVs are the most energy-efficient solution

BEVs are also more energy-efficient and benefit from better energy availability:

- **Electric motors are more energy-efficient than e-fuels**. As pointed out by the Platform for electromobility, 77% of the primary energy of BEVs is used to move forward while only 20% of

[14] https://assets.rte-france.com/prod/public/2020-06/electromobilitee%20syntheese.pdf
[15] https://www.info.gouv.fr/upload/media/content/0001/07/f74b604a7c975bf6f83c6d28656df3a96ee485b1.pdf
[16] https://www.je-roule-en-electrique.fr/
[17] Batteries represent one third of the purchase cost of an EV in average.
[18] https://wrap.warwick.ac.uk/id/eprint/88018/13/WRAP-possibility-extending-lifetime-lithium-ion-batteries-Marco-2017.pdf

the initial energy input is converted into motion for a vehicle powered by synthetic fuels (produced from renewable energy)[19], from a well-to-wheels methodology. Four times more primary energy would thus be needed for the latter to travel the same distance[20].

- **There are major constraints on the development of biofuels due to lack of availability of resources and competition with other sectors for access to biomass materials**, such as the food sector, cosmetics, pharmaceuticals, and bioplastics[21]. This is confirmed by the European Court of Auditors, which acknowledges that "biomass availability limits deployment of biofuels"[22]. Indeed, estimates from the Imperial College of London show that the availability of sustainable biomass for all markets (energy and non-energy uses) in the EU and UK remain almost unchanged between 2030 and 2050 (from 0.98 to 1.2 billion dry tonnes in 2030 and 1 to 1.3 billion tonnes in 2050), notably due to " strong pressure for the sustainable use of land and water resources, including a 30% reduction in arable land by 2050" and "increased awareness for waste reduction"[23].

These factors contribute to the **high production costs** and **immaturity** of e-fuels and biofuels sectors. Expanding their infrastructure would not only be time-consuming but also require substantial investments, which should be prioritised for the deployment of more efficient and technology ready technologies such as BEVs.

BEVs are a key element in ensuring the EU energy sovereignty

Electricity is locally produced and using BEVs improves EU energy sovereignty. E-fuels and biofuels, in the event of strong demand from other sectors, could be imported from outside the EU's borders, then creating a new dependency.

III) Recommendations to increase demand in BEVs

To ensure an adequate demand for BEVs and support the access of the most vulnerable households to BEVs, UFE recommends the following measures to be adopted at EU level:

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[19] https://www.platformelectromobility.eu/wp-content/uploads/2024/11/Platform-for-Electromobility_Prioritising-energy-efficiency-in-post-2035-mobility.pdf
[20] In other words, 15 kWh of electricity would allow a car powered by synthetic fuels to travel 20 km against 100km for a BEV.
[21] https://www.eca.europa.eu/ECAPublications/SR-2023-29/SR-2023-29_EN.pdf
[22] Ibid, p. 22.
[23] https://www.concawe.eu/wp-content/uploads/Sustainable-Biomass-Availability-in-the-EU-Part-I-and-II-final-version.pdf p. 20.

- **Adopt a European mechanism granting BEVs purchase incentives**: it could take the form of an ecological bonus and/or social leasing coordinated at EU level with specific models for each Member State. Such a mechanism would help closing the price gap between EVs and ICE cars, especially when targeting small, light-duty vehicles with low-capacity batteries.

Considering the need to protect European automotive value chains, this mechanism should be accompanied by eligibility criteria for the bonus, aimed at promoting "made in Europe" EVs. These criteria already exist in some Member States, as in France with its **"éco-score" system**, which could serve as an example for other EU Member States. In this case, the bonus allocation considers a maximum carbon footprint threshold, thus encouraging EVs manufactured in areas with a low-carbon electricity mix.

- **Adopt fleet renewal quotas of EVs for corporate fleets**. It would send a clear signal to European carmakers that there is strong demand for EVs in the EU and at the same time contribute to the development of a second-hand EVs market[24].

- Encourage Member States to introduce appealing tax schemes for EVs.

- **Ensure non-discriminatory access to in-vehicle generated data** (including the state of the charge), to facilitate the development of smart charging solutions (V1G and V2G) and ensure an attractive pricing of electromobility services to electric vehicle users.

[24] To illustrate, T&E supports an EU target for all fleets with over 100 cars to buy only electric as of 2030 that would generate two million sales according to the NGO, corresponding to half of what automakers need to meet the CO2 emission reduction target for 2030: https://www.transportenvironment.org/articles/fleets-electrification-law-could-deliver-2-million-ev-sales-half-what-carmakers-need-to-meet-their-2030-emissions-targets-2