

eFUEL ALLIANCE – POSITION PAPER

‘AMENDMENT OF THE REGULATION SETTING CO₂ EMISSION STANDARDS FOR CARS AND VANS’

The eFuel Alliance fully supports the European Commission’s assessment that all sectors will have to strengthen their efforts in reducing greenhouse gas (GHG) emissions significantly in order to achieve climate neutrality by 2050. Especially road transport has to play a key role as it accounts for a fifth of today’s GHG emissions in the EU. Given the huge potential of promising climate-protection technologies, such as renewable hydrogen and its derivate products, which have not yet been exploited, we believe that road transport can make a significant contribution to the decarbonisation and defossilisation efforts in Europe.

One instrument to achieve GHG reductions in the transport sector is the upcoming revision of the CO₂ emission standards for cars and vans. We are convinced that a balanced mix of strict but achievable CO₂ emission standards and a level-playing field among all emission-reduction technologies will have the most positive impact on our climate. To determine the real contribution to climate protection a technology can make, the carbon footprint of a vehicle must ideally be assessed on the basis of its entire life cycle.

Especially in light of the Commission’s plan to raise the climate targets for 2030, it is even more important to allow a wide range of technologies to contribute to the CO₂ emission standards and to promote a diversity of climate-protection solutions to reach climate neutrality by 2050. The road transport sector has the greatest potential and urgent need to use climate-neutral fuels. The current review of the EU fleet target regulation offers a huge opportunity for a market ramp-up of hydrogen and hydrogen-derived products. In this way the enormous climate-protection potential can be exploited. If the EU sets the right course in promoting the wide and cross-sectoral use of climate-neutral fuels now, investments required to build large-scale plants will be encouraged and the industrial production of hydrogen and hydrogen derived products like eFuels could begin shortly.

IMPLEMENTATION OF A CREDITING SYSTEM FOR RENEWABLE FUELS

To achieve that, introducing a crediting mechanism for renewable fuels would create a level-playing field among wide-ranging emission reduction technologies that can help to reduce road transport sector emissions effectively and efficiently, yet providing an additional and voluntary climate-effective option for car manufacturers to comply with the CO₂ Emission Standards, supporting the uptake of synthetic fuels. Climate would benefit from climate-neutral synthetic fuels produced from renewable energy sources that, in contrast to conventional fuels, do not release additional CO₂. Consumers would benefit from a greater portfolio of clean technologies and potentially local benefits for zero-/low-emission labelled cars. This would strengthen the demand-side of eFuels and ensure that additional volumes of synthetic fuels are being sold into the market.

There are already feasible proposals regarding the practical implementation of such a crediting system, in particular the report ‘Crediting System for Renewable Fuels in EU Emission Standards

for Road Transport.¹ by Frontier Economics and Flick Gocke Schaumburg from May 2020, drafted for the German Federal Ministry for Economic Affairs and Energy (BMWi).

The eFuel Alliance strongly supports such a mechanism and invites the European Commission to incorporate the crediting system for renewable fuels in the amended Regulation setting CO₂ emission standards for cars and vans.

MAIN ADVANTAGES AND PRINCIPLES OF A CREDITING SYSTEM

Car manufacturers' participation in such a system would be voluntary. Participants would be able to purchase certain amounts of alternative fuels, which have to be additional to existing amounts and have to meet the RED II sustainability criteria. Fuel suppliers are eventually responsible for supplying these fuels to the end customer. It is guaranteed that the amount of renewable fuels, which corresponds with the credits generated when purchasing the renewable fuels, is indeed brought to the market and therefore making an actual contribution to the reduction of GHG emissions in the transport sector.

Any crediting model should be aligned with existing regulations for the automotive and fuel sectors and should be based on its positive contribution to climate action. It is therefore important to stress that the proposed crediting mechanism does not allow for double counting, i.e. that credits can only be counted either against the renewable share under RED II or against the fleet targets under the EU CO₂ emission standards regulation. This means that distributors of renewable fuels and car manufacturers will have to decide which targets the credits will be counted towards. The crediting mechanism ensures thereby effective climate action, unlocks additional volumes of renewable fuels and therefore additional CO₂ reductions in the transport sector.

Further climate benefits can be achieved by introducing a 'front-loading'. In that case, the OEM has to guarantee that the whole amount of renewable fuels is brought into the market at the time of the registration of the new vehicle. Hereby, the CO₂ reduction of the whole lifetime is brought forward by approx. 5 to 7 years. That helps member states to reach short-term climate targets and enables immediate investments.

Guaranteeing affordable individual mobility is also a very important point when revising any EU transport legislation. More options to meet the requirements under the CO₂ emission standards will also have a positive effect on costs for end customers in all EU member states, being respectful of a just transition to carbon-neutral mobility. Renewable fuels can contribute to a significant reduction of GHG effectively and affordably – right up to climate neutrality. With increased quantities of eFuels being added gradually to conventional fuels (thanks to their drop-in capability) and production costs falling thanks to economies of scale, eFuels would be affordable for consumers in every phase and also for hard-to-abate sectors like aviation and shipping.

¹ For more information, also see: <https://www.bmwi.de/Redaktion/DE/Downloads/C-D/crediting-system-for-renewable-fuels.html>

Potential concerns that a crediting approach could lead to reduce incentives for manufacturers to further invest in efficiency improvements are unjustified. Electric mobility is a promising solution meeting a variety of mobility needs. Introducing a crediting system will make more climate-neutral choices available without prompting an 'either or' in European climate-protection policy. Providing investment security and a prospect for the use of renewable fuels will also encourage further developments regarding the efficiency of the used powertrain. Efficiency is not only important to reduce the overall CO₂ footprint over lifetime but also in terms of consumer acceptance and to reduce the total cost of ownership.

ADDRESSING THE FLEET STOCK THROUGH THE USE OF eFUELS

Promoting the use of synthetic and advanced alternative fuels produced from renewable energy will support the market ramp-up for these fuels, which can then also be used to make the existing fleet stock climate-neutral. The CO₂ emission standards apply to all new vehicles registered annually in the EU, setting an EU fleet-wide target for the annual average emissions of new passenger cars and for light commercial vehicles.

However, there are currently more than 300 million motor vehicles (thereof approx. 270 million passenger cars) in the EU and more than 1.3 billion vehicles worldwide, most of them powered by internal combustion engines (ICE). Even in the case of a high uptake of battery electric vehicles in the coming years, the current fleet stock will continue to form the basis for mobility in the coming decades and millions of cars with an ICE will still be on Europe's roads until 2030 and beyond. A holistic strategy is needed to address both new cars as well as existing fleets. eFuels are just such a solution to substitute fossil energy carriers by renewables. They are compatible with all current ICE and therefore suitable for all vehicles and means of transport.

EXISTING INFRASTRUCTURE CAN BE USED, NEW JOBS CAN BE CREATED

Since eFuels can be deployed in existing engines and infrastructures, including the global refilling station network, additional conversion costs for consumers can be avoided. Important supply chains can be kept; the investment and job potential along the value-added chain of synthetic fuels is huge. The production and export of Power-to-X technologies and equipment could generate significant amounts of additional added value and create numerous new jobs in Europe as well as in partnering countries. The large dimension of that potential will be further specified by a soon to be published study by the German Economic Institute in Cologne.

Synthetic fuels from renewable energy sources, hydrogen and CO₂ have more considerable advantages: they can be easily stored and transported over long distances without energy loss, making it possible to produce renewable electricity in remote regions rich in wind and sun, but to use it flexibly worldwide. While it is important to create a strong EU-market for the production of eFuels, the international dimension of the eFuel-production needs to be considered as well. eFuels can be produced in regions outside the EU where there is a surplus of renewable energy available, i.e. using renewable energies that cannot be used for electric mobility in the EU. For

that reason, eFuels are not in competition with electric mobility. To the contrary, eFuels are a perfect supplement to e-mobility and other promising climate-protection solutions. Choosing regions that are rich in wind and sun also means greater exploitation of renewable electricity plants in the respective regions, so that the efficiency losses during the production steps of eFuels are relativised.

In addition to that, eFuels have a volumetrically high energy density and can be added to conventional liquid fuels, such as petrol, diesel, or kerosene, in any quantity and without any problems, and can even replace fossil fuels completely in the long run.

Promoting the use of eFuels in the road transport will also have a positive effect on deploying eFuels in the aviation and shipping sector. A wide use of synthetic and advanced alternative fuels will reduce the price of these energy carriers for all sectors significantly thanks to economies of scale. Limiting the use of eFuels to very few sectors will most likely lead to expensive eFuels for those sectors that are very hard to electrify, e.g. the aviation and shipping sector. Affordable clean fuels will only be available if they can be produced in quantities that allow for an economic production of these fuels.

BROADER ASSESSMENT OF CARBON FOOTPRINT NEEDED

In its Inception Impact Assessment, the European Commission states that a higher uptake of zero-emission vehicles is needed and that necessary investment needs to be channelled to increase the uptake. We support the promotion of battery electric vehicles as one option to reduce GHG emissions. However, a narrow focus on 'zero-emission vehicles' as currently defined will not lead to the best results possible for our climate.

Given that 'zero emission' is currently measured from 'tank-to-wheel', only a specific and limited part of the vehicle's lifecycle is actually taken into account when measuring the GHG emissions. Only GHGs coming out of the tailpipe are considered whereas GHG emissions occurring at earlier or later stages, i.e. during the vehicle production or the generation and provision of its operating power, are being ignored. For climate protection it is irrelevant at what stage of a car's lifecycle CO₂ emissions occur. Policy decisions should therefore ideally be taken based on a lifecycle approach.

This is also acknowledged in Recital 50 of Regulation (EU) 2019/631:

'It is important to assess the full life-cycle emissions from passenger cars and light commercial vehicles at Union level. To that end, the Commission should no later than 2023 evaluate the possibility of developing a common Union methodology for the assessment and the consistent data reporting of the full life-cycle CO₂ emissions of such vehicles placed on the Union market. The Commission should adopt follow-up measures, including, where appropriate, legislative proposals.'

Given that the review of the Regulation has been preponed from 2023 to 2021, we call on the Commission to realign the timing of the evaluation of the possibility of developing a common Union

methodology with the timing of the review of the Regulation itself. It should therefore also take place in 2021.

PROVIDING 'REGULATORY BRIDGES' FOR MORE HOLISTIC APPROACH

A first, important step to achieving a more holistic approach is to provide a bridge between the fuel regulation and the vehicle regulation. The most effective path to climate neutrality is creating a level-playing field among all emission-reduction solutions, building on and coordinating existing legislation (RED II – supply side, and CO₂ emission standards – demand side).

We encourage the European Commission to broaden the current 'zero-emission vehicles' definition and to allow vehicles that are entirely powered by climate-neutral fuels to qualify as 'zero-emission vehicles'. These vehicles only emit the amount of CO₂ that has been used to produce the energy carrier. They do not emit additional CO₂ and are therefore 'net-zero' or climate-neutral.

In its Inception Impact Assessment, the Commission raises awareness that the cost of CO₂ emissions to society must be sufficiently considered. We therefore support the Commission's intention to take into account the emissions over the entire vehicle lifecycle. To reduce the overall GHG emissions, a comprehensive look at the actual CO₂ emissions of a vehicle is needed.

INCREASING INVESTMENT INCENTIVES – MAINTAINING TECHNOLOGICAL LEADERSHIP

The Commission also intends to amend the current regulatory framework to provide the market with long-term investment security and to maintain the technological leadership and competitiveness of the EU's automotive value chain. The eFuel Alliance strongly agrees with the assessment of the Commission that additional security for investors is needed to strengthen the European automotive value chain. A long-time planning perspective is crucial to attract and to channel investments. This is especially true for hydrogen and its derivatives, which is why the provision of added security should not be limited to only one climate-protection technology.

If Europe focuses too narrowly on the promotion of only one technology, it is likely to lose its technological leadership in areas where Europe has been at the forefront of innovation over the last century. A voluntary crediting system would provide the automotive industry with an additional, climate-effective option to reduce CO₂ emissions from their fleets. A fair competition between emission-reduction technologies is vital. Especially where the market ramp-up of the electric mobility faces challenges and difficulties (e.g. infrastructural issues, increase of the power price, customer acceptance) other climate-neutral options must be available.

eFUELS – A SOLUTION THAT CAN BE DEPLOYED THROUGHOUT THE EU

We would like to stress that it is equally important to continue to promote the market uptake of e-mobility. However, not all European countries have comparable possibilities to deploy e-mobility and make it accessible to most of their population.

To achieve the ambitious climate targets, we need solutions that work everywhere, regardless of a country's economic power, geography or technical requirements. If emission-reduction solutions are only applicable in a few member states that can afford a complete exchange of the current fleet stock and infrastructure, the EU misses out on a great opportunity to reduce CO₂ emissions in the transport sector. A mix of e-mobility, advanced biofuels, eFuels, fuel cells and potentially other emission-reduction technologies will not only reduce GHG emissions effectively, it will also help to safeguard the single market for vehicles.

We need to keep in mind that the energy transition needs to be affordable and should not overwhelm European citizens, especially people with lower incomes or those living in rural or economically weaker regions. If climate-protection measures do not receive broad support from the European citizens, the EU runs the risk of missing the ambitious climate targets.

The second-hand vehicle market mentioned in the EU Commission's Inception Impact Assessment is also very important in that context. Consumers in lots of European countries simply cannot afford to replace their (potentially older) car by a new one. Since eFuels help to defossilitate the stock, without the need to replace the current car or infrastructure, the energy transition can be made affordable for all people. Therefore, an uptake of climate-neutral fuels in the near future is needed. The revision of the CO₂ emission standards for cars has the potential to be one of the main drivers for such a market uptake.

CONSIDERING THE INTERNATIONAL DIMENSION

One issue often debated in the context of eFuels is their efficiency. It is suggested that by using electric energy directly, battery electric vehicles will always have a higher degree of efficiency. However, this perspective does not take into account the international dimension of the production of hydrogen and hydrogen-derived products such as eFuels and is therefore misleading. The efficiency of the electricity's end usage is not the only criteria to assess the actual efficiency. It is also important how efficiently electricity can be produced from renewable energies, and then made usable.² In order to achieve a global energy transition and to leverage the potential from regions where large amounts of climate-neutral electricity are available, international cooperation and an import strategy on a global scale are needed.

² For more information, also see: 'Comprehensive efficiency of technologies in the transport sector', study by Frontier Economics, October 2020. https://www.frontier-economics.com/media/4297/rpt-frontier-uniti_mwv_effizienz-antriebssysteme_26-10-2020-stc.pdf. The study comes to the conclusion that, if eFuels come from regions that are rich in sun and wind, the usage efficiency of battery-powered electric vehicles is almost on par with vehicles powered by eFuels.

CONCLUSION

As a CO₂-neutral alternative to conventional fossil energy carriers, eFuels can make a decisive contribution to the global energy transition. With the CO₂ emission standards regulation being one of the decisive regulations to promote or prevent the use of renewable fuels, the EU should take the opportunity to introduce a crediting mechanism for renewable fuels in the fleet target regulation.

ABOUT THE eFUEL ALLIANCE

The eFuel Alliance is an interest group committed to promoting the political and social acceptance of eFuels and to securing their regulatory approval. We stand for fair competition and a level-playing field for all relevant emission reduction solutions. We are clearly committed to more climate protection and aim to win broader recognition of the significant contribution eFuels can make in the drive for sustainability and climate protection. Our goal is to facilitate the industrial production and widespread use of carbon neutral fuels made from renewable energy sources.