

eFUEL ALLIANCE CALLS FOR AN AMBITIOUS REVISION OF RED II AS PART OF A MORE COMPREHENSIVE AND COORDINATED EU CLIMATE POLICY

RECOMMENDATIONS

- ▶ **More ambitious GHG reduction target of at least 20 % in transport is essential to incentivise the fuel industry to invest in sustainable renewable fuels.**
- ▶ **To facilitate the ramp-up of a hydrogen market, the newly proposed sub-target for hydrogen and eFuels (RFNBOs) in the transport sector should be more ambitious and increased to at least 5% by 2030. In addition, an interim target of 2.6% for RFNBOs by 2028 should be introduced.**
- ▶ **Cross-sectoral and broad application of sustainable renewable fuels, including road transport, is vital to kick-start their large-scale production and reduce prices significantly. Steering volumes of renewable fuels as foreseen in the Fit for 55-package away from road transport to aviation or maritime would prevent necessary investment in their market ramp-up and slow down the phasing-out of fossil fuels in road mobility. Therefore, only volumes of renewable fuels that are placed on the market in addition to those resulting from the RED provisions may meet the sector-specific targets of the FuelEU Maritime and ReFuelEU aviation regulations.**
- ▶ **Multipliers, by which the share of renewable energies in road transport could be statistically inflated, should be abolished in the future. This also applies to the ‘hidden multipliers’, when calculating the GHG emission savings of different energy carriers in road transport. Since both renewable electricity and renewable fuels replace the use of fossil fuels in an internal combustion engine, the same fossil fuel comparator $E_{F(t)}$ of 94 g CO₂eq/MJ as set out in Annex V of the REDII should apply when calculating GHG savings for all energy carriers. The fossil fuel comparator of 183 g CO₂eq/MJ for renewable electricity, as proposed, arbitrarily, by the EU Commission, would lead to unequal treatment of different renewable energy carriers in road transport, since the comparator for electricity is 1.95 times higher than the comparator for renewable fuels.**
- ▶ **The production of sustainable renewable fuels and eFuels in particular requires long lead times and billions of euros of investment. A longer planning horizon, beyond 2030, similar to the 2050 roadmap set out in the RefuelEU Aviation regulation, and more legal certainty are vital to provide decisive incentives for the build-out of large-scale projects and to avoid stranded investments. This also includes much needed guidelines for calculating GHG savings from RFNBOs. The EU Commission must comply with its obligation under the current REDII, which is still in force, and adopt the outstanding delegated acts under Article 28(5) by 31 December 2021.**

GENERAL REMARKS

The eFuel Alliance clearly supports the European Union’s target of climate-neutrality by 2050 and acknowledges that more ambitious 2030 climate targets will be needed along the way. As one of the key legislative measures to support the Union’s increased climate goals, the revision of the Renewable Energy Directive (REDII) should be used to promote a level-playing field for all relevant emission reduction solutions. Only a technology mix can decisively accelerate the defossilisation of our economy. That’s why a stronger consideration of the role of sustainable renewable fuels, and eFuels in particular, is vital here.

The eFuel Alliance therefore takes positive note of the European Commission’s intention to foster the transition from fossil to renewable fuels as outlined in its recent proposal to revise REDII, presented on 14 July 2021 as part of the Fit for 55-legislative package.

However, we fear that the proposed measures are not ambitious enough to unlock the full potential of sustainable renewable fuels. Moreover, the thrust of the Fit for 55-package as a whole suggests that the volumes of renewable fuels that RED requires to be placed on the market will be diverted to the aviation

and maritime sectors at the expense of road transport. As a result, road mobility will be forced into an electrification-only strategy putting investment commitments in renewable fuels in jeopardy (particularly those of fuel suppliers that do not serve the aviation or maritime market). Overall, this places at risk the affordable introduction of promising new technologies such as clean hydrogen and hydrogen-derived products.

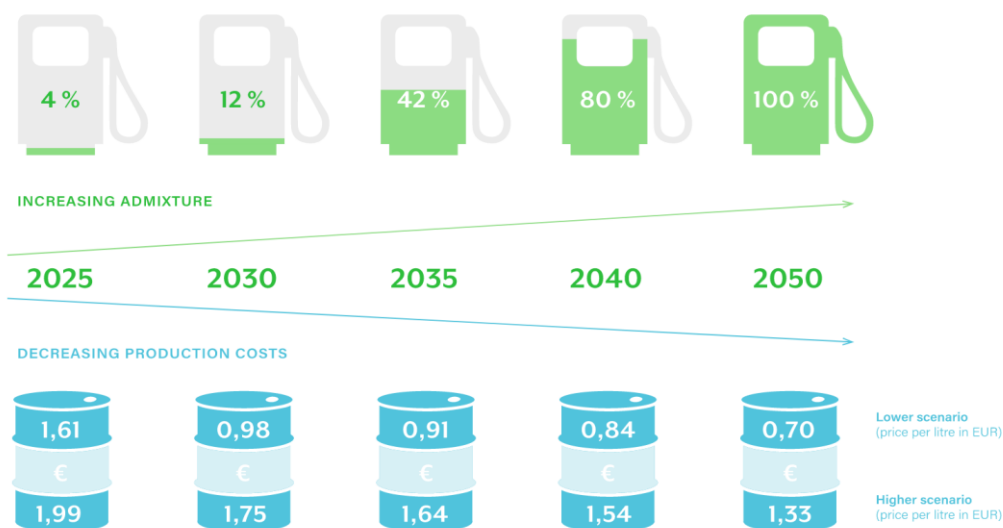
Instead of pitting climate protection technologies against each other, the focus of EU climate policies must be on phasing out the use of fossil fuels in all sectors as quickly as possible and creating effective incentives for the production and deployment of all relevant carbon-neutral technologies, including eFuels. We cannot afford to disregard any technological option for cutting greenhouse gas (GHG) emissions.

eFUELS ARE ESSENTIAL FOR THE SUCCESS OF A SUSTAINABLE ENERGY TRANSITION

To achieve the European Union’s climate targets and limit the global temperature increase to well below 2°, preferably to 1.5° Celsius, all sectors must significantly intensify their efforts to reduce GHG emissions. A promising option is the use of clean hydrogen and hydrogen derived products such as synthetic fuels, so-called eFuels (renewable fuels of non-biological origin – RFNBOs).

By replacing fossil fuels, the deployment of eFuels could contribute to a significant reduction of CO₂ emissions – initially by being blended with conventional fuels (drop-in capability), ultimately as a 100% substitute. This can provide a climate-neutral solution for several sectors: eFuels are suitable for all means of transport powered by an internal combustion engine (ICE), and can complement the market ramp-up of electromobility with an additional climate friendly option, for cases where e-vehicles might face challenges (e.g., not enough charging points, electricity price increase, etc.). They can also be used as feedstock for the industrial chemical sector and are a climate-neutral alternative to conventional heating oil. With increased quantities of eFuels being added gradually and production costs falling due to economies of scale, eFuels would be affordable for consumers in every phase, and for hard-to-abate sectors like aviation and maritime. **By 2050, production costs for eFuels will fall significantly and are expected to be between €0.70 and €1.33 per litre**, according to a study by Prognos AG, the Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT and the German Biomass Research Centre DBFZ.¹

Figure 1 Increasing blending of eFuels with conventional fossil fuels and simultaneously decreasing production costs by 2050 ensure affordable end consumer prices



Another major benefit of eFuels is that they are the only way to store and transport renewable energy from around the world without any energy loss. This will be of central importance when it comes to meeting one of the key challenges of the energy transition, namely the geographical and temporal availability of renewable energy: anytime and anywhere European citizens need access to clean energy.

¹ [Status and Perspectives of liquid energy sources in the energy transition \(2018\). Study by the Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT and the German Biomass Research Centre DBFZ, p. 39](#)

However, sufficient clean energy supply will only be ensured if renewable electricity is transformed and stored in liquid and gaseous hydrocarbons (eFuels) so that it can subsequently be shipped across the globe. According to Eurostat, Europe imports more than 60 % of its primary energy demand.² Even if we succeed in significantly expanding our renewable energy facilities, large parts of the EU will continue to rely on energy imports to manage the green transition of our economy, which is still heavily dominated by fossil fuels. **And this is where eFuels come in: eFuels can be produced in sparsely populated regions across the world, where sun and wind are always available, and then shipped to Europe to provide stored renewable energy in the form of climate-neutral liquid or gaseous synthetic fuels.** Moreover, since eFuels can – and should – be produced outside Europe, they would not compete with the hydrogen industry for the renewable electricity which both manufacturing processes require to run their electrolyzers. Instead, as production volumes increase, eFuels could contribute to the overall cost reduction of clean hydrogen through economies of scale.

TOWARDS A CLEAN AND SUSTAINABLE MOBILITY TRANSITION

In order to make its necessary contribution to achieving EU climate targets, mobility must transition as quickly as possible from fossil fuels to sustainable energy carriers and solutions offering significant GHG reduction. In the transport sector, which is one of the largest contributors to GHG emissions and still highly dependent on fossil fuels, **rapid CO₂ reduction will only be possible through a combination of several emission-reduction pathways, so that different technologies can complement each other.** Effective climate protection is best promoted by establishing a level-playing field among wide-ranging emission-reduction options and keeping abatement costs as low as possible. In addition to the roll-out of e-mobility, sustainable renewable fuels, and eFuels in particular, should therefore also be granted a complementary role in road transport. Putting all our eggs in one basket and relying on a single technology in the road sector would risk squandering precious time and threatening the attainment of the EU climate targets.

Greater consideration of the role of renewable fuels in road transport would also allow the existing fleet to be better integrated into climate protection efforts. This is essential, since vehicles with an ICE will continue to dominate the vehicle fleet for many years to come. **For example, an EU-wide blending of just 5% eFuels to conventional fuel in the year 2030, would result in a saving of 60 million tons of CO₂ – equivalent to taking 40 million cars off the road for an entire year.**³

The revision of REDII provides a crucial opportunity to review and re-evaluate the emission reduction potential of renewable and low carbon fuels in general, and to recognise the options opened up by clean synthetic fuels and hydrogen in particular.

TOWARDS A CLEAN AND SUSTAINABLE BUILDING AND HEATING SECTOR

Given that around 20 million heating systems in the EU run on conventional liquid fuels, eFuels can also contribute to significant CO₂ reductions in the building sector and in domestic heating. As with their deployment in ICEs, eFuels are also compatible with existing modern oil-fired boilers.

One of the main benefits of a stronger promotion of eFuels in the heating and building sector would be that lower-income households would be spared high conversion and renovation costs. Households can thus continue to use their heating systems, and at the same time make a contribution to climate protection. With increased quantities of eFuels being added gradually to conventional fossil-based heating oil, and production costs falling thanks to economies of scale, eFuels would be affordable for consumers even from the very beginning of this process. Renewable synthetic fuels are therefore a cost-effective and economic CO₂ reduction option that can increase consumer acceptance of the clean energy transition.

The emission reduction potential that renewable synthetic fuels, eFuels, can offer in the heating market should therefore be given greater consideration in the review of REDII.

TOWARDS CLEAN AND SUSTAINABLE ENERGY-INTENSIVE INDUSTRIES

Large parts of our industrial base will not be able to electrify. For energy-intensive industries such as chemicals, glass and steel making, which require extremely high temperatures for their manufacturing processes, only renewable fuels can ensure the transition to a clean and sustainable mode of production. Above all, clean hydrogen will be of central importance in the future.

² <https://ec.europa.eu/eurostat/cache/infographs/energy/bloc-2c.html>

³ According to own calculations by the eFuel Alliance

The eFuel Alliance therefore welcomes the EU Commission’s initiative to mainstream renewable energy in industry by setting a binding target of 50% for RFNBOs used as feedstock or as an energy carrier. This will trigger necessary investment in large-scale production of hydrogen technologies. **However, it must be taken into account that energy supply contracts between fuel suppliers and industrial companies are concluded on a long-term basis. Longer planning horizons that go beyond 2030 are vital to ensure planning security and thus create decisive incentives for more investment in hydrogen projects.**

A MORE AMBITIOUS RENEWABLE ENERGY DIRECTIVE

For more than ten years, the share of renewable fuels in transport has stagnated at a consistently low level, even in 2018 making up only 5.2% in total fuel supply in the European fuel market.⁴ That has left the share of renewable energies in transport significantly lower than in other sectors. This is partly due to the lack of incentives for necessary investment in the market ramp-up and deployment of renewable fuels – which in turn is a consequence of unambitious RED targets and a fragmented policy landscape.

In order to boost the deployment of renewable and low carbon fuels, especially in transport, we consider the following policy requirements essential in the revision of REDII:

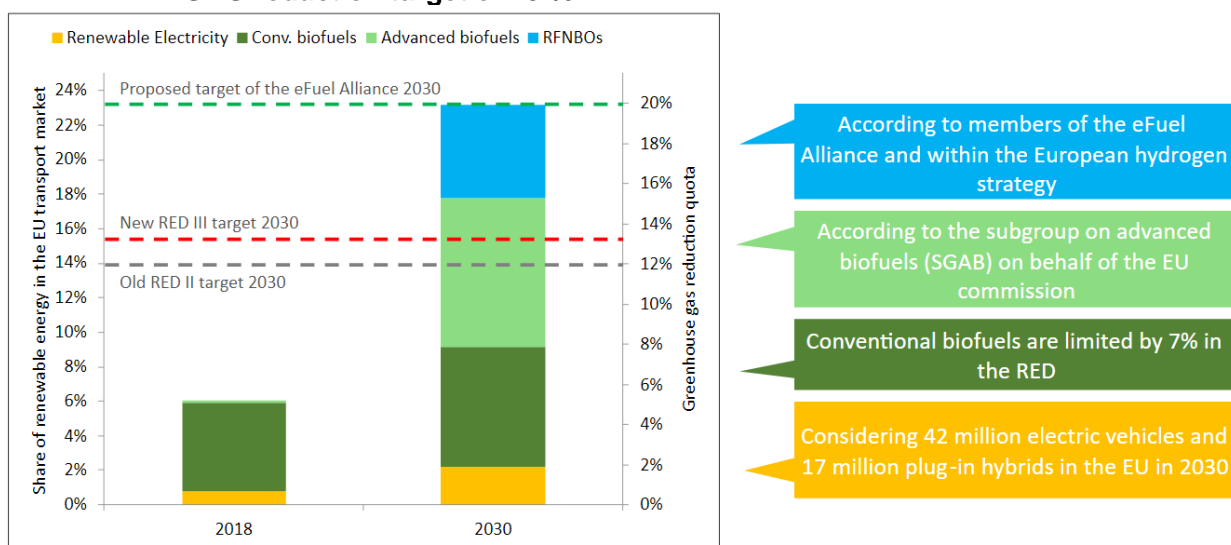
1. Setting more ambitious, but still feasible 2030 RED targets

The eFuel Alliance welcomes the fact that the European Commission is seeking to accelerate the take-up of renewables in the EU and has proposed to increase the current EU-level target of ‘at least 32%’ of renewable energy sources in the overall energy mix to at least 40% by 2030. Likewise, we welcome the Commission’s proposal to align RED with the Fuel Quality Directive by setting a target of at least 13% reduction in GHG intensity in the transport sector by 2030. A focus on the carbon content of the energy carriers is a more technology neutral and effective approach to climate protection than one that refers to individual energy related targets. It also provides fuel suppliers with more flexibility to meet their assigned RED targets in accordance with their individual situations.

However, we doubt that the level of ambition is sufficient to provide adequate incentives for necessary investments in the production of sustainable renewable fuels and to significantly advance the defossilisation of the transport sector. **As part of a consistent EU climate strategy, we therefore recommend setting a GHG intensity reduction target of at least 20% in the transport sector by 2030**, while taking into account the specific CO₂-reduction potential of the respective energy carrier in order to realise a level-playing field for all emission reduction technologies.

Recent studies show that while this goal may seem ambitious, it is achievable. The chart below visualises the quantity breakdown we use to base our calculations on the recommended GHG reduction target:

Figure 2 Quantity breakdown of renewable energy carriers contributing to recommended GHG reduction target of 20 %



Source: Quality of petrol and diesel fuel used for road transport in the European Union (Reporting year 2018). The reporting of electricity consumption is voluntary and only ten member states participated. Simplified GHG reduction factor of 0.85 for all energy carriers.

⁴ [COM\(2020\) 742 final – Report from the Commission to the European Parliament and the Council: Quality of petrol and diesel fuel used for road transport in the European Union](#) (Reporting year 2018), p. 3

The share of **renewable electricity** in a future road transport fuel mix is the most unknown factor, as the market ramp-up of electric vehicles is difficult to predict due to many different parameters, such as expansion of charging infrastructure, electricity price development, consumer acceptance, purchase costs, etc.. We make an optimistic assumption that 42 million electric vehicles and 17 million plug-in hybrids will be on the road by 2030, resulting in an electricity demand of 130.6 TWh. Taking into account a share of renewable electricity of 65 % and a constant overall fuel consumption, we expect a potential contribution of 2.18% GHG reduction from renewable electricity in 2030.

Regarding **RFNBOs**, we see a potential of at least 5% hydrogen and eFuels by 2030. On the one hand, this figure is backed by members of the eFuel Alliance, who can increase their production capacities to meet that goal. On the other hand, 5% eFuels would correspond to 65 GW of electrolyser capacity, falling within the [European Hydrogen Strategy](#) target of 80 GW of installed electrolyser capacity in 2030 – 40 GW within Europe and 40 GW imported from other regions. An analysis of the hydrogen market by [Aurora Energy Research](#) shows that 213.5 GW of electrolysis projects have already been announced – 182.3 GW of which will be in Europe. A [study commissioned by the German ministry of transport](#) and in cooperation with the German plant manufacturer shows that this is an ambitious but realistic goal, provided the industry can adapt to an appropriate regulatory framework. Due to a multiplier of 1.2 for aviation and maritime, and a CO₂ reduction of 90% compared to fossil fuels, our proposed sub-target of 5% corresponds to a GHG quota of 4.9%.

According to RED, **conventional biofuels** are limited to a maximum share of 7 % of the final consumption of energy in the transport sector. With an average GHG reduction of 80 % compared to fossil fuels, conventional biofuels would lead to a GHG intensity reduction of about 5.6 %. With regard to **advanced biofuels**, the [Sub-Group on Advanced Biofuels \(SGAB\)](#) has concluded that the advanced fuels industry could contribute between 7.2% and 10.7% to the total EU transport energy demand by 2030. This is also in line with a [study of the Imperial College London](#), that estimates an even higher sustainable biomass availability in 2030. Conservatively, we assume a value of 8.8 %. A CO₂ reduction of 90% compared to fossil fuels leads to 7.9 % GHG reduction of advanced biofuels.

2. Setting a specific sub-target of >5% for renewable fuels of non-biological origin (RFNBOs)

The eFuel Alliance welcomes the EU Commission's proposal to introduce a specific sub-target for RFNBOs in order to boost the deployment of eFuels in the transport sector. However, we fear that the suggested share of 2,6% by 2030 is too low to spark necessary investment and support their market ramp-up. **Instead, we recommend a more ambitious sub-target of at least 5% of hydrogen and eFuels for all transport sectors in Europe by 2030. In addition, an interim target of at least 2.6% share of RFNBOs by 2028 should be introduced.** Those sub-targets can be achieved if the EU supports the market uptake of hydrogen and eFuels. The revision of the REDII has to go hand in hand with other policy legislation such as the revision of the Energy Taxation Directive, the CO₂ emission standards for new vehicles, and investment incentives such as IPCEI.

Furthermore, we believe that **Article 25(1) needs to be clarified** to determine accurately the share of RFNBOs used as an intermediate product for the production of transport fuels that may be counted towards the transport targets. **Only the share of RFNBOs (clean hydrogen) that remains in the processed fuel consumed in the transport sector (e.g. when used for hydro-cracking) should count towards the RED commitments in the transport sector.** Other uses of RFNBO, such as desulphurization, should count towards the industry's RFNBOs obligations (new Article 22a), as they are not part of the processed fuel, but are consumed during the industrial production process.

3. Removing the possibility of applying multipliers in road transport

The eFuel Alliance is critical of the way the current REDII allows multiplication factors to be applied to certain energy sources, thereby inflating their share in the transport sector in a purely arithmetical manner. This is, because the application of multipliers slows down the actual provision of renewable energies and therefore does not lead to any real emission savings. Moreover, the multiplication factor currently granted to electricity for e-cars, which is higher in comparison to other energy carriers, constitutes unwarranted preferential treatment for one particular technology only.

The eFuel Alliance therefore supports the Commission's proposal that in the future the option of applying multipliers for calculating the minimum shares of renewable energies in road transport is to be removed. This is an important step towards creating a level-playing for all emission reduction solutions and achieving better real results in terms of overall GHG emission reduction. **However, we strongly oppose the 'hidden multipliers' that the EU Commission is trying to introduce** for the

calculation of GHG emission savings in road transport of different energy carriers. Without any scientifically based justification, the EU Commission intends to set different benchmarks for the calculation of the GHG saving potential of renewable fuels and green electricity, which would ultimately lead to preferential treatment of electricity in road transport.

Since both renewable electricity and renewable fuels replace the use of fossil fuels in an internal combustion engine, **the same fossil fuel comparator $E_{F(t)}$ of 94 g CO₂eq/MJ as set out in Annex V of the REDII should apply when calculating GHG savings for both energy carriers.** The fossil fuel comparator of 183 g CO₂eq/MJ for renewable electricity, as proposed, arbitrarily, by the EU Commission, would lead to unequal treatment of different renewable energy carriers in road transport. Under the Commission's proposal the comparator for electricity is 1.95 times higher than the comparator for renewable fuels.

4. Less complex and more long-term oriented provisions are key for predictability and investment security

RED has always consisted of an extremely complex set of provisions, which makes it difficult for industry to comply with the requirements. Unfortunately, the recent Commission proposal does nothing to change this. In addition, we are still awaiting some of its fundamental specifications, such as the methodology for calculating the CO₂ savings of RFNBOs. This lack of basic guidelines massively increases uncertainty for business planning and makes investors reluctant to commit. **We therefore urge the EU Commission to comply with its obligation under the current REDII Article 28(5), which is still in force, and adopt the outstanding delegated acts on the methodology for calculating CO₂ savings of RFNBOs by 31 December 2021 at the latest. The Commission's attempt to avoid a time commitment in the revised REDII, as proposed in Article 29a(3), by not setting a clear date is unacceptable.**

We are also hugely disappointed that it is still not clear when the Union database for renewable fuels, which has been in the pipeline since the end of 2018, will finally be set up. Its swift creation would greatly simplify and streamline the process for certification and monitoring of the sustainability criteria for RFNBOs. **A date when the Union database will be up and running badly needs to be specified in the revised REDII.**

All possible sustainable energy sources need to be scaled up in order to meet the more ambitious 2030 climate targets. In addition to electricity-based synthetic fuels, this also includes sustainable biofuels. A broad feedstock base that ensures the production of such renewable fuels is therefore crucial. However, continuously changing the feedstock lists in the relevant annexes of RED will only lead to more stranded investments, and fewer CO₂ savings.

The production of sustainable renewable fuels, and eFuels in particular, requires long lead times and billions of Euros of investment. **A longer planning horizon that goes beyond 2030, similar to the 2050 roadmap set out in the RefuelEU Aviation regulation, and the rapid provision of clear basic specifications for the requirements that sustainable renewable fuels must meet are essential to ensure planning certainty and thus create decisive incentives for more investment in further projects.**

A MORE COMPREHENSIVE AND COORDINATED EU CLIMATE PROTECTION POLICY

The policies defined in the revision of REDII need to be complemented by the comprehensive coordination of all relevant climate policy legislation to accelerate the defossilisation of our economy and ensure the success of European Climate Protection strategy.

In order to pursue a more holistic approach to climate protection, we therefore consider a stronger linkage with the following legislation essential:

1. Ensuring individual sectors achieve their climate targets only by additional amounts of renewable energy placed on the market

The eFuel Alliance welcomes the fact that the Fit for 55 package aims to strengthen climate protection efforts in the aviation and shipping industry. However, we fear that the general thrust of the Fit for 55 package towards electrification of road transport and some of the other legislative initiatives, such as the FuelEU Maritime and ReFuelEU Aviation proposals, imply a steering effect whereby volumes of renewable fuels already on the market as a result of the RED provisions are diverted away from road transport to aviation and maritime. This is because under the new FuelEU Maritime and ReFuelEU

aviation proposals, no additional volumes of renewable fuels need to be placed on the market to meet the sector specific targets set out in either regulation. Instead, the maritime and aviation industry could meet their quotas with fuel volumes already brought to market under the RED legislation. In practice, this would only lead to completely counterproductive double counting and would not provide additional quantities of climate-neutral renewable fuels for the decarbonisation of transport. **Therefore, we propose that only volumes of advanced biofuels and eFuels that are placed on the market in addition to those resulting from the RED requirements be allowed to meet the sector-specific targets set out in the FuelEU Maritime and ReFuelEU aviation regulations.**

In addition, this would ensure that sufficient quantities of renewable fuels would also be available for road transport. Thus, fuel suppliers that do not service the aviation or maritime market would also be able to meet their RED obligations and would not be forced out of business.

2. Implementing a voluntary crediting system for renewable fuels in EU emission standards for road transport

While the Renewable Energy Directive regulates the supply side for renewables, market-based instruments such as **counting renewable fuels towards EU CO₂ fleet targets should complement and strengthen emission-reduction efforts on the demand side.** This would also guarantee that the fuels produced are as highly attuned as possible to the specifications of motor engines, linking the fuel and automotive sectors in their common drive to improve technological developments. Given that the automotive sector constitutes a target market with a high demand and high willingness to pay for renewable fuels, a voluntary crediting system for additional renewable fuels in the EU emission standards could lead to more efficient coordination of abatement cost/efforts, while maintaining affordable individual mobility.

In addition, the introduction of a crediting system for renewable fuels in the CO₂ emission standards for road transport would mark a first step towards a fair assessment of the climate-relevant contribution of different technologies – and, ultimately, the entry into a life-cycle analysis (LCA) based evaluation of their production emissions.

3. Revising the Energy Taxation Directive

Another measure to support the uptake of Renewable Energy Sources is to consider the positive contribution of renewable fuels to climate protection in energy taxation. **If the energy tax is levied on an environmentally relevant tax base, this promotes the use of sustainable, clean fuels instead of conventional fossil fuels and thus supports their market ramp-up.** Under the current Energy Taxation Directive, fossil and renewable synthetic fuels are treated equally – a clear contradiction of climate ambitions.

ABOUT THE eFUEL ALLIANCE

The eFuel Alliance is a stakeholder initiative committed to promoting the political and social acceptance of eFuels and to securing their regulatory approval. We represent more than 150 companies and associations along the value chain of eFuel production. 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.