

RENEWABLE FUELS CAN REPLACE UP TO 70% OF RUSSIAN CRUDE OIL IMPORTS BY 2030

Our contribution to solving the European energy dilemma

Providing Europeans with secure, sustainable, competitively produced and affordable energy has been at the top of the European Union's (EU) agenda for some time. Accompanied by a high dependence on imports and ambitious climate targets, the EU is trying to solve a dilemma. On the one hand, it needs to ensure a secure supply with minimal external vulnerabilities, and on the other hand, it needs to make the energy sector environmentally friendly to achieve climate neutrality of the economy by 2050. Let's not delude ourselves: With imported fossil fuels currently meeting about 60%¹ of energy needs and renewables accounting for only 15%² of European energy consumption, the EU is a long way from an environmentally friendly, climate-neutral and secure energy supply.

In the search for solutions to this European energy dilemma, the aspect of globality plays a particularly important role, because both energy markets and climate change have a global dimension. Large parts of Europe will remain dependent on energy imports, as EU scenarios show. International cooperation must therefore be given a greater priority. Reserves of fossil fuels are largely concentrated in a few regions of the world, which increases dependence on individual states. The potential of renewable energies, on the other hand, is much more diversely distributed. However, renewable electricity is difficult to store and transport over long distances.

Therefore, conversion into chemical energy carriers such as eFuels is necessary to exploit the global potential. eFuels can be produced where climatic and geographic conditions allow cost-effective production and competing uses do not exist. Wind turbines in Patagonia, for example, are four times as effective as in Germany. Sustainable biofuels can also be sourced globally. eFuels make it possible to store electricity from renewable sources and distribute it globally via an existing transport system (tankers, refineries, pipelines, filling stations). eFuels must be used in various sectors in the long term: Transport, in the heat sector or in industry. One liter of renewable fuels replaces one liter of fossil fuels.

It is thus clear that the EU will continue to need global partnerships to a greater extent in the future to guarantee its own energy supply - but in a much more diverse way on the basis of renewable energies. Without internationalization of the energy transition, the climate goals and the transformation to a climate-friendly society cannot be achieved.

The EU Commission has recognized this in parts and announced the REPowerEU program on March 8. In addition to many reasonable steps, including higher European biogas production and more imports of hydrogen, RePowerEU should be technology-neutral and use all possibilities. In the communication, the European Commission is considering InvestEU support for heat pumps, solar and wind energy. The scope of support should be broadened to include both financing and demand-side measures for advanced biofuels and synthetic fuels. Unfortunately, the EU does not refer to the fact that important regulations to achieve these goals, such as the Renewable Energy Directive (RED) or the revision of the energy tax, are currently being discussed in the European Council and Parliament. With ambitious decisions here, measures could be implemented immediately that would have a direct impact. **REPowerEU must therefore be combined more closely with the Green Deal in order to exploit synergies.** The Federal Republic of Germany, as the largest member state of the EU, with the largest globally networked economy and correspondingly high energy requirements, must take on a central leadership role here. We call on the German government to play this role in the upcoming decisions in Brussels. National solo efforts in energy policy no longer help us - only a European approach can help us solve the major problems.

¹ [Eurostat](#) energy imports dependency, 2019

² [Eurostat](#) share of products in total energy available, 2019

SOLVING THE MAIN CHALLENGES

Expansion of renewable energy: The basis for diversification of energy supply and reduction of import dependency is the expansion of renewable energy with two thrusts. As much and as efficiently as possible in the EU and at the same time the development of global potentials for hydrogen and eFuel production through international energy partnerships. For this purpose, a plannable, long-term demand must be stimulated as quickly as possible by European regulations, which are currently being discussed and decided in Brussels within the framework of the Green Deal.

Voluntary incentives instead of bans: Energy will be a scarce commodity in Europe in the coming years. In this respect, it is right to use this energy as efficiently as possible. Every kilowatt hour avoided reduces dependence on imports. But saving energy has limits that should be respected. Voluntary incentives, e.g. for energy-saving renovation of the building envelope, modernization of house and building technology, improvement of public transport and increasing use of renewable energies will find more social support than political bans, e.g. of combustion engines or gas and oil heating systems, and should therefore always be given preference.

Breaking through ideological thought patterns now: The fact that all technologies are needed is currently painfully evident from the lack of LNG terminals in Germany. Therefore, all solutions that contribute to climate protection should be considered on an equal footing. On the other hand, it has been shown that limiting options leads us into a dangerous dependence on the remaining options. Restricting the use of hydrogen and eFuels to single sectors such as industry, aviation and shipping; further limiting the use of biofuels or the complete electrification of road transport would be repeating such mistakes and lead us into the next dependency e.g. on an available charging infrastructure, regional power generation or raw materials for the production of batteries. We also no longer have the time and capacity for ideological clashes and distributional discussions. Fossil fuels must be replaced now with all possibilities!

Technology openness: To achieve the climate targets, it is essential to enable the market ramp-up of CO₂-free hydrogen and its downstream products such as eFuels without delay and to create the necessary regulatory incentives. The market ramp-up of eFuels can only happen if a level playing field is created for all technological options and a technology-open framework is enforced. The same applies to sustainable biofuels. All available technologies should be able to contribute to climate protection. Sustainability, innovation, competition and acceptance can thus be reconciled. Only in this way can the energy market decide freely and on the basis of market economy principles, e.g. between efficiency improvements or the import of eFuels from favorable locations.

Renewable fuels become competitive: The current situation shows that renewable energies can enable more stable energy prices. Final fuels products for customers are likely to be less affected by market distortions in the fossil fuels sector when they contain a higher blend of renewable fuels. Thus, based on the current price increase, sustainable biofuels and eFuels become competitive vis a vis fossil fuels. Super E10, with almost twice the biofuel content, is cheaper than diesel in Germany for the first time, among other reasons. This can currently be seen most clearly at CNG filling stations for natural gas vehicles in Germany. Due to more than 80% biomethane at the filling stations, prices at the filling station remain stable³.

Diversity through eFuels: : [The Finish LUT University](#) has used a global renewable energy model to calculate which countries are suitable for the production of eFuels based on regional conditions and can export eFuels in addition to their own supply. In total, more than 30 countries are available to export synthetic fuels - significantly more countries than for fossil fuels. The [PtX-Atlas](#) of the Fraunhofer Institute for Energy Economics and Energy System Technology also impressively shows the global eFuel potentials: according to this, there is a convertible potential of 69,100 TWh of hydrogen and 57,000 TWh of eFuels outside Europe (For comparison: for global aviation, a total of at least 6,700 TWh will be required in 2050; for global shipping, 4,500 TWh)⁴. In addition, eFuels can also be produced in Europe if sufficient renewable energy potential is available, e.g., in Scandinavia and Southern Europe. Global supply clearly exceeds potential demand.

³ [GibGas](#)

⁴ [New Atlas shows for the first time global Power-to-X-Potentials](#)

Build energy partnerships: There is already global competition for the best and safest locations to produce hydrogen and eFuels, as large consumers like China in particular are also heavily import-dependent. It is therefore important for the EU to secure itself in good time through energy partnerships and to develop diplomatic relations. Here, social and ecological interests of the producing countries should have the highest priority.

Reduce energy dependencies: The mistakes of the past should not be repeated. Therefore, diversity among energy suppliers must be ensured from the outset to avoid dependence on a few. In the future, the import share per energy source could be limited per country. At the same time, production plants in countries with a low import share should be promoted more strongly, e.g. via additional criteria in tenders such as [H2 Global](#).

Use existing infrastructure: In the medium to long term, the import of energy must be converted to a CO₂-neutral basis. To this end, it is important to maintain existing infrastructure such as pipelines and refineries so that climate-neutral eFuels can be imported in the long term. This should also be prioritized in REPowerEU. At the same time, the new infrastructure, e.g. LNG terminals, must be built in such a way that green hydrogen can also be imported in the future.

Demand stimulation in the RED: The easiest way to achieve European demand for climate-friendly energy sources is through an ambitious design of the Renewable Energy Directive (RED). We call for an increase of the overall quota to 20% GHG reduction and a minimum quota for green hydrogen and eFuels of 5% in 2030. These increases will lead to billions of investments from the private sector in the necessary industrial expansion of a renewable power generation, especially at top international locations, and synthetic fuels produced from it. In total, 60 million tons of CO₂ reduction per year can be avoided with the minimum quota for eFuels alone. The amount of eFuels would be enough to make 40 million passenger cars climate neutral. In 2020, the EU imported 113 million tons of crude oil from Russia⁵. In 2018, approximately 3.900 TWh of transport fuels were consumed in the EU⁶. With an ambitious GHG quota of 20% in the RED, about 920 TWh of fossil fuels could be replaced. In terms of energy, this corresponds to 70% of all Russian crude oil imports while fully ensuring mobility supply.

Demand stimulation in the CO₂ fleet regulation: Crediting renewable fuels in the CO₂ fleet regulation for new passenger cars, light and heavy-duty commercial vehicles would allow the automotive industry to demand additional volumes beyond the RED for applications that are difficult to electrify. This would provide further necessary investment in the future.

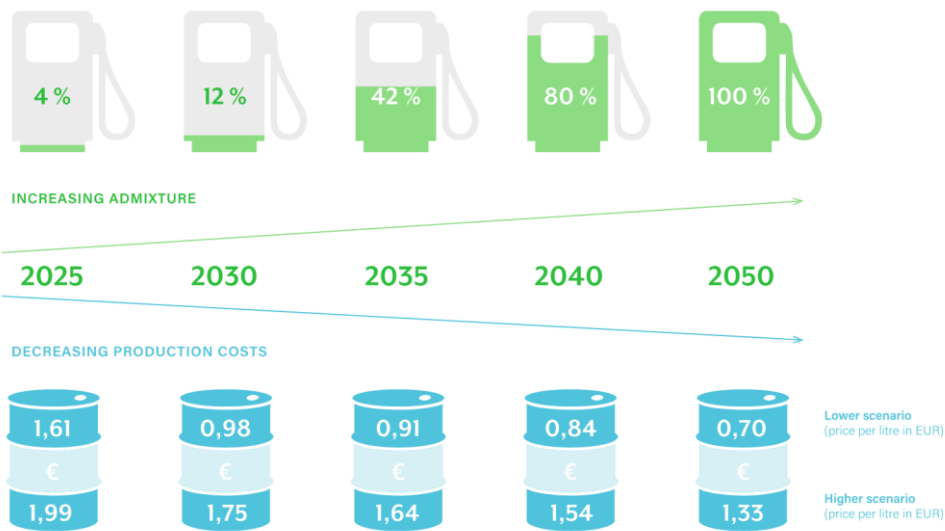
Social compensation through energy tax: The energy tax is an ideal instrument to compensate for the additional costs of renewable energy sources compared to fossil fuels. The energy tax currently does not differentiate between renewable and fossil fuels. With the new minimum tax rates proposed by the EU, investments in renewable energies would be possible without a price increase at the pump. For this to happen, the EU would have to decide unanimously in favor of climate protection, as is currently the case with other issues. In the short term, lower incomes should receive additional support.

Blending dampens price increases: Due to low blending volumes at the beginning, the fuel market automatically compensates for the additional costs of renewable fuels. This is less than the introduction of the CO₂ price on fuels in Germany. Price increases at higher blends can be compensated by economies of scale for eFuels: Currently, eFuels are not yet produced on an industrial scale. When this happens, significantly lower production costs can be expected. The same has happened with wind and PV or batteries. According to a study by Prognos, if the market were to ramp up to 100% in 2050, eFuels would remain below current gas station prices as shown in the following chart⁷. With a change in the energy tax (see point 9), additional costs could be completely compensated.

⁵ [Eurostat](#) Imports of oil and petroleum products by partner country

⁶ [Quality of petrol and diesel fuel used for road transport in the European Union](#) (Reporting year 2018)

⁷ [Prognos](#) (2020), STATUS UND PERSPEKTIVEN FLÜSSIGER ENERGIETRÄGER IN DER ENERGIEWENDE



1 Lower scenario (price per litre in EUR)

Year	Diesel	Super
2025	1,21	1,34
2030	1,24	1,36
2035	1,36	1,46
2040	1,50	1,59
2050	1,38	1,45

2 Higher scenario (price per litre in EUR)

Year	Diesel	Super
2025	1,22	1,36
2030	1,36	1,48
2035	1,75	1,85
2040	2,19	2,28
2050	2,17	2,24

ABOUT THE eFUEL ALLIANCE

The eFuel Alliance is interest group working for the political and social acceptance of eFuels and for their approval. We represent more than 170 companies, associations and consumer organizations along the eFuel production value chain. We stand for fair competition and a level playing field for all relevant emission reduction solutions. We are clearly committed to greater climate protection and want to see the significant contribution of eFuels to sustainability and climate protection more widely recognized. Our goal is to enable the industrial production and widespread use of CO2-neutral fuels from renewable energy sources.