POSITION PAPER

eFUEL ALLIANCE CALLS FOR A FAST AND PRAGMATIC IMPLEMENTATION OF THE OUTSTANDING DELEGATED ACTS (ARTICLE 27 AND 28 OF THE REDII)

GENERAL REMARKS

The eFuel Alliance clearly supports the European Commission's (COMs) climate-neutrality target by 2050. To achieve this goal and limit the global temperature increase to well below 2° Celsius of pre-industrial levels, all sectors must significantly intensify their efforts to reduce greenhouse gas (GHG) emissions. The transport sector, and in particular road transport, must play a key role in this as it accounts for one fifth of GHG emissions in the EU, and thus holds great reduction potential. Hydrogen-derived products, such as carbon-neutral synthetic fuels, can make a decisive contribution here – initially by blending with conventional fuels (drop-in capability), and ultimately as a substitute for them. They provide a climate-neutral solution for several sectors, as they are suitable for all vehicles powered by an internal combustion engine (ICE), represent a climate-neutral alternative to conventional heating oil and can also be used as feedstock for the industrial chemical sector.

In its European Hydrogen Strategy, published on the 8th of July 2020, the COM acknowledges hydrogen as "a key priority" and "essential to support the EU's commitment to reach carbon neutrality by 2050". In order to make clean hydrogen a viable solution in the decarbonisation process of our economy, the COM sets a target of up to 80 GW of installed capacity of electrolyser in 2030 – 6 GW already in place in 2024.

This ambitious goal can only be achieved though if pragmatic conditions are implemented immediately to incentivise the necessary investments in the market ramp up of hydrogen and hydrogen-derived products such as synthetic fuels (so-called eFuels). These carbon-neutral energy carriers are covered by the COM's definition of "renewable fuels of non-biological origin" (RFNBO in Article 2(36) REDII). However, the still pending delegated acts deriving from article 27 and 28 of the Renewable Energy Directive (REDII) prevent any engagement in large-scale hydrogen projects in the EU. That is because final investment decisions cannot be made as long as the renewable electricity supply concept (article 27) and the GHG reduction methodology (article 28) remain unknown.

We therefore call on the COM to present proposals for the pending delegated acts by June 2021, together with the proposal of the revision of the REDII, in order to kick-start a European hydrogen economy. In this position paper we discuss the results of the first official stakeholder workshops on both delegated acts and offer political recommendations to complement the existing work.

DELEGATED ACT ARTICLE 27: POWER SUPPLY CONCEPTS

In recital No. 90 of the REDII it is specified that *"The Commission should develop, by means of delegated acts, a reliable Union methodology to be applied where such electricity is taken from*

the grid. That methodology should ensure that there is a temporal and geographical correlation between the electricity production unit with which the producer has a bilateral renewables power purchase agreement and the fuel production. […] Furthermore, there should be an element of additionality, meaning that the fuel producer is adding to the renewable deployment or to the financing of renewable energy." The COM has commissioned the research institute Fraunhofer ISI, the technical university of Vienna and the consultancy Guidehouse to develop appropriate proposals to meet these criteria. The consortium presented initial considerations in a public stakeholder event on 13th of October 2020, which form the basis of our deliberations.

Three different cases of the potential power supply to produce hydrogen or eFuels were presented. First, usage of average grid electricity while meeting the 70% GHG emission savings requirement as lied down in Art. 25.2. Second, the direct supply of renewable electricity to an electrolyser by connecting it directly to a power plant. And third, a suitable concept for a RFNBO plant connected to the public electricity grid but powered by renewable energy sources only. At this point it is worth mentioning that the electricity market is set to be fully decarbonised in any case due to the further decreasing quantities of certificates in the European Emission Trading System (EU-ETS), which in turn ensures that the power supply will only come from renewable sources in the long term.

Case 1 – Average grid electricity:

The general consideration of the **average GHG emissions of the electricity grid** is worthwhile but has to be compared to the other cases in terms of complexity to ensure a fair competition between all member states in the EU. That is because currently, only very few European countries such as France, Austria, Norway, Sweden and Iceland have an electricity grid that meets the required GHG reduction of 70% for the production of hydrogen and eFuels. These countries can offer a high degree of investment security, because a) the requirements for the additional GHG emission-reduced power supply can be easily met, b) there is a high degree of utilisation of the facility (in principle the eFuel plant could operate the whole year) and c) there is easy access to the capital market.

If the conditions in case 2 and 3 are more difficult to fulfil than in case 1, hydrogen projects will only be launched in these few countries. Other countries will not have a fair chance to compete.

Insisting on compliance with the requirements in case 1 would be comparable to the COM demanding that new electric vehicles are only allowed to enter markets with a certain GHG intensity in their electricity mix.

Case 2 – Direct Connection:

The **direct connection of an electrolyser to a RE plant** is easy to verify and does not require much bureaucracy. This concept is likely to be applied in rural areas, where large new integrated facilities are installed, e.g., the Porsche/Siemens plant in Chile.

However, it should be possible to combine this case with other cases, or to elaborate on it further in order to take certain aspects into account. This would be appropriate because, for example, for the electrolyser to operate as consistently as possible, the output of the RE plant will generally exceed the power demand of the electrolyser. Hence, approximately 25% of the electricity generated could be fed into the public grid as excess electricity, but this would require a grid connection, which is excluded in case 2. This can be solved by allowing combinations of different power supply concepts. It should be possible to operate a plant for example 3,000 full load hours (FLHs) with case 1 and further 2,000 FLHs with case 2.

Furthermore, the wording, that the RE plant has to come into operation *"at the same time or after"* as the installation of the eFuel plant is not clear. It should therefore be specified in more detail to take into account situations such as when the construction of an eFuels plant is delayed. More flexibility and realism are clearly needed here.

Case 3 – Renewable grid electricity:

According to the REDII, **grid-connected fuel production** must meet the criteria of renewable origin, including the requirements for the temporal and geographical correlation between the electricity generation unit and the fuel production. At the stakeholder workshop a phase-in period was presented in which the requirements are increased over time so as not to stall the RFNBO scale-up, and to encourage "first-movers".

We strongly support this pragmatic approach. However, the phase-in period should be limited by a certain amount of installed capacity (e.g., the 6 GW of the European hydrogen strategy) and not by a specific time limit. In the following areas, we would like to propose sufficient and pragmatic definitions of the above-mentioned criteria:

1. **Renewable origin:** The electricity should come from renewable sources only, which can be verified by either guarantee of origin (GO) or power purchase agreements (PPA). It is not coherent to exclude nuclear power as an energy source here, while this is not the case when considering GHG intensity of the electricity grid only (see case 1). Nuclear power cannot fulfil those obligations but possible in case 1. This is not a coherent approach. Further, the criteria should make an explicit notice of renewable electricity here referring to renewable electricity from non-biological origin - e.g., biomass CHP being excluded.

2. **Temporal correlation:** In the phase-in period, we advocate for a monthly basis, as there are currently no GOs for smaller time intervals. After the phase-in period, this criterion can be reduced to a daily basis. The verification can take place by the GO or PPA used. We

disagree to the correlation of specific shares of renewable electricity in previous years as stated as follows: […] "*the share of renewable electricity in the same quarter of the hour in the bidding zone where the electrolyser is located is higher than the average share of electricity from renewable sources in the country where the electrolyser is located"* […]. That would limit the capacity factor of the electrolyser to 4,380 hours per year even if PPAs of specific renewable energy plant would allow a longer operation time. Therefore, a level-playing field to case 1 and 2 does not exist and most European eFuel project will not be economic feasible.

3. **Geographical correlation:** The geographical correlation should be based on defined bidding zones, which are not separated by permanent grid congestion[1]. In addition, grid connections between different bidding zones can be shown to be uncongested by maintaining enough transmission capacities. As an example, if electricity is generated in one Member State and used by an eFuels plant in another but grid capacity between the two locations is uncongested and enough transmission capacity is available, the assets may reside in two bidding zones but be sufficiently geographically correlated. The identification of grid congestions should be considered at the time of the final investment decision, rather than afterwards in order to provide a sufficient degree of security of investment.

4. **Additionality:** The additionality requirement should be deemed as fulfilled in cases where the RE plant isn't receiving any offtake subsidies. In addition, RE that would otherwise be curtailed, and ancillary service like balancing energy should be considered as "additional" as well. We disagree with the statement *"the installation generating that renewable electricity covered by the power purchase agreement came into operation in the same year 12 months as the installation producing the renewable hydrogen, or later"* because it would only allow electrolysers if new renewable energy plants are possible. Curtailed electricity or existing renewable electricity plants without offtake subsidies would not be considered if only PPAs of new plants are taken into account.

In general, we point to the inconsistency of an approach that requires that hydrogen and eFuels have to meet criteria like additionality, temporal or geographical correlation while other technology applications like battery electric vehicles or heat pumps do not have to provide such evidence and therefore receive preferential treatment. Here, different technologies are plainly treated in different ways. We advocate a level-playing field for all technologies. In principle, we recommend considering the following policies in the del. act of article 27:

[1] Grid congestions are well-defined by the European Network of Transmission System Operators for Electricity (entsoe)

- For a level-playing field of all technologies, the criteria of REDII recital 90 should apply for all modes of mobility and not only for electrolyser, which produce hydrogen and eFuels.
- If criteria for electricity supply are introduced, the complexity of meeting these criteria should be the same in all member states. This is necessary to avoid an unfair competitive situation, as hydrogen projects would otherwise only be built in countries with low GHG intensity of the electricity grid, since the criteria of case 3 (renewable grid electricity) would be more difficult to meet than in case 1 (average grid electricity).
- In general, a combination of different cases should be possible. For example, if a certain amount of electricity can be supplied by direct connection but in addition grid power supply is conducted to balance the grid with ancillary services.

DELEGATED ACT ARTICLE 28: GHG REDUCTION METHODOLOGY

On the 18th of June 2020 the COM presented together with the Joint Research Center (JRC) a "draft methodology for assessing greenhouse gas emission savings from renewable liquid and gaseous transport fuels of non-biological origin (RFNBOs) and recycled carbon fuels (RCFs)". We agree with the presented formula of GHG emissions, which includes emissions from processing, carbon capture, transport and distribution as well as the combustion of the fuel in its end use. We also welcome the possibility of deducting emission savings from carbon capture and storage as well as recycled carbon. Emissions from the manufacture of machinery and equipment must be prevented from being included as the COM has proposed to avoid further bureaucracy and increase the complexity.

We do understand the differentiation between rigid and elastic input streams and agree that additional emissions resulting from an increase of the input stream have to be considered. We also appreciate the efforts to reduce bureaucracy by a) ignoring emissions accounting for less than 5% from all inputs and by b) assessing emissions intensity from literature-hierarchy if less than 15% of emissions from all inputs are reused. We also agree with measuring the actual emissions if more than 80% of emissions from all inputs is used. However, it is not evident how to handle the range of 15 to 80% of recycled emissions. This needs to be clarified.

With regard to possible carbon sources, we appreciate the COM's perspective to consider all industrial CO_2 sources in addition to biological sources, and CO_2 captured from ambient air. We agree that *"the effect on the climate is the same whether the CO_2 is captured from the air, or from a chimney just before it enters the air"* as the COM stated in their presentation. Since avoidable CO_2 sources will disappear anyway due to the further decreasing quantities of certificates in the EU-ETS, in the long-term no one will invest in an eFuel project where the CO_2 comes from a lignite power plant, for example.

In any case, double counting e.g., in the EU-ETS and as a RED-compliant eFuel should be avoided as already declared by the COM.

In sum, we welcome the pragmatic approach of the presented methodology. The certification scheme should cover all end-use sectors and not just the transportation sector and should be valid in all member states. From a stakeholder perspective it is useful to review the full regulative text as soon as possible to avoid any misunderstandings. In any cases, we would welcome to discuss details and calculate examples before the publication of the delegated act. Here are our main political recommendations:

- Introduce the methodology of GHG reduction for hydrogen, eFuels and recycled carbon fuels in the review of the REDII in June 2021
- Allow all possible CO_2 sources but avoid double counting e.g., with the EU-ETS

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 represent more than 130 companies along the value chain of the 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.