

EFET response to the EU Commission proposal for the RED II Delegated act on renewable liquid and gaseous transport fuels of non-biological origin

The European Federation of Energy Traders (EFET)¹ welcomes publication of the Delegated Acts which seek to provide clarity on production of RFNBOs, though conditions may still benefit from further definition. To encourage commercial investment in electrolyzers, which will in turn allow earlier production of RFNBOs and development of a market in renewable hydrogen attributes, it will be important to enable their operation in wide and changing circumstances. Comments below seek to avoid unintended constraints and define where further clarity would be helpful in order to help promote achievement of the targets for production of renewable hydrogen.

Summary

Identifying the renewable or non-renewable status of fuels of non-biological origin (RFNBOs if deemed to be renewable) in the transport sector is important for the qualification of production of hydrogen through water electrolysis as “green” or “renewable” itself. In the future, this is going to be relevant for other sectors, as well, according to the draft RED II revisions as published in the context of the Fit for 55 package.

EFET has analysed the Delegated Act establishing a methodology on the qualification as “fully renewable” of electricity used in the production of hydrogen by electrolysis under recital 90 and article 27 (3) of RED II on the assumption that similar provisions will apply in the future to hydrogen produced using electrolysis in all consumption sectors covered by RED III. In this context, the European Federation of Energy Traders (EFET) would like to make the following points on the proposals of the EU Commission:

- Qualifying criteria should be objectively justifiable in the long run, without unduly hindering electrolyser investment projects and the establishment of a competitive and liquid European market in hydrogen in the short run.

¹ The European Federation of Energy Traders (EFET) promotes and facilitates European energy trading in open, transparent and liquid wholesale markets, unhindered by national borders or other undue obstacles. We build trust in power and gas markets across Europe, so that they may underpin a sustainable and secure energy supply and enable the transition to a carbon neutral economy. EFET currently represents more than 100 energy trading companies, active in over 27 European countries. For more information: www.efet.org

- Ideally, flexibility can be facilitated by accepting that the market is the prime determinant for attributing carbon emissions² from and different values to different types of hydrogen production.
- Power purchase agreements (PPAs) or similar bilateral power offtake contracts, coupled with issuance and cancellation of guarantees of origin (GoOs), may help producers of green hydrogen fulfil all additionality and geographic and temporal correlation criteria.
- We strongly object to hourly temporal matching and counter-suggest the transition to daily matching after 2027. If the EU Commission is unwilling to move away from hourly matching, we counter-suggest the extension of monthly correlation until 2030.
- Any storage capacity contracted by a RES-E generator or by an electrolyser operator should be deemed to qualify as additional, as long as its use is envisaged in a contract between them and as long as the RES-E plant qualifies as additional generation capacity regardless of where they are placed.
- We support the establishment of a 90 percent threshold of RES-E share in the bidding zone where the electrolyser is located as an effective sunset clause. However, the EU Commission may wish to review this provision after three years to ensure that this percentage is the right one.
- To create certainty in a future market for the renewable attributes of hydrogen, each electrolysis operator should be free to mix and match according to the provisions of the additionality delegated act and the delegated act on greenhouse gas (GHG) emissions savings.
- We call on the EU Commission to provide further clarity for the market to assess the practical value and effect at least of the marginal plant rule under the GHG delegated act.
- We would also need further clarity on the practical value and effect of the neighbouring bidding zone rule under the additionality delegated act.
- The phase-out of the Delegated Acts should be clearly foreseen due to the need for legal certainty for investments and their limited relevance upon full

² The EU ETS serves as a mechanism to robustly cap the CO₂ emissions from the industry and energy sectors.

implementation, given the future greater penetration of renewable and low-carbon energy in most member states (MS).

1. General comments

Electrolysis technologies are currently in the early stages of commercial deployment for energy applications, although they are eventually expected to become economically viable subject to a robust carbon price by 2050. To achieve the deployment of electrolyser capacity on a large scale, decisions made by power market participants, and resulting purchase contracts based on price signals in the market, should offer the best indicator of when it is efficient to use renewable power for electrolysis, rather than for direct consumption.

We realise that, in view of the EU Commission, the criteria of additionality, temporal association and proximity of generation of renewable electricity (RES-E) will ensure the credibility of the qualification of hydrogen as an RFNBO, to be recognised as a net contributor to decarbonisation. However, we caution against too rigid of a design and interpretation of the framework conditions under RED II. Such a design and interpretation would not promote competition as it would raise barriers to market access. This would complicate and make more expensive³ the ramp-up of markets in hydrogen and in green attributes of hydrogen in the EU, possibly delaying it in all sectors. It would hence hinder the delivery of the aspirations of the EU Hydrogen Strategy, which have now become even more ambitious under the REPowerEU plan.

The current commercial reality of the high cost of building and running electrolysis facilities should guide the production of vitally important rules to help kick start the growth of the hydrogen economy. We estimate the full cost per kWh of green hydrogen to be four times higher than that of blue hydrogen at current input prices. Even in later years, too rigorous a limitation of a choice of RES-E sources for suppliers of power to electrolysers would contradict the portfolio bidding approach, which underpins the EU power market design.

³ Extra costs could stem from a lower load factor or the addition of battery storage to add flexible capacity, for example.

2. Critical items

2.1 Additionality and the triple role of RES PPAs

We envision a triple role⁴ for long-term PPAs and similar types of bilateral power offtake contracts between the developer or owner/ operator of a RES-E generation plant and the owner/ operator of an electrolysis unit, coupled with issuance and cancellation of GoOs:

1. As a contractual framework supporting the development of new RES production and helping green hydrogen producers demonstrate fulfilment of all criteria under the Delegated Act – additionality, geographical and temporal correlation.
2. As a means of flexibility relieving a new/ recently commissioned RES-E plant from the obligation of proving additionality.
3. As a broader traded solution providing eligibility not only if concluded between a generator and a supplier, but also considering the role of intermediaries.

We thus give a qualified welcome to the intention of the EU Commission to relax the criterion of additionality to 36 months after commissioning of a RES-E installation under article 4 (2) (a). Furthermore, we broadly welcome the opportunity for existing RES-E installations to be deemed to enjoy a new lease of life under a new PPA subject to conditions.

Regarding article 4 (2) as a whole we welcome the intention of the EU Commission to consider multiple offtake contracts, including those involving a sleeve for physical delivery.

An electrolyser operator should have the choice to mix and match between PPAs, to have PPA swaps, or even VPPAs⁵. An electrolyser tied to a PPA from a single nearby renewable production facility is going to run with a very low load factor. By building that possibility into the contracting process, an electrolyser can be tied with as many PPAs as commercially required – corresponding to potentially multiple renewable

⁴ In our view this triple role should be equally valid in the case of financially supported and non-supported plants (see section 3.2).

⁵ A contract under which the RFNBO producer agrees to purchase guarantees of origin directly (or via an intermediary counterparty acting on its behalf) from an electricity producer, in which case the contract does not involve the delivery of electricity, which is delivered to the grid and sold to wholesale markets, while the RFNBO producer purchase electricity from the grid. Elements embedded in a VPPA include the contract for difference (CfD) type of pricing between the RES-E plant owner and the electrolyser operator and the interposition of a local supplier (or portfolio manager) to make the spot or load following deliveries. The RES-E generator that enters into these CfDs and has been exposed to the price nearby will still be exposed to the additionality and the geographical and temporal correlation criteria under the delegated act.

production facilities. A local utility that brings together electricity from various renewable production facilities to sell to an electrolyser will have many renewable production facilities upstream and many electrolysers downstream. Intermediaries ensure optimisation of requirements for the signing of PPAs between the different parties for those PPAs to count. According to article 4.2 fuel producers are enabled to count electricity taken from the grid as renewable, provided they conclude one or more RES PPAs with economic operators. We welcome the way in which this “many to many” relationship is facilitated.

2.2 Temporal correlation

We call on the EU Commission to relent on the implementation of hourly matching of electricity consumption with generation as of 2027. We could accept the transition from monthly to daily temporal correlation, as the electricity market should, in time, be able to offer sufficient incentives for storage options via price signals. Therefore, a daily option could suffice after the transition phase involving monthly correlation.

However, if the above solution is not possible to implement, we call for the transitional period of monthly temporal correlation to be extended by another three years to 01 January 2030, which is consistent with the likely commissioning of the first industrial scale green hydrogen projects and the development on the initial hydrogen backbone.

A study performed for an EFET member company found that for electricity purchased from wind power stations, there was a cost-saving amounting to 0.4 €/kg (-11%) for a monthly accounting period compared to a quarter-hourly and around 0.7 €/kg (20%) for an annual accounting period⁶.

Research done by another member company has found that granularity corresponding to monthly matching may improve the load factor of an electrolyser thanks to two additional effects: 1) improvement of the utilisation rate of renewable energy sources, especially for solar PV, 2) the effect synergy when combining PV and wind, which maximizes the load factor of an electrolyser up to ~80%. This drastically reduces the CAPEX for a given volume of hydrogen production. It hence reduces the costs of hydrogen by a factor of 10 - 15% despite the slight increase of the power supply cost due to RES profile shaping.

⁶ <https://www.frontier-economics.com/uk/en/news-and-articles/news/news-article-i8584-red-ii-green-electricity-criteria/>

2.3 Additionality of storage assets

We find unreasonable the restriction of the location of an electricity storage asset behind the same network as the electrolyser under article 4 (2) (c) (ii). The location of the storage asset should not matter as long as it's on the same side of the congestion as the electrolyser and the RES-E plant in a given hour. From a system integration perspective, it would be preferable for the storage asset to be located closer to the renewable power plant, whereas it could be located closer to the electrolyser when the operation of the latter needs to be optimized. Whether additionality is required or not of the storage asset, it seems logical that the location could be virtually anywhere, including on these two sides.

We therefore propose to have a storage asset involved in a PPA linked to a RES-E plant. As long as electricity from an identified renewable plant is put into storage, the operator could then take it out at different times. This way, they would effectively qualify for additionality, and they would extend their geographical and temporal correlation possibilities by building their storage and using that sometimes.

2.4 The 90 percent rule on the location of electrolysers

We support the establishment of a 90 percent threshold of RES-E share in the bidding zone where the electrolyser is located as an effective sunset clause, under article 4 (1). However, the EU Commission may wish to review this provision after three years to ensure that this percentage in article 4 (1) is the right one.

2.5 Interplay of the additionality delegated act with the GHG delegated act

To create certainty in a future market for the renewable attributes of hydrogen, hydrogen producers should be able to top up their output by reference to the GHG savings delegated act, even if they mostly produce hydrogen which qualifies as renewable under the additionality delegated act. Each electrolysis operator should be free to mix and match according to the provisions of the two delegated acts. We would caution against an over-prescriptive regulatory approach, as that would constrain the abilities of the electrolyser operators themselves to optimise.

We understand that compliance with the additionality delegated act is needed for grid electricity used in the production process of liquid and gaseous transport RFNBOs and recycled carbon fuels to be attributed a GHG emissions value of zero g CO₂eq/MJ, under paragraph 6 of the annex of the GHG delegated act. In this case, part of the load is covered under article 5 of the GHG delegated act. We ask for further

clarity on the following two rules of paragraphs 6 and 7 to better assess the flexibility that they are meant to provide to MS with an intermediate level of RES-E share:

- For non-fully renewable electricity taken from the grid to meet the zero g CO₂eq/MJ threshold, the number of full load hours that the electrolyser is producing should be equal or lower than the number of hours in which the marginal price of electricity was set by installations producing renewable electricity or nuclear power plants in the preceding calendar year. On top of this, we understand that the threshold of 183 g CO₂eq/MJ must be accounted for every extra hour of operation of an electrolyser, leading to a considerable decrease in the number of operation hours and, consequently, of the RFNBO share.
- The assumption, throughout the year, of the emissions of the marginal power plants that set the day-ahead price in the end. We point to the complexity entailed in the use of the day-ahead market results to determine the marginal plant, although it can be assumed that a RES-E plant sets the price based on low day-ahead prices between a low-price and a high-price bidding zone.

We furthermore ask for clarity on the exact elements entailed in the assessment of the carbon intensity of the grid of a MS under Annex C of the GHG delegated act, including whether the TSO control area or bidding zones are taken into account, the type of electricity plants and the exact time period measured.

We thus call on the EU Commission to provide further clarity for the market to assess the practical value and effect at least of the marginal plant rule under the GHG delegated act.

2.6 Geographical correlation

Getting to the geographical correlation criterion of the additionality delegated act, we acknowledge the intention of the EU Commission under article 4 (2) (d) (b) to give the benefit of the doubt to RES-E plants from which power is exported to a neighbouring or nearby bidding zone against the dominant flow. This logic seemingly proceeds from the indication given by the day-ahead market coupling outcome that there is no binding congestion between bidding zones in the direction high-price to low-price.

We thus call on the EU Commission to provide further clarity for the market to assess the practical value and effect of the neighbouring bidding zone rule under the additionality delegated act.

2.7 Phase-out of the delegated acts

We understand that once both RED II delegated acts are implemented in full – presumably by 2027 - then they are only going to matter for a few years in view of the much greater penetration of low-carbon and renewable energy in most MS. We therefore want a clear time horizon over which both delegated acts will remain in place. This is even more the case in view of the revision of RED II and the extension of the provisions of the delegated acts to RFNBOs and recycled carbon fuels in all sectors. A clear statement on the timeline of implementation of both delegated acts is important to provide the legal certainty for medium- and short-term investment decisions for an EU market in green hydrogen to kick start.

3. Additional points

3.1 Direct connection to the grid and grandfathering

We welcome the inclusion of a grandfathering rule under article 8, which exempts installations operating until 01 January 2027 from the criterion of additionality and the requirement for the installation not to have received any form of financial support. However, we want to see the same rule also applying to RES-E plants directly connected to the grid under article 3 (b).

3.2 Distinction between supported and non-supported RES-E plants

While retaining reservations about the logic of limiting deemed additionality by reference to the receipt of financial support – a limitation that may need to be accompanied by further justification - EFET welcomes the relaxations in the latest draft DA by way of recognition of netting and of terminated payments under article 4 (2) (b).

3.3 Calculation of hours as “green” for temporal matching

We welcome the provision under article 4 (c) (iii) that electrolyzers can run when electricity prices are low without the RES-E plant having to produce electricity from the PPA at the same time. This provision should be maintained in the final version of the delegated act. However, due to great uncertainty about the number of hours with low electricity prices, this does not make power to gas plants per se economically viable. Furthermore, we would like clarity on the concrete proof: Does the PPA seller or PPA buyer then buy the electricity and the GoOs on the market or are no GoOs



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needed at all? It would be positive for GoOs to be used to demonstrate the green value of electricity.