

Hydrogen Europe Analysis

Summary and implication of the proposed Delegated Act on additionality of renewable for the production of RBNBOs under the Renewable Energy Directive

Quick Summary

- **We see important and positive changes:**
 - Grandfathering granted to installations commissioned before 1 January 2027 (both the 36 Month rule and the state-aid).
 - Monthly correlation until 2027. It will need to be hourly if the RES plant is receiving state-aid support that is not CAPEX- based.
 - A 36-month period for directly connected ELY plants.
 - Temporal correlation can be also proved when electricity prices are low (e.g. $\leq 20\text{€}/\text{MWh}$)
- **Things that can still improve:**
 - Hourly temporal correlation might significantly limit the business case for RES H2 as from 2027.
 - The monthly temporal correlation in the transitional phase only might not have the desired impact as project will need to be dimensioned and adjusted to the hourly temp resolution (as the full load hours will be lower and price of hydrogen will be significantly higher)
 - The 90% threshold seems quite stringent and would only favor hydro-dominated countries. A 70% could reward and encourage other countries to accelerated investments in renewable power.

1. Definitions

Repowering. If a RES power plant goes under significant retrofitting/repowering, it might count as a new RES facility so long as the investment is at least 30% of what it would mean a new RES power plant.

Comment: This is a good compromise for accounting existing RES installation. It was already proposed in previous drafts.

2. For Electrolysers directly connected to the RES Plant or within the same installation (article 3)

- The ELY needs to start operation no later than 3 years after the RES Plant has been commissioned
- Repowered renewable power plants are also eligible.
- (3.b) Additional electrolyser capacity can be added to the plants within the following 24 months of the electrolyser commissioning. This effectively allows to extend the initial 36 months to 60 months for a multi-phase project.

Comment: major improvements. Same time-alignment (36 months) as with grid-connected ELY (before it was same calendar year). Additionally, directly connected ELY can sign PPA with additional RES plants even if these receive state-aid.

3. For Electrolyser connected to the grid (article 4):

The Time relationship between the RES plant and the ELY plant (4.2.a)

- The RES power plant under a PPA should not come into operation earlier than 36 months before the ELY plant. You can increase the capacity of the RES in the meantime.
- Repowered RES Plants are also eligible
- If the PPA between RES plant A and ELY plant B finishes (lets say, after 10 years), ELY Plan B can sign a new PPA contract with RES Plant A with any other RES plant, as long as this plant came into operation no earlier than 36 month before your ELY commissioning date.
- You can increase your ELY Capacity within the next 3 years after the original ELY plant was commissioned.

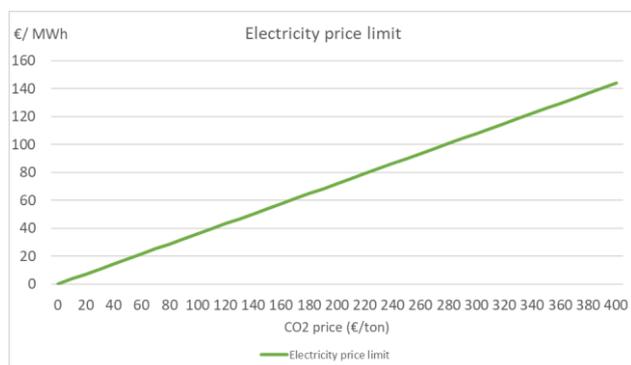
Comment: the 36-month period is good as it allows a better synchronization between the two plants.

State-aid (4.2.b):

- The RES plant should not have received support or the support has been fully repaid.
- THE RES Plant might have received support before undergoing a significant repowering investment (>30% of the estimate cost of newly built RES plant)
- (art 4.3) ELY plants under Research and demonstration project do not need to comply with this article, and thus can receive state-aid.

Temporal correlation (4.2.c):

- i) Hourly correlation
- ii) electricity comes from a storage device that was charged during the same hour that RES Plant was producing. The storage device must be located behind the electrolyser plant's grid connection point (meter).
- iii) No temp correlation needed if day-ahead market prices are below 20€/MWh
- iv) no temp correlation needed if day-ahead market prices are below 0.36 times the price of an allowance to emit one tonne of CO2 (see figure below).
- (article 4.4) No temp correlation needed if it can be proven that the RES power plant have been re-dispatched downwards and that the ELY plant consumption reduced the need for re-dispatching during a specific imbalance settlement period (generally of 15 minutes duration).



Comments: the new additions (point iii and iv) are positive. For instance, those with a PPA with a solar PV plant might still be allowed to produce H2 when electricity prices are relatively low (an indication that there is sufficient renewable producing and CO2 emissions are low). However, forecasting the

number of hours below the price threshold will be extremely uncertain. It would be good to allow using these exemptions beyond the energy contracted under a PPA.

The Requirement on storage (point ii) will limit the role that large-scale commercial energy storage could play on renewable hydrogen production as there is a requirement to store electricity onsite. More clarity should be put on how to treat RES power plants that have collocated storage and large-scale stand-alone storage facilities that can prove the storing of renewable electricity.

The art 4.4 might be extremely difficult/costly to prove unless the TSO provides more information to market parties

Geographical Correlation (4.2.d):

- a) Same bidding zone at the time of commissioning.
- b) neighboring bidding zone where Day-ahead electricity prices for the same hour are equal or higher than in the bidding zone where the ELY plant is located.
- c) the RES Plant is in an offshore bidding zone adjacent to the bidding zone where the ELY plant is located.
- MS can go beyond these minimum rules.

Comment: *this remains unchanged.*

4. Grids with high share of renewables in the power mix (article 4.1):

- No need to prove additionality if the ELY plant is located in a bidding zone where RES Share is above 90% (in the previous calendar year).
- H2 production is limited by a number of hours. This limited is calculated by multiplying the share of RES electricity by the hours in a year.

Comment: *Some bidding zones in north Sweden and Norway are already the 90% cut threshold.*

Countries that enjoy very large shares of renewables (hydro) such as Norway, Austria and Sweden will benefit from relaxed rules. While countries that are doing impressive efforts to increase their renewable energy share in the power mix (Portugal, Spain, Germany, Denmark, Ireland, etc.) will have to comply with the strict rules under articles 3 and 4.2.

In previous versions of this document, it was possible for any country to apply this rule while now the 90% cut off threshold will considerably limit its use.

5. Common rules (Article 5)

- Hydrogen producers must meet a number of information disclosure requirements at an hourly basis. This include information on the electricity produced by the RES plant under which the PPA is signed.

Comment: it seems disproportionate to request the Electrolyser plant to provide information on electricity produced in a RES power plant even when this electricity has not been used for the production of RFNBOs.

6. Certification of compliance (Article 6)

- The Requirements are applied to both domestically produced RES hydrogen and imports

Comment: this remains unchanged. It's a bit unclear how the certification will be approach from a compliance perspective.

7. Transitional Phase (article 7)

- Until 31 December 2026, temporal correlation is monthly.
- Geographical Correlation is fully applicable, also during the transitional phase.
- Additionality of the RES plant doesn't have to be proved (e.g. 36 month rules)
- The RES Power plant can receive CAPEX Support.
- If the RES Power plant receive support beyond investment support, the derogation on temporal correlation will not apply.

Comment: temporal correlation has gone from daily to month in the transition phase. It is a positive change to increase the business case of RES H2. It is also great that PPA can be signed with RES Power plant that might be under some sort of state-aid scheme, allowing ELY to chose from a much larger pool of RES capacity. However, RES power plants receiving operating aid- which is the most common form of aid for Renewables (Cfd, feed-in premiums, etc.) will force the temporal correlation to be hourly.

8. Grandfathering (article 8)

- ELY plants commissioned before 1 January 2027 do not have to comply with additionality of power pants (e.g. 36 Month rule) and can obtain power under a PPA with a RES Plant that receives state-aid.
- Geographical and temporal correlation are not grandfathered. However, temporal correlation during the transition phase is monthly instead of hourly.

Comment: This is new and positive. We believe that first movers should be rewarded. In that sense, those electrolysers commissioned before 2027 should not need to fulfil additionality rules after 2027 with regards to renewable power purchase agreements. However, the temporal correlation should also be grandfathered. Otherwise, the whole business cases (even if project starts in 2023) will need to be designed with the hourly matching in mind and this criterion has a large impact on the project dimensioning and cost of hydrogen.



Hydrogen
Europe

H2ero Net Zero

Propelling global carbon neutrality by
accelerating the European hydrogen industry



Avenue de la Toison d'or 56-60
BE-1060 Brussels
+32 2 540 87 75



www.hydrogeneurope.eu



secretariat@hydrogeneurope.eu



[@h2europe](https://www.instagram.com/h2europe)



[Hydrogen Europe](https://www.linkedin.com/company/hydrogen-europe)



[@H2Europe](https://twitter.com/H2Europe)