
France Hydrogène's contribution on the Delegated Act establishing detailed rules for the production of renewable hydrogen

The Renewable Energy Directive (RED II) establishes different rules to produce renewable hydrogen, defined as “renewable liquid and gaseous fuels of non-biological origin” (RFNBO) with a greenhouse gas emission savings requirement of -70% compared to a fossil fuel comparator (threshold of 3.38 kgCO₂eq/kgH₂)¹. **The Delegated Act from Article 27 (3) of RED II provides a Union methodology and detailed rules for the production of RFNBOs** (renewable hydrogen and its derivatives, such as renewable ammonia, methanol, e-fuels, e-methane) and has a structural impact for the EU hydrogen industry².

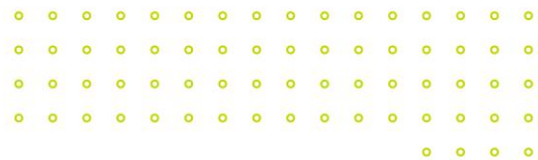
France Hydrogène would like to warn against the risks of overregulating a nascent market, especially considering that the provisions will only apply to hydrogen mobility while battery-electric mobility will be exonerated from additionality following the future RED III. **France Hydrogène welcomes the various flexibility mechanisms** integrated in the rules to support the ramp-up of the EU electrolysis industry in a transitional phase by 2027. **Some provisions could be improved to provide clearer guidance for the development of the hydrogen industry.**

KEY RECOMMENDATIONS

- 1. Streamline the articulation of the various methods to produce renewable hydrogen.** The Delegated Act establishes at least four alternative methods to produce renewable hydrogen, but rules are not clear enough on how these methods can be combined.
- 2. Additionality criteria should be raised at 48 months.** For RES installations supplying electrolysers with direct connection or PPA, the additionality criteria should be extended to 48 months prior to the entry into operation of the electrolyser unit, to bypass slow and complex permitting processes.
- 3. Secure the transitional phase up to 2030.** In the ramp-up phase of the hydrogen industry by 2030, it is important that electrolysers could be supplied with PPA-contracted renewable electricity from existing installations, including State-supported ones (CAPEX and OPEX). Member States should be responsible to match additional RES capacities to an amount equivalent to the demand from the hydrogen industry.
- 4. Extend derogations to direct connection.** Derogations to the additionality criteria during the transitional phase and the grandfathering clause should also be extended to the case of direct connection between RES installations and electrolysers, to support relevant schemes such as direct coupling between hydroelectricity and hydrogen.
- 5. Maintain a bonus for Member States with a high share of renewables.** Only countries with a share of renewables (respectively low-carbon) in their electricity mix superior or equal to 90% should be able to account their grid electricity as fully renewable, otherwise important amounts of carbon-intensive electricity from fossil-based generation facilities would be covered and artificially greenwashed.
- 6. Apply same detailed rules to imports of renewable hydrogen and derivatives.** Imports of renewable hydrogen and RFNBOs (ammonia, e-fuels, methanol) produced outside of the EU should follow the exact same rules for the production of renewable hydrogen, and prove their production is EU compliant in terms of GHG emission savings.

¹ In connection with the second Delegated Act from Article 28 (5) of RED II on the carbon methodology for RFNBO, the fossil fuel comparator might be defined at 94 gCO₂eq/MJ giving as a result a threshold of 3.38 kgCO₂eq/kgH₂ for renewable hydrogen

² If the definition is currently limited to RFNBOs for the transport sector only, it is supposed to be extended to all uses of RFNBOs in the future with the ongoing revision of RED II introduced with the Fit-for-55 Package (RED III).



1. On the various methods to produce renewable hydrogen and derivatives

Article 27 (3) from RED II provides **at least three different methods to produce renewable hydrogen** and synthetic fuels with electrolysis of water. Two of them are further detailed in the present Delegated Act, which also **introduces a fourth method**. These four alternative methods include:

- **The average share of renewable energy in Member States' electricity mixes³;**
- **The direct connection** between renewable electricity generation installations and electrolyzers⁴;
- **Grid electricity labelled as fully renewable as long as supplied through Power Purchase Agreements** following requirements in terms of temporal and geographical correlations⁵;
- **During imbalance settlement periods** when renewable electricity is downward redispatched⁶.

France Hydrogène welcomes the fact that various methods are proposed to support the domestic production of renewable hydrogen, that will help sizing electrolysis projects to reach the 10 million tons targets by 2030. But **the complexity and proliferation of rules is not likely to simplify the development of projects** and the anticipation of situations in which renewable hydrogen can actually be produced.

Moreover, **the Delegated Act insufficiently precises whether the methods should be considered as exclusive or cumulative on specific conditions**. France Hydrogène asks for more clarity on the combinations between the four methods.

2. On the additionality criteria for renewable electricity supplied by direct connection or with PPA

The present Delegated Act establishes **an additionality criteria of 36 months for renewable electricity supplied by direct connection and PPA**, meaning the renewable electricity generation capacities should be additional and come into operation not earlier than 3 years before electrolyzers.

France Hydrogène welcomes this flexibility as planning and construction of RES installations are subject to significant delays in the permitting processes. Obtaining a permit can take **up to 9 years for wind projects**, and **up to 4.5 years for ground-mounted solar projects**, with varying permitting times between Member States due to slow and complex permitting processes. Therefore, **France Hydrogène supports the idea to raise the additionality criteria up to 48 months**.

Moreover, **France Hydrogène highly supports parallel initiatives led by the European Commission to tackle slow and complex permitting for major renewable projects**. Dedicated “go-to” areas for renewables to recognize renewable energy as an overriding public interest might be key to shorten and simplify permitting processes⁷. France Hydrogène supports these initiatives essential to support the ramp-up of additional GW of renewables capacities needed to supply RePower EU new goals on renewable hydrogen⁸.

Flexibility is also needed in case additional electrolysis capacities are added to a same unit. In such cases, hydrogen producers should be able to consume renewable electricity from the same RES sources already used before, without having to search for new additional capacity. On this regard, the flexibility criteria should be streamlined between direct connection and PPA by setting a 36-month allowance for the addition of electrolysis capacity on the same site after the initial installation came into operation.

³ Paragraph 4 from Article 27 (3) of RED II and Article 4 (1) of the present Delegated Act

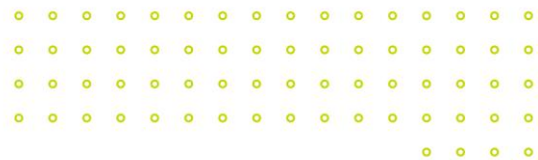
⁴ Article 3 of the present Delegated Act

⁵ Article 4 (2) of the present Delegated Act

⁶ Article 4 (4) of the present Delegated Act

⁷ Commission recommendation on speeding up permit-granting procedures for renewable energy projects and facilitating Power Purchase Agreements

⁸ 10 million tons of domestic hydrogen are targeted by 2030, requiring 550 TWh of electricity. This embodies more than 300 GW of solar capacity alone or 135 GW of offshore wind capacity alone.



3. On the derogations for PPA-contracted installations before 2027

France Hydrogène welcomes the introduction of a transitional phase (article 7) with derogations to the additionality criteria and the requirements that PPA-contracted installations should have not received any State aids (CAPEX). France Hydrogène considers that:

- **these derogations should run up until 2030** to help the hydrogen industry to reach the RePower EU objectives of 10 million tons of renewable hydrogen by this date.
- **these derogations and the grandfathering clause should also be extended to the case of direct connection** between an RES installation and electrolyzers, to support relevant schemes such as direct coupling between hydroelectricity and hydrogen.
- **the derogations to hourly-time correlation should also be granted to installations receiving State aid not only in capital expenditure but also operational expenditure.**

This flexibility will help the ramp-up of the EU hydrogen industry without having to wait for long permitting delays before launching into production first volumes of renewable hydrogen within the European soil. The electrolysis industry requires to quickly scale-up to decrease investment costs of electrolysis technologies. With RePower EU, the European Commission has set an objective of 17.5 GW of European electrolyzers to be manufactured by 2025 which cannot be met without business opportunities to be secured within the EU. Europe will maintain its leadership in hydrogen technologies only if no artificial constraints impede from investments and projects to be quickly deployed in the coming years.

The introduction of a grandfathering clause (article 8) for the projects coming into operation before the end of the transitional phase is capital and should be secured until 2030. This provision will reward first-movers in the market whose installations should not be sanctioned after that date with a sudden change in the rules applied, which would have otherwise a structural impact on the sustainability and economics of the project.

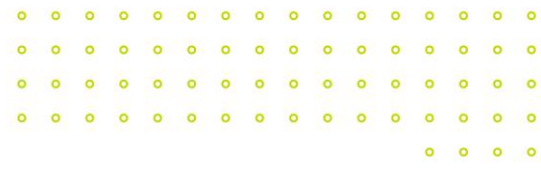
During that phase, the ramp-up of the renewable hydrogen production should be made with a corresponding increase of renewable energy generation capacities in countries where the decarbonization of the electricity mixes has not been achieved yet. This Member States' responsibility would prevent any risks of cannibalization of renewable electricity by the additional demand for electricity generated by electrolyzers.

4. On the time and geographical correlations for PPA-contracted renewable electricity

Electrolyzers producing renewable hydrogen with supply of PPA-contracted renewable electricity shall respect **two compelling criteria**:

- **Geographical correlation.** Electrolyzers should be located in the same geographical areas as the PPA-contracted RES installations, defined as the bidding zones of the wholesale electricity markets. Co-location in neighboring or adjacent bidding zones are authorized on strict price conditions or for offshore wind farms.
- **Time correlation.** Electrolyzers should consume the same amount of electricity than the amounts produced by the PPA-contracted RES installation in the same calendar month, at least until 2027. After 2027, an hourly correlation will be required to match variable renewable production with its consumption by electrolyzers.

However, time-correlation compliance can be bypassed in some situations where electricity prices on the day-ahead market are below 20 €/MWh during a hour-period or below 0,36 x CO₂ price on the ETS market (< 32,2 €/MWh with an ETS at 90 €/tCO₂) on a specified period. **France Hydrogène considers that the “specified period” should be explicitly defined as this provision could trigger some counterproductive effects and open gap for producing hydrogen during hours where electricity is produced by fossil fuels,**



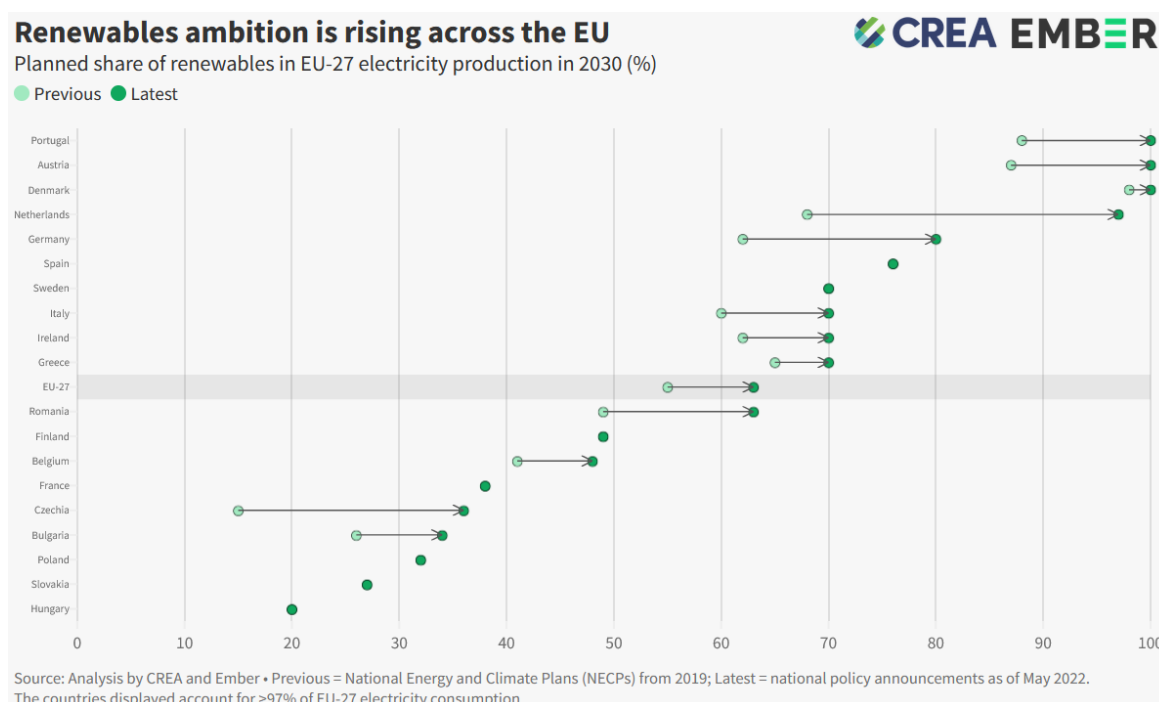
as there is a possible risk of discrepancy between electricity market prices (rather hourly based) and EU ETS prices (rather daily based).

5. On the bonus for electricity mixes with high share of renewables

The present Delegated Act also grants a **bonus to Member States with a high rate of penetration of renewables in their electricity mix, higher or equal to 90%**⁹. In such cases, the European Commission considers that grid-electricity shall be considered as fully renewable, therefore with a carbon intensity equal to zero GHG emission (0 gCO₂eq/MJ).

A time-limit is introduced so that electrolyzers cannot run a maximum number of hours in a year calculated by multiplying the total number of hours in each calendar year by the share of renewable electricity reported for the bidding zone where the renewable hydrogen is produced. However, this theoretical limit appears irrelevant as at least 90% hours of a year already corresponds to 7800 hours a year, an upper operational maximum to most electrolyser units.

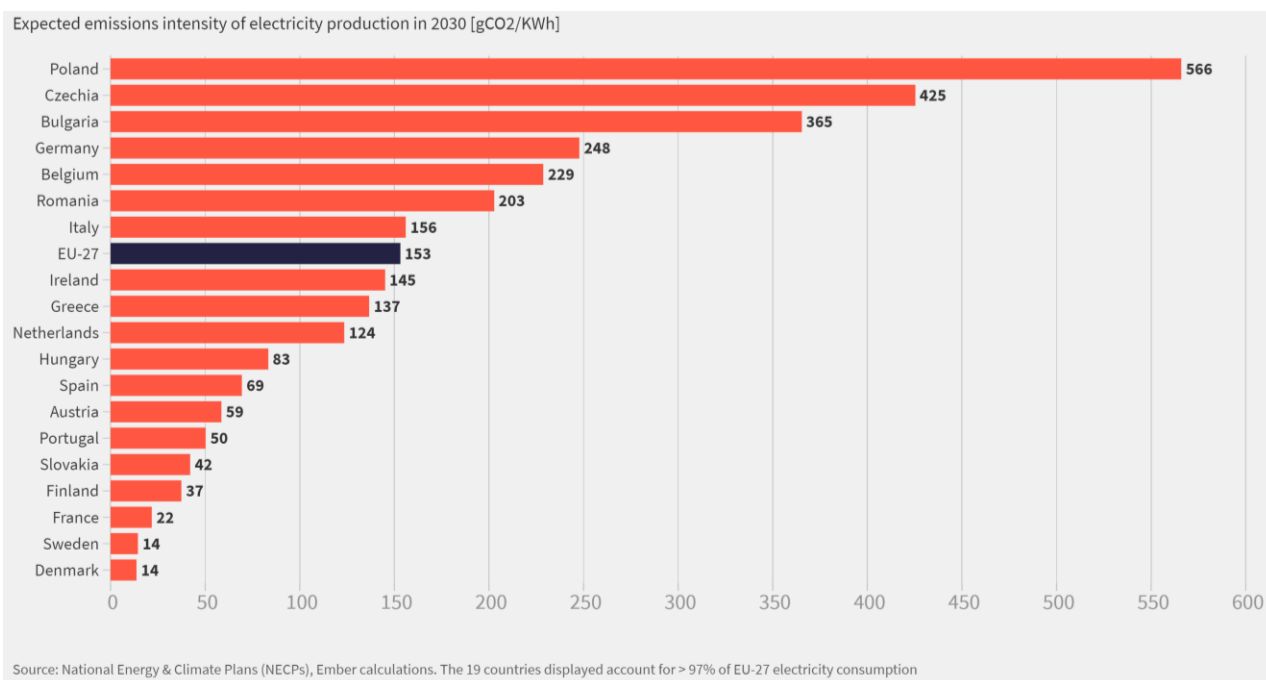
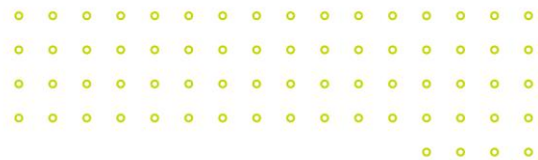
To this day, only Norway could benefit from this approach if same rules should be applied. By 2030, several Member States have defined ambitious renewable targets to reach near 90% share of renewable electricity, such as Netherlands, Portugal, Denmark, or Austria.



France Hydrogène considers that this bonus should only be granted to electricity mixes with a very high share of renewables (at least 90%). Even with a share included between a range from 50 to 90%, most EU countries still rely on a considerable part of fossil-based generation facilities as backup, leading to an average GHG emission intensity of their electricity production mix largely above 60 gCO₂eq/kWh (see graphic below)¹⁰. As a result, their grid electricity should not be considered as fully renewable nor decarbonized (= 0 gCO₂eq/kWh) by artificial conventions which would compromise their decarbonization efforts and requirements, as well as mislead the real carbon footprint of the production of renewable hydrogen.

⁹ Article 4 (1) from the present Delegated Act

¹⁰ With a carbon intensity for grid electricity above 62 gCO₂eq/kWh, the real value of the carbon footprint of hydrogen produced with electrolysis would be above 3.38 kgCO₂eq/kgH₂



6. On the certification and compliance of imports of renewable hydrogen and derivatives

The rules set out in the present Delegated Act shall **be applied to all RFNBOs including renewable hydrogen either produced in the EU either produced and imported from third countries outside of the EU** (article 6). A certification system for renewable hydrogen (as planned with RED III) and low-carbon hydrogen (Directive on hydrogen and gas markets) will ensure economic operators produce renewable and low-carbon hydrogen compliant with detailed rules defined in the present Delegated Act and with the threshold and GHG saving requirements (3.38 kgCO₂eq/kgH₂), whether they are domestically produced in the EU or imported from third countries. This certification system should be implemented as fast as possible to ensure correct amounts of renewable hydrogen are produced and traded in compliance with the EU rules.

France Hydrogène insists it will be essential to develop international norms and standards to enable the development of an international market of hydrogen defined with equivalent rules to the EU framework for renewable and low-carbon hydrogen. **Imports of renewable hydrogen should be subject to the exact same requirements in terms of GHG emission savings, as well as subject to a robust assessment of the carbon footprint in life-cycle analysis** using location-based method for electricity emissions. It is important to prevent projects outside of the EU to resort to any environmental dumping and greenwashing practices.