

Statkraft on requirements for PPAs in RFNBO-production

Background

The European Commission's delegated regulation (EU) 2023/1184 entered into force on 10 July 2023. It establishes a Union methodology setting out detailed rules for the production of renewable liquid and gaseous transport fuels of non-biological origin (RFNBO).

According to this regulation, hydrogen producers need to conclude power purchase agreements (PPAs) to cover renewable electricity for the production of renewable fuels of non-biological origin.

Article 5 reads: *"The additionality condition referred to in Article 4(4), first subparagraph shall be considered complied with if fuel producers produce an amount of renewable electricity in their own installations that is at least equivalent to the amount of electricity claimed as fully renewable, or have concluded directly, **or via intermediaries, one or more renewables power purchase agreements** with economic operators producing renewable electricity in one or more installations for an amount of renewable electricity that is at least equivalent to the amount of electricity that is claimed as fully renewable and the electricity claimed is effectively produced in this or these installations."*

The role of the intermediaries is not further defined and hence interpreted to be not limited to the role of a facilitator and to cater for a supporting midstream role as common in unbundled energy markets.

In the summer of 2023, the European Commission released a Q&A document to clarify open questions around the delegated regulation.

The answer to question 16 reads: *"The requirements for renewable PPAs stem from the definition set out in the RED itself and the RFNBO delegated act. In the RED, a renewables PPA is defined as a contract under which a natural or legal person agrees to purchase renewable electricity directly from an electricity producer. The role of the intermediaries referred to in the RFNBO delegated act is therefore limited to the role of a facilitator of such contracts but not as a contracting party."*

From Statkraft's point of view, there is a deviation between the actual legal text of the delegated regulation and the interpretation as given in the Q&A document. The fact that the

interpretation foresees the role of an intermediary as a facilitator has raised concerns and uncertainty among potential hydrogen producers, renewable electricity producers and intermediaries. Already today, we face caution from the side of potential hydrogen producers to conclude PPAs for hydrogen production.

It is therefore of utmost importance to accept PPAs with an intermediary as a contracting party either through adapting the Q&A document or – ideally – through amending the definition according to RED III (2023/2413).

In the following we outline the role of intermediaries in hydrogen production.

The role of intermediaries in hydrogen production

Over the past years, PPAs have become common instruments to accelerate the renewable build-out and to supply bigger electricity consumers with renewable electricity. According to Pexapark's PPA tracker, 48 GW of PPAs have been published since 2018, 38% of them are so-called utility/trader PPAs concluded with an intermediary company.¹ Therefore, it is urgent to clarify the interpretation since this text is already causing serious delays for the uptake of hydrogen in the market.

Intermediaries are more than facilitators.

Intermediary companies play a crucial role in integrating intermittent renewable energy in the market, warehousing, managing and taking energy risks as well as leveraging portfolio effects. Thereby they improve the overall market efficiency. Intermediary companies are contracting parties and not only facilitators of the PPA contracts.

Intermediaries help “right-sizing” the hydrogen PPAs.

Intermediaries assist to make the profile of the electricity production fit for the offtaker's purposes and to make hydrogen production economically viable. Onshore wind and solar plants have limited capacity factors. The optimal sizing of an electrolyser unit will strike a balance between absorbing the right amount of intermittent renewable production and achieving a sufficiently high utilization rate of the electrolyser. Based on production data of new state-of-the art solar and wind plants, achieving a 40% utilization rate of the electrolyser

¹ Not all PPAs are published, hence the total size of the PPA market is even larger.

based on a single solar plant would require an **oversizing of the solar plant of a factor of five in relation to the electrolyser capacity**.² This would lead to an excess production of 50% of solar volumes that the electrolyser cannot absorb, and which needs to be sold back to the market when prices tend to be very low. Combining single onshore wind and solar plants improve the utilization rate of the electrolyser by up to 60%, but it would still result in 20% excess production.³

On the back of only onshore wind and solar, getting to high utilization rates will come with very sizeable excess production with significant price risk. Intermediary companies with large RES portfolios can help “right-sizing” the PPAs and absorb price risks of excess production.

Intermediaries can improve electrolysis utilization through diversified renewable energy portfolios.

Renewable production can differ significantly geographically at a given point in time. When the wind blows in Galicia in Northern Spain, there might be little or no wind in the South of Spain. Adding regional diversification on top of technological diversification will help to “right-size” the power supply for electrolysis projects, improving the electrolyser utilization rates while decreasing excess production. To unleash this potential, the contractual set-up of PPAs for green hydrogen projects must include intermediary companies as contracting partner to electricity and hydrogen producers.

Intermediaries can leverage the value of flexibility of hydrogen projects.

Green hydrogen projects can represent new flexible demand in the electricity system which can provide balancing to the grid and help manage the cannibalization risk of renewables. Switching between commodity production and selling to the power market can be realized by intermediaries and improve the overall hydrogen economics.

Intermediaries are crucial in making both the new RES and green hydrogen projects bankable.

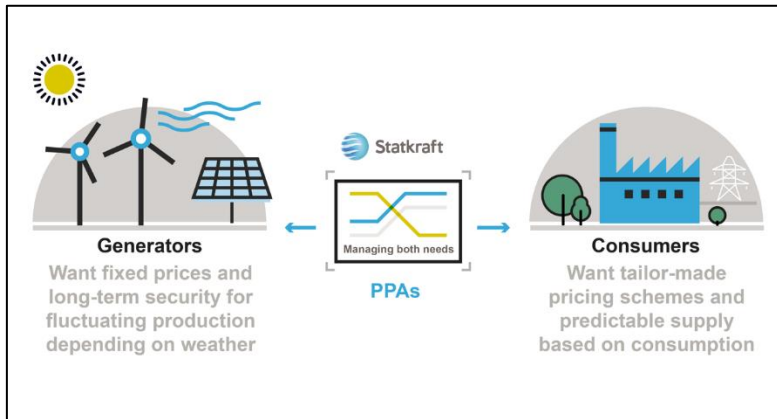
Intermediaries help financing the build-up of renewable production facilities and the establishment of RFNBO –production, as both require a creditworthy counterparty to make their projects bankable. Intermediaries very often provide for the necessary financial soundness to underwrite the secured electricity prices with their solid balance sheets.

² Source: Statkraft’s analysis.

³ Pexapark comes to similar excess volumes when looking at an optimal wind and solar mix using ENTSO-E production figures <https://www.linkedin.com/pulse/ppa-sizing-value-flexibility-werner-trabesinger/>

Background information: Statkraft's role in the PPA-market

Statkraft is Europe's largest producer of renewable energy and a leading provider and intermediary of PPAs. Across Europe, Statkraft has more than 20 GW of third-party renewable energy assets under contract. Statkraft makes cost-competitive renewable



energy available to consumers that are not suited to sign PPAs directly with renewable generators or look for tailor-made PPAs. As a market integrator, Statkraft meets the needs of both producers and consumers:

- Offering predictability and security of supply to consumers thanks to a large portfolio of power plants combining water, solar and wind.
- Providing financial predictability and security for plant owners through the ability to generate stable, predictable revenues.

Statkraft also operates the largest Virtual Power Plant in Europe, integrating more than 10 GW installed capacity from over 1,000 power generators into power markets.

Contact:

Anne Bolle
Anne.Bolle@statkraft.com

Josephine Anderson
Josephine.Anderson@statkraft.com

Miriam Brandes
Miram.Brandes@statkraft.com