

Key Terms Of European Hydrogen Bank's 2023 Pilot Auction

By **Frederick Lazell, Saiesh Kamath and Peter Stainer** (October 24, 2023, 6:10 PM EDT)

The European Commission recently released the heavily anticipated terms and conditions for its initial European Hydrogen Bank auction.

The structure of this subsidy scheme is of great interest to green hydrogen producers worldwide, even those outside the European Union, who are looking for clues as to how the so-called international leg of the European Hydrogen Bank might be shaped. The first auction round will launch in November.

The bank program forms part of a multipronged effort by the EU and certain member states to incentivize demand for green hydrogen.

It is one of the "carrots" offered to potential consumers, alongside "sticks" such as the EU Emissions Trading System and mandatory consumption quotas under the EU Renewable Energy Directive and other demand-side regulatory initiatives such as FuelEU Maritime and ReFuel Aviation.

The EU hopes to encourage production within the EU, to achieve the bloc's objective of producing 10 million tons per year of renewable fuels of nonbiological origin-compliant hydrogen, or RFNBOs, by 2030.

As explained in this article, the first bank auction round, which deploys 15% of the €3 billion of funding that was originally targeted when the bank was first announced by the commission, is unlikely to significantly move the needle in that regard, but it is a start, and future expansions and the international leg may make a bigger impact.

Structure Summary

Pursuant to its Green Deal Industrial Plan,^[1] the commission will launch a first auction or competitive bid for supporting the production of renewable hydrogen, i.e., green hydrogen that meets the EU requirements to qualify for RFNBO.

The European Hydrogen Bank adopts a fixed premium model that mirrors the much-lauded U.S. clean hydrogen production tax credit under Section 45V of the Inflation Reduction Act. Winners of the auction will receive a fixed payment, in euros, for each kilogram of renewable hydrogen produced, over a period of 10 years.



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The total first-round budget available amounts to €800 million and is provided by the commission's Innovation Fund, which is funded by the revenues derived from EU industry's compliance with the Emissions Trading System carbon price levy.

The granting authority will be the Climate, Infrastructure and Environment Executive Agency.

Terms of the Grant Agreement and the Purchase Contracts

- Ceiling price at €4.50/kg as maximum bid for fixed premium;
- Semiannual production increases of up to 140% are supported by grant payments, although remain subject to the overall maximum grant amount across the 10-year term.
- The hydrogen production project must enter into operation within five years following award of the grant.
- Successful bidders will need to provide a completion guarantee covering 4% of the maximum grant amount issued by a bank or financial institution, rated at least BBB-/Baa3. The guarantee may be called under the following circumstances:
- The production project fails to enter into operation within five years upon signature of the grant agreement.
- Verified and certified RFNBO hydrogen production falls below 30% of the expected yearly average volume as stated in the bid for three consecutive years. This average will be calculated over a rolling three-year period.
- If the project cannot certify that the overall total amount of hydrogen produced has achieved at least a 70% greenhouse gas emissions saving in accordance with the greenhouse gas Delegated Act rules for RFNBO production — on average across the 10-year term — the grant may be reduced.
- Only new production capacity will be supported, i.e., this disqualifies projects which, at the time of application for funding, have placed long-lead equipment orders or commenced construction; acquisition of land, permits or conducting feasibility studies do not disqualify bidders.
- No indexation of the premium payment is offered.

Prequalification Requirements

- Only projects located within the territory of the European Economic Area will be eligible for support through the auctions, but there is no geographical limitation of origin for the consortium or applicant.
- No submitted bid may request a grant that exceeds one third of the total available budget, i.e. €266.7 million is the maximum amount available per project.

- Assuming — perhaps pessimistically — a winning bidder is awarded the full €4.50/kg, this is enough for its project to produce 60,000 tons of hydrogen over 10 years, or 6,000 tons per year. By way of illustrating the scale of the subsidy, the first world-scale export project to achieve financial close, the \$8.4 billion NEOM Green Hydrogen Project, is expected to produce about 200,000 tons of hydrogen per year, i.e., 33 times as much hydrogen. To cover all the hydrogen production of a project of this size for 10 years at €4.50/kg, the European Hydrogen Bank's award to that single project would need to be about €9 billion. To achieve imports of 10 million tons by 2030, 50 of these projects would be needed.
- There are no restrictions on offtakers.
- There are certain limitations on cumulation of support, restricting the project from also benefiting from state aid and/or funding from other EU programs. This applies to support received by the project but also by the offtaker of the hydrogen produced. This is a crucial aspect of the rules for projects to be aware of, since it will need to be factored into the project's offtake strategy and contractual terms.[2]

Technical Elements To Be Taken Into Consideration

- The auctioned good as defined in the auction's terms and conditions is "RFNBO hydrogen" compliant with the requirements of Renewable Energy Directive II and III,[3] and the RFNBO Delegated Acts (EU)2023/1084 and (EU)2023/1085.
- Section 1.13 of the terms and conditions state that no special rules for different technologies, regions or actors are envisaged.
- There are no minimum or maximum production thresholds, but there is a minimum requirement of 5 megawatts of newly installed electrolyzer capacity in one single location, and this will prevent virtual pooling of production capacity.

Auction Process

Type of Auction

The auctions for the European Hydrogen Bank will be conducted annually, although the total funding available for future auction rounds has not yet been announced. There will be no ex-post adjustment of either auction rules or auction volume.

Content of a Bid or Proposal

A bid must consist of the following components:

- A fixed payment of EUR/kg of RFNBO hydrogen production.
- Expected average yearly volume of RFNBO hydrogen production in kg per year over a 10-year production period.

- The maximum grant amount will be calculated as follows:
- Projected new electrolyzer capacity in MWe at the time when all elements and systems required for operation of the project have been tested, and the capacity stated in the bid has been certified as operational, cumulatively by completion certificate, plant handover report and proof of grid connection.
- The bids will be ranked by price only.
- Grants will be awarded on a pay-as-bid basis.

Bid or Proposal Submission

Submissions must be made through the Fundings and Tender Portal using required forms A, B and C,[4] including a Gantt chart outlining the project timeline, a template-based financial model and a letter of intent from a financial institution to issue a completion guarantee.

Consideration of Bids or Proposals

- Bids will be ranked by price only and awarded based on the submitted price until the total budget is allocated.
- Grants will be awarded on a pay-as-bid basis.
- There will also be an assessment for operational capacity as well as relevance and quality award criteria on a pass/fail basis.
- The last bid that exceeds the available budget will be added to the reserve list.
- For proposals with the same bid price, a priority order will be determined according to the following approach:
- Successively for every group of ex-aequo proposals, starting with the lowest bid price group and continuing in descending order:
- Proposals with an overall smaller maximum grant requirement will be considered to have higher priority.
- If the foregoing is insufficient to determine priority, proposals located in a European Economic Area country with fewer funds awarded previously under the Innovation Fund will be considered to have higher priority.
- If the foregoing is insufficient to determine priority, then proposals with a shorter time until entry into operation will be considered to have higher priority.
- The bid components of successful applicants will be published, aka the bid price, volume, capacity, name of the applicant, and anonymized and aggregated off-take prices.

Comments

The European Hydrogen Bank is a meaningful step in supporting production of green hydrogen within Europe. Its first round may not have the financial firepower that will be needed to make major projects happen in Europe that would not otherwise have happened.

The budget made available simply may not stretch across sufficient volumes and the timeline for the support — 10 years — is shorter than the term of debt that will likely be needed to finance the projects. Nevertheless, this is a start, and we can expect the commission to learn from the process as it deploys additional funding in the next round of the domestic leg, and in the international leg.

Would-be international exporters to Europe will be watching closely. Despite all the welcoming messaging from Europe since 2020 about imports, and the raft of incentives made available to date, not a single truly large-scale offtake agreement for green hydrogen or its derivatives has yet been signed to deliver molecules to a European consumer.

In our view, to make an impact in this regard — and to compete with demand from competitors like Japan that are mobilizing in this respect quickly — the bank needs to focus on supporting Europe's major energy aggregators, importers and traders to purchase large quantities from projects and distribute them to major industrial buyers.

There is currently no other subsidy on offer in Europe that is available to these importers, which play an essential role in the midstream, and this along with the infrastructure build-out is currently the key gap in getting green hydrogen flowing in Europe.

Efforts are now underway to design a scheme under the international leg of the bank to achieve this.

However, the international leg will need to be funded through pooling individual member state resources, rather than from any central EU funding pot. This will be a complex process both technically and politically.

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[1] Communication From The Commission To The European Parliament, The European Council, The Council, The European Economic And Social Committee And The Committee Of The Regions – A Green Deal Industrial Plan for the Net-Zero Age dated 1 February 2023 – COM(2023) 62 final.

[2] Refer to page 14 et seq. of the Terms and Conditions.

[3] DIRECTIVE (EU) 2018/2001 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December

2018 on the promotion of the use of energy from renewable sources.

[4] For detailed description of the content of these forms refer to page 10 et seq. of the Terms and Conditions.