



RFNBO H₂ auction under the Innovation Fund

European Hydrogen Bank domestic auction

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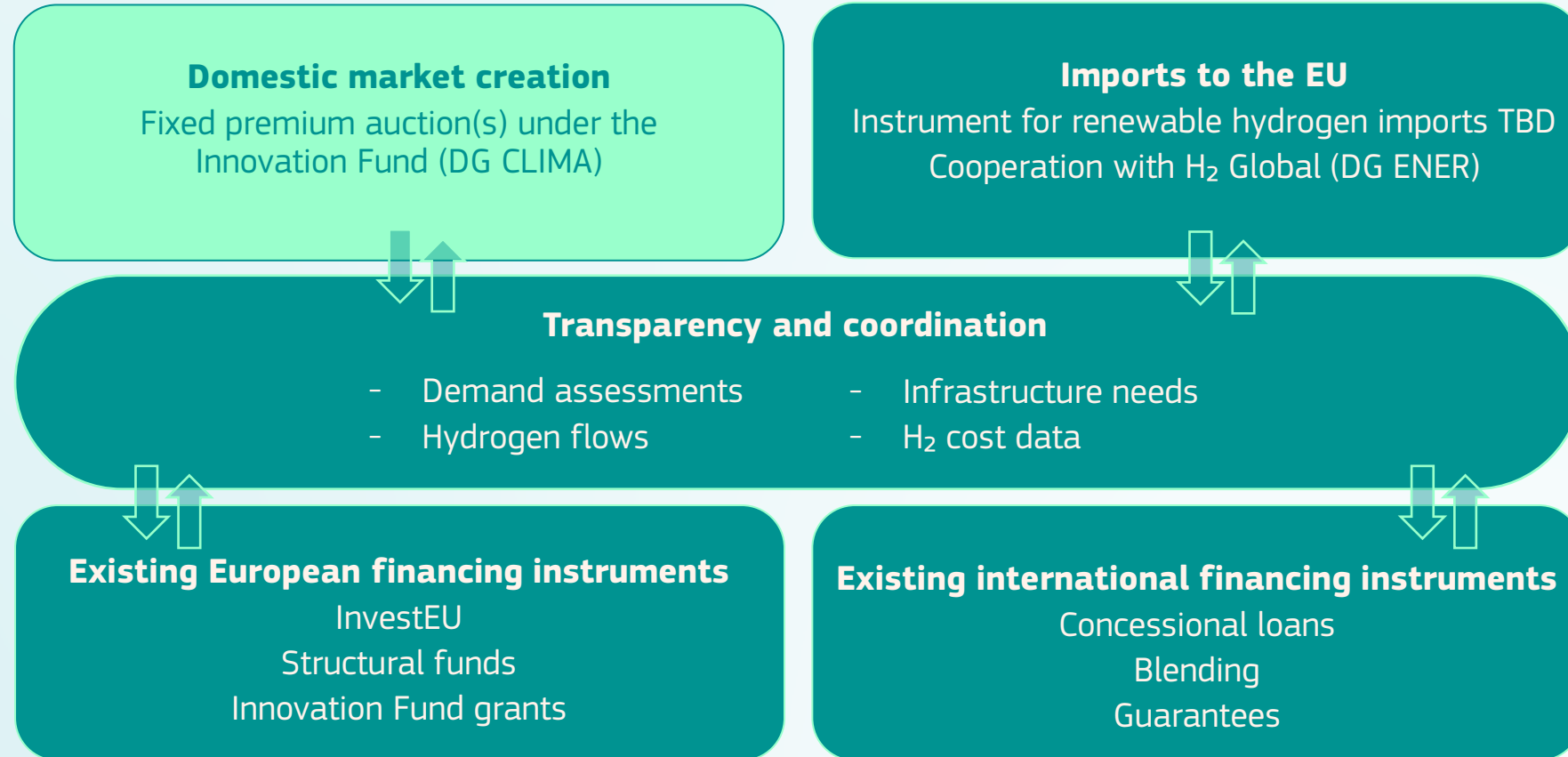
“These slides are intended to help potential applicants prepare their submissions before the publication of the call for proposals and ensure equal access to the Commission service's answers to frequently asked questions. Only the forthcoming call for proposals and its annexes (the call documents), to be published in November 2023, are binding on the Commission. The call documents will be authoritative in case of any discrepancy with this presentation”

The European Hydrogen Bank (EHB)

- Announced in the State of the Energy Union 2022 – linked to **REPowerEU** objectives
- Communication adopted on 16 March 2023
- Import auctions by DG ENER vs. **EU production incentives** by DG CLIMA
- **Pilot auction** scheduled to open 23 Nov 2023
- Terms & Conditions published on [DG CLIMA's website](#)



EHB proposed activities



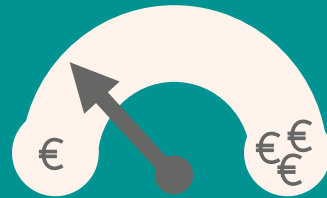
EU domestic RFNBO auction objectives

1



Cost-efficient,
market based instrument
for financial support

2



De-risking projects and
maximising leverage of
private capital

3



Price discovery and
market formation

4

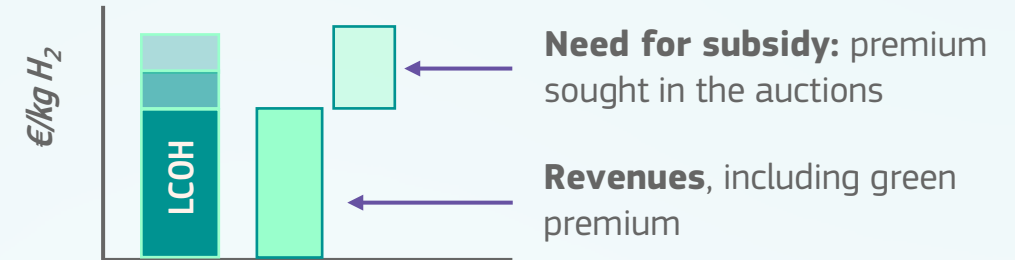


Reduced administrative
burden

Overview

- Budget: **€800mn**
- Auctioned good: **RFNBO hydrogen**
- Support in form of a **fixed premium** in €/kg of renewable hydrogen **produced** over **10 years**
- Bids **ranked on price** – budget allocated to projects with the lowest specific support requirements
- **Pay-as-bid** (no indexation to inflation)
- **Output based support**, upon verified and certified production of RFNBO volumes (no payments before entry into operation)
- **Semi-annual** payments

Fixed-premium auction



Bids ranked on price only



1. Key project requirements

- Minimum electrolyser capacity
5MWe per bid - no virtual capacity pooling; new capacity only.
- Maximum requested grant per project (=price*volume) capped
1/3 of total auction budget (€800mn) to avoid “winner takes all”
- Maximum bid price (“ceiling price”)
4.5 €/kg of hydrogen
- *Planned entry into operation*
less than 5 years from grant signature

2.a. Qualification requirements



Admissibility and eligibility (pass/fail):

- **Application forms** + mandatory annexes, **on time and complete**
- Bid **price below** ceiling, **capacity above** minimum
- Project located in **EEA*** and in a **single location**
- **Budget** requested per bid **within limits** (1/3 of €800mn)
- Compliance with **legal entity checks** and EU exclusions limitations
- Checked **self-declarations** as part of application form

2.b.1. Qualification requirements



Relevance and quality (pass/fail):

Renewable energy sourcing strategy:

- demonstrate that the project has a credible plan and has taken initial pre-contractual steps (for min. 60% of volumes) towards securing renewable volumes and profiles in line with the bid.

Hydrogen off-taker and price hedging strategy:

- demonstrate that the project has a credible plan and has taken initial pre-contractual steps (for min. 60% volumes) towards securing off-take;
- demonstrate that the project's cost (electricity) and revenue (off-take) structures hedge against excessive market variability.

Electrolyser procurement strategy:

- pre-contractual steps (MoU, LoI) towards electrolyser procurement.

2.b.2. Qualification requirements



Relevance and quality (pass/fail):

Environmental and grid connection permits:

- credible evidence of initiated procedure / realistic plan to achieve permitting within max. realisation period.

Technical, financial and operational maturity:

- solid project description;
- solid Financial Information File (FiF), business plan;
- solid project team and financial backing.

2.b.3. Qualification requirements



Relevance and quality (pass/fail):

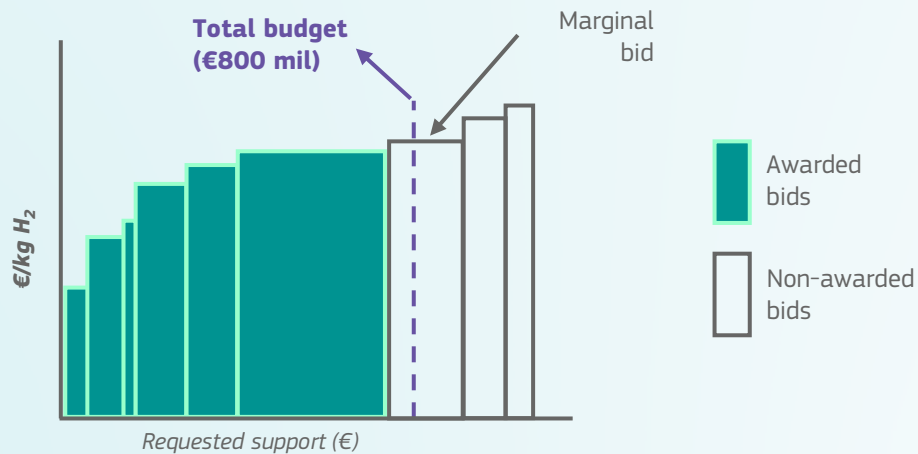
Completion guarantee:

- LoI from financial institution (BBB-/Baa3) at application;
- signed guarantee due 2 months after receiving invitation for GAP;
- 4% of the maximum grant amount;
- validity until 6 months after EiO.

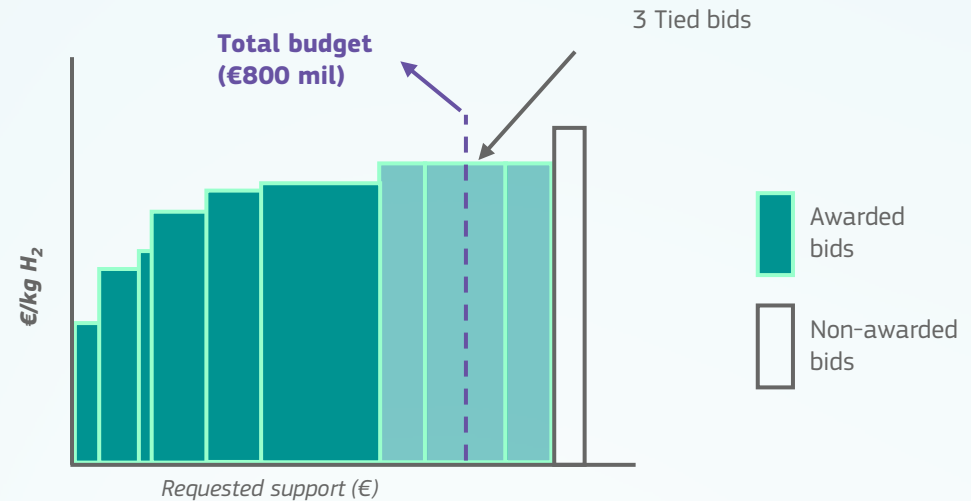
3. Ranking of bids that passed qualification

Smaller to larger bids below price ceiling and until funds are exhausted:

Marginal bid rule



Tie-breaker rule



4.a. Other rights and obligations

- **Maximum realisation period** (expected time until entry into operation): **5 years**. Termination if exceeded and guarantee called.
- **Termination for severe under-production** over 3 consecutive years, > 30% on average below planned.
- **Reporting before EiO**: annual progress report and key milestones.

4.b. Other rights and obligations

- **Reporting after EiO:** semi-annual payments based on **certified and verified production volumes**.
- **Reporting at the end** of the support period: certification of **70% GHG savings** on overall production.

Certified or audited reports

- **Transparency:** information on bid components of successful applicants will be published. For non-successful projects anonymised and aggregated information. Commercial sensitivity of off-take prices acknowledged, only aggregated and anonymised information published.

4.c. Other rights and obligations

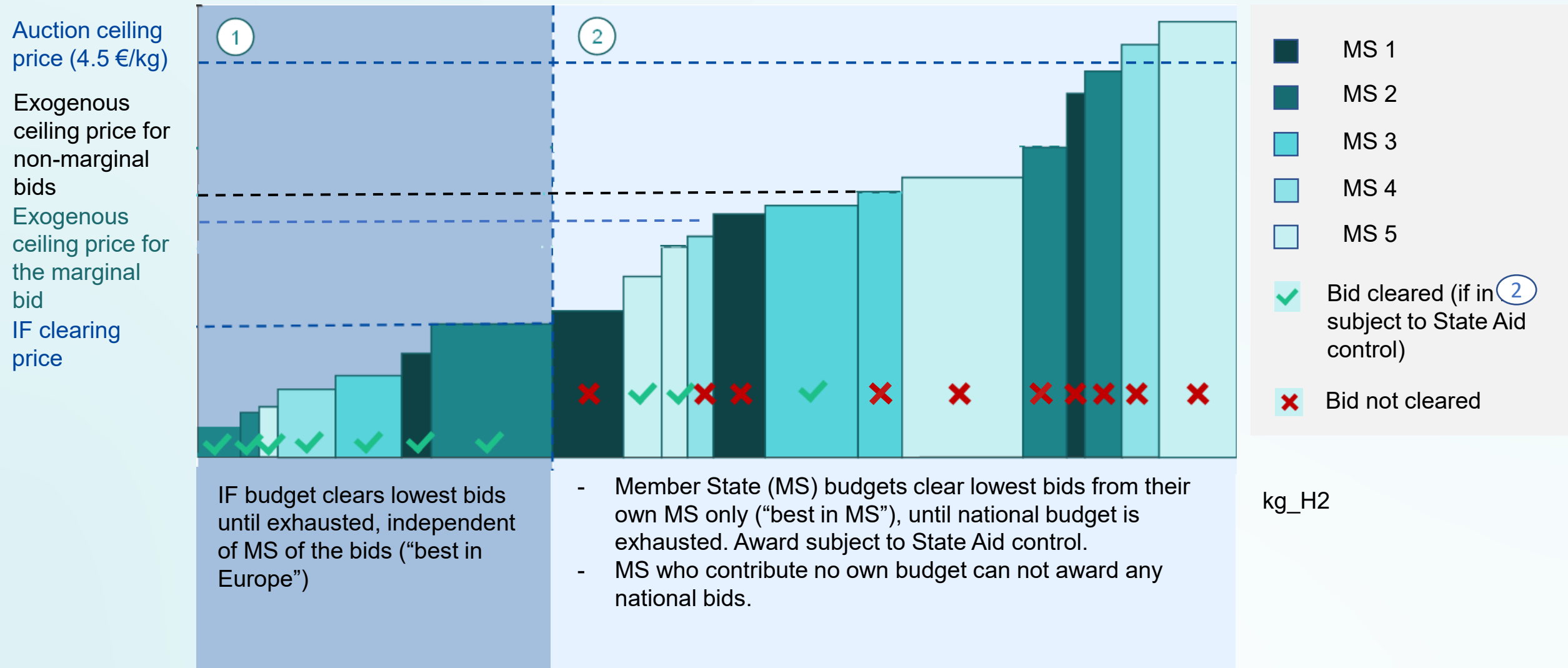
Rules on cumulation with other aid:

- For hydrogen producers: no cumulation with CAPEX or OPEX support is allowed – with few exceptions.
- Previous subsidies to the electrolyser manufacturer are not problematic.
- Off-takers can have received CAPEX support, but not OPEX support for the same H₂ volumes.
- Effective at the moment of GA signature

5. Auctions As A Service

€/kg_H2

illustrative



Key documents and next steps

- [Terms & Conditions](#) published on 30 August.
- [Frequently Asked Questions](#) published on 4 October.
- Auction will open on **23 November** and close on **8 February** on the [Funding & Tender Portal](#)
- Preparation of the bids can begin before, based on T&Cs.

Any questions? Ask us at CLIMA-AUCTIONS@ec.europa.eu

Thank you

2.1. General auction design elements

No.	Design element	Specific implementation of the Innovation Fund renewable hydrogen auction
1.0	Objective of the auction	To cost-efficiently support the production of renewable fuel of non-biological origin (RFNBO) hydrogen within the EEA.
1.1	Auctioned good	RFNBO hydrogen in line with requirements put forward in the Renewable Energy Directive (2018/2001/EU) ⁽⁷⁾ and its Delegated Acts C(2023) 1086 final and C(2023) 1087 final ⁽⁸⁾ . RFNBO hydrogen needs to be produced by new production capacity (i.e. capacity for which, at the time of application, <i>start of works</i> ⁽⁹⁾ did not yet take place).
1.2	Constraining value	The total available Innovation Fund budget of EUR 800 million is the constraining value of the auction and is known in advance. The total RFNBO hydrogen volume for which support will be awarded derives from the total available budget and the individual bids' prices and volumes.
1.3	Support type	Output-based support (payment per unit of verified and certified RFNBO hydrogen production).
1.4	Reference price	No reference price needs to be established for a fixed premium auction.
1.5	Support form	Fixed premium.
1.6	Safeguards against over-subsidisation.	Ensuring competition through market testing, total available budget and feedback on the level of competition from one round to another. No clawbacks.
1.7	Ranking of bids	Price-only ranking.

1.8	Bid components	<p>1) Fixed premium ('bid price') in EUR/kg of RFNBO hydrogen production (basis for ranking of bids), expressed with two digits after the comma.</p> <p>2) Expected average yearly volume of RFNBO hydrogen production in kg per year over a 10-year production period.</p> <p>The maximum grant amount is therefore calculated as follows:</p> $\left[\text{Bid price in } \frac{\text{€}}{\text{kg}} \right] * \left[\text{expected average yearly volume in } \frac{\text{kg}}{\text{year}} \right] * 10 \text{ years}$ <p>3) The new electrolyser capacity in MWe that will be installed and verified as being operational by the time of <i>entry into operation</i> ⁽¹⁰⁾.</p>
1.9	Minimum and maximum yearly production thresholds	<p>No upper or lower limits to the expected average yearly production as stated in the bid.</p> <p>However, the maximum grant amount requested by each proposal must stay within one-third of the total available Innovation Fund budget for the auction (see points 1.2 and 2.3).</p>
1.10	Production flexibility rules	<p>Semi-annual production can be increased up to 140% compared to half of the expected average yearly volume of RFNBO hydrogen production, as stated in the bid (see point 1.8). Semi-annual production beyond 140% is possible but not supported by grant payments. The total grant amount is restricted to 100% of the maximum grant amount.</p> <p>See points 4.2 on severe underperformance and 4.3 on semi-annual payment schedule.</p>
1.11	Grant duration (disbursement period)	<p>The grant agreement will end ten years after the <i>entry into operation</i> of the project (unless the total RFNBO hydrogen production volume stated in the bid is reached earlier due to the production flexibility rules stated in point 1.10).</p> <p>See point 4.2 on grant agreement termination.</p>
1.12	Indexation of support	<p>No indexation.</p>
1.13	Technology baskets, differentiation by regions or actors	<p>No special rules for different technologies, regions or actors are envisaged.</p> <p>Such tools might be used in later auction rounds, e.g. to reach the Innovation Fund objective of geographical or sectoral balance or to do broader auctions with various auctioned goods.</p>

No.	Design element	Specific implementation of the Innovation Fund renewable hydrogen auction
2.1	Qualification requirements	<p>For further details on qualification requirements, see section 3.</p> <p><u>Admissibility:</u></p> <ul style="list-style-type: none"> • Strict respect of submission deadlines, use of forms provided by the granting authority and submitted through the Funding and Tenders Portal ⁽¹⁾, and compliance with presenting all required documentation: application forms A, B, and C, mandatory documents and supporting documents, including a Gantt chart outlining the project timeline and a financial information file (with a template-based financial model and bid components). <p><u>Eligibility:</u></p> <ul style="list-style-type: none"> • Proposals must relate to projects located in the EEA. • Project and budget size in the limits expressed in point 2.3. • The bid amount may not exceed the ceiling price set in point 3.7. • Compliance with legal entity checks (EU exclusion situation limitations: default, prosecution, etc.). All beneficiaries will have to be validated. • No geographical limitation on the origin of members of the consortium. • Signed self-declarations. See section 3 (also part of application form Part B). <p><u>Relevance and quality:</u></p> <ul style="list-style-type: none"> • The proposals will be evaluated on a pass/fail basis on relevance, technical, financial, and operational maturity assessed based on the documents listed in section 3 and their description in application form B. <p>Before the grant agreement is signed, we will make an additional financial capacity check to ensure that applicants have stable and sufficient resources to implement the projects and contribute their share successfully.</p>

2.2	Completion guarantee	<p>Completion guarantee covering 4% of the maximum grant amount (see point 1.8).</p> <p>The guarantee will be issued by a bank or financial institution (rated at least BBB-/Baa3) and must be able to be called by the granting authority if the project does not reach approved <i>entry into operation</i> within five years after signing the grant agreement (see point 4.1).</p>
		<p>The guarantee shall be issued at the latest two months after the dispatch of the evaluation result letter inviting the selected applicants for grant agreement preparation. It shall be valid from the date of issuance until six months after the maximum time to <i>entry into operation</i> (i.e. after verification that the electrolyser capacity stated as part of the bid production capacity is operational).</p> <p>The duration of the completion guarantee is expected to be five years and 11 months if issued two months after receiving the invitation letter. Bidders shall use the template we will make available.</p> <p>If <i>entry into operation</i> is reached earlier, the guarantee can be released earlier.</p> <p>A letter of intent from a financial institution to issue a completion guarantee will be required as part of the proposal. We will make a template available.</p> <p>The enforcement of completion guarantees is further explained in point 4.2.</p>
2.3	Minimum or maximum restriction for project size and bid volume	<p>Maximum grant amount restriction for each bid: one-third of the total available budget established for the auctioned topic (i.e. one-third of EUR 800 million or EUR 266,7 million).</p> <p>Minimum technical requirements: 5 MWe of newly installed electrolyser capacity (which must be in a single location; virtual pooling of capacity is not permitted).</p>
2.4	Off-taker restrictions	<p>No restriction on off-takers.</p> <p>Close monitoring of the first auction round for potential later adjustments.</p>

2.5	Local content requirements	None, but information about the origin of the electrolyser is required in the application forms.
2.6	Regulations for transporting hydrogen	Infrastructure costs can be priced into the bid, but there is no explicit mechanism to offset the comparative disadvantage of projects with infrastructure costs.
2.7	Consideration of 'General measures' ⁽¹²⁾	See section 4 on cumulating support under auction with other public support.
2.8	Cumulating support under auction with other public support for RFNBO hydrogen producer	See section 4 on cumulating support under auction with other public support.
2.9	Cumulating support under auction with other public support for RFNBO hydrogen off-taker	See section 4 on cumulating support under auction with other public support.
2.10	Exclusion of cross-subsidisation of 'grey' hydrogen	Beneficiaries will need to provide certification that the total volume of hydrogen produced by the supported capacity achieves at least 70% GHG savings following the rules set out in the Delegated Act C(2023) 1086 supplementing Directive (EU) 2018/2001 (on average, during the disbursement period of the scheme). The certification will be required as a deliverable for the last work package (independent third-party certificate or audited reports).

2.3. Design elements defining the auction procedure

No.	Design element	Specific implementation of the Innovation Fund renewable hydrogen auction
3.1	Competitiveness of the process	No discrimination against auction participants. Transparency on requirements and sufficient lead times to prepare bids. Total available budget is a limiting constraint. No ex-post adjustments of auction rules.
3.2	Single vs. multiple-item auction	Multiple items.
3.3	One-stage or two-stage auction	One-stage.
3.4	Auction type	Static auction.
3.5	Pricing rules	Pay-as-bid.
3.6	Minimum prices	No minimum price.
3.7	Ceiling prices	Disclosed ceiling price: 4,50 €/kg of hydrogen produced as a maximum bid for the fixed premium. To be reviewed in subsequent auction rounds.
3.8	Clearing mechanism and marginal bid	Bids are awarded based on the submitted price until the total budget available for the auction is allocated. Proposals whose requested grant amount fits within the Innovation Fund call budget will also be assessed against operational capacity and the relevance and quality award criteria on a pass/fail basis. The last bid that exceeds the total budget available will be added to the reserve list.

3.9	Tiebreaker rule	<p>For proposals with the same bid price, a priority order will be determined according to the following approach.</p> <p>Successively for every group of ex-aequo proposals, starting with the lowest bid price group and continuing in descending order:</p> <p>(1) Proposals with the overall smaller maximum grant requirement will be considered to have higher priority.</p>
		<p>(2) If this doesn't allow to determine the priority, proposals located in a country ⁽¹³⁾ with fewer funds awarded previously under the Innovation Fund will be considered to have higher priority.</p> <p>(3) If this doesn't allow to determine the priority, then proposals with a shorter time until <i>entry into operation</i> will be considered to have higher priority.</p>
3.10	Minimum volume of bidders	All conditions are set ex ante; the auction volume will not be adapted to the observed participation.

2.4. Design elements defining rights and obligations

No.	Design element	Specific implementation of the Innovation Fund renewable hydrogen auction
4.1	Maximum time to <i>entry into operation</i>	<p>Five years.</p> <p>The maximum time to <i>entry into operation</i> is defined as the period between the signature of the grant agreement and <i>entry into operation</i>.</p>
4.2	Sanctions in the event of non-compliance with support requirements	<p>If the maximum time to <i>entry into operation</i> is exceeded, the grant agreement will be terminated and the granting authority will call the completion guarantee described in point 2.2.</p> <p>A project entering into operation should be able to demonstrate as operational a nameplate capacity of at least 100% of that expressed in the bid.</p> <p>Further, the grant agreement may be terminated and the related grant reduced if the verified and certified RFNBO hydrogen production falls on average 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 3-year period.</p> <p>If the project cannot certify that the overall total amount of hydrogen produced achieves at least 70% GHG savings (see point 2.10), the grant may be reduced.</p>
4.3	Payment schedules	Semi-annual (every six months after <i>entry into operation</i>).

4.4	Reporting requirements	<p>Until <i>entry into operation</i>, projects will have to report annually on their progress and key milestones, such as reaching financial close and <i>entry into operation</i>.</p> <p>After <i>entry into operation</i>, projects will report periodically alongside their payment requests. Reports will concern verifying and certifying the produced volume of RFNBO hydrogen.</p> <p>The beneficiaries will need to provide certification that the total volume of hydrogen produced achieves at least 70% GHG savings following the rules set out in the Delegated Act C(2023) 1086 supplementing Directive (EU) 2018/2001 (on average, during the support period of the scheme). Certification can be provided by a third party or through audited reports.</p> <p>To fulfil the call objective of price discovery and contribution to market formation, the bid components of successful applicants will be published ⁽¹⁴⁾. Bid</p>
		<p>prices of non-successful applicants will be published in an anonymous way. Off-take prices of all proposals will be published in an anonymous and aggregated way to avoid identifying applicants or their customers.</p>

2.5. Design elements defining the auction and framework conditions

No.	Design element	Specific implementation of the Innovation Fund renewable hydrogen auction
5.1	Scheduling/auction frequency	Annual auction schedule.
5.2	Timing of the auction (early-stage or late-stage auction)	Late-stage auction.
5.3	Granting authority	Climate, Infrastructure and Environment Executive Agency (CINEA)

INNOVATION FUND

Deployment of net-zero and innovative technologies

Funded by: EU Emissions Trading System



Funding through
Grants and Auctions



EUR 40 billion* to invest from 2020-2030
in EU's climate neutral future



Avoid emissions and
boost competitiveness

Supporting manufacturing, production and use in:



Energy intensive
industries



Renewables



Energy storage



Carbon capture,
use and storage



Net-zero mobility
and buildings

*based on a carbon price of 75 EUR/tonne

Market-based instrument with a lean procedure

