



Innovation Fund pilot auction for renewable hydrogen in 2023

Stakeholder Consultation on draft Economic
Terms and Conditions,

16 May 2023

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AGENDA

9.00 – 9.30

Registration

9.30 – 10:00

**Opening remarks by DG CLIMA & next steps,
Overview of received feedback**

10:00 – 10.45

General auction design elements

Overview of key feedback received, discussion

10.45 – 11.30

Qualification requirements and completion bonds

Overview of key feedback received, discussion

11.30 – 11.50

Break

11.50 – 12.20

Maximum realisation time, termination, ceiling price

Overview of key feedback received, discussion

12.20 – 13.45

Lunch break

13.45 – 14.15

Off-take restrictions and local content requirements

Overview of key feedback received, discussion

14.15 – 15.00

Cumulation with other public funding

Overview of key feedback received, discussion

15.00 – 15.30

Auction frequency, scheduling and future budgets

Overview of key feedback received, discussion

Discussion of DRAFT T&C

Note for publication:

- This presentation reflects the status of the DRAFT economic Terms and Conditions (T&C) of the EU Hydrogen Bank domestic auctions
- The workshop that the presentation was created for aims to discuss stakeholder feedback and possibly ADJUST some of the T&Cs.
- Please note that many of the points in this presentation represent or summarise stakeholder opinions, rather than the view of the commission or the final T&C.
- The final T&C will be officially published on the Innovation Fund Website in summer 2023.

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Overview of stakeholder engagement

Previously 2 workshops and 1 survey in 2022: materials available [here](#)



Goals of 3rd and final workshop :

- Based on EC published indicative economic T&C for the pilot auction, iron-out last outstanding design issues and align with stakeholders
- Answer and clarify outstanding questions from stakeholders
- Find workable middle ground



Next steps:

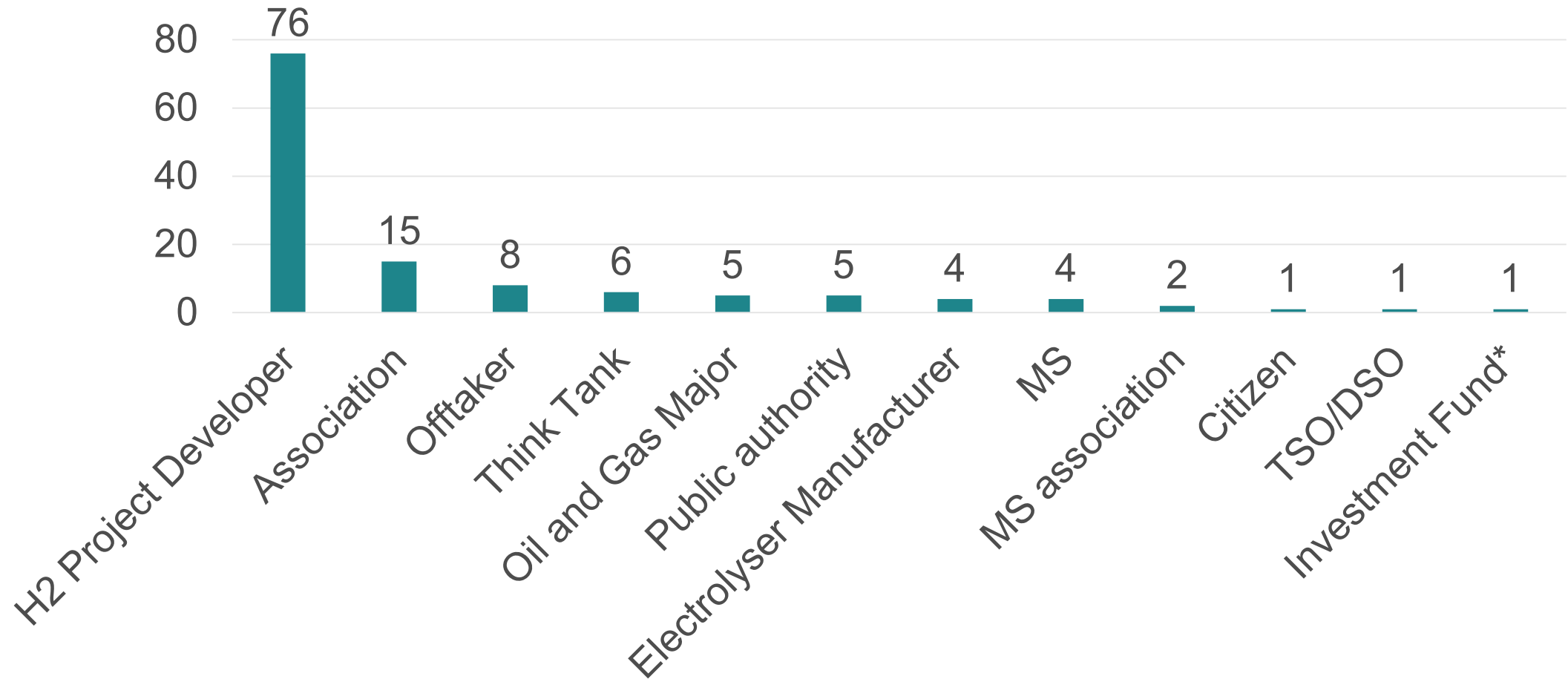
- Publish final economic T&C -> mid-summer
- Bidders prepare bids, EC prepares call launch
- First pilot auction opens -> December 2023

Roadmap for the day

- Present high-level overview of all received stakeholder feedback
– **thank you for your time and constructive comments**
- Go through design elements topic-by-topic, in 30/45 min discussion blocks
- Each discussion block will start with a presentation by the Commission, followed by open discussion
- Please ask clarifying questions, propose necessary modifications, substantiate your feedback with examples from experience etc.

128 stakeholder submissions received on draft economic T&C

Feedback submissions by stakeholder type



*Separate engagement with banks & financial institutions as secondary stakeholders

797 individual feedback points made across 41 design elements

General auction design elements	(1.0)	Objective of the auction	11
	1.1	Auctioned good	43
	1.2	Constraining value	22
	1.3	Support type	16
	1.4	Reference price (n/a)	2
	1.5	Support form	10
	1.6	Limits to profitability of guaranteed support	2
	1.7	Ranking of bids	36
	1.8	Bid components	6
	1.9	Minimum and maximum yearly production thresholds	16
	1.10	Banking and borrowing	8
	1.11	Support duration (disbursement period)	30
	1.12	Indexation of support	28
1.13	Technology baskets, differentiation by regions or actors	26	

<20: strong support
 20 < 50: overall support, some discussion
 >50: strong request for adjustment

Qualification requirements	2.1	Key technical and financial checks for project and bidder	67
	2.2	Bid and completion bonds	40
	2.3	Minimum or maximum restriction for project size and for bid volume	54
	2.4	Offtaker restrictions	52
	2.5	Local content requirements	9
	2.6	Regulations for transporting hydrogen	7
	2.7	Consideration of General measures (e.g. green premium stemming from regulations)	11
	2.8	Cumulation with State Aid or EU funding for hydrogen producers	69
	2.9	Cumulation with State aid or EU funding for the hydrogen offtaker. Cumulation with funding for hydrogen infrastructure.	19
	2.10	Exclusion of cross-subsidisation of "grey" hydrogen	19

Volume and depth of feedback to determine discussions today

Design elements defining the auction procedure	3.1	Competitiveness of the process	2
	3.2	Single vs. multiple item auction	0
	3.3	One-stage or two-stage auction	1
	3.4	Auction type	3
	3.5	Pricing rules	1
	3.6	Minimum prices	0
	3.7	Ceiling prices	29
	3.8	Clearing mechanism and marginal bid	8
	3.9	Tiebreaker rule	22
	3.10	Minimum volume of bidders	0

Rights and obligations	4.1	Realisation periods	42
	4.2	Sanctions in case of non-compliance with support requirements	31
	4.3	Payment schedules	20
	4.4	Reporting requirements	10

Jointly more than 50 comments of concern

Organisational	5.1	Scheduling/auction frequency	18
	5.2	Timing of the auction (early stage or late stage auction)	5
	5.3	Implementing authority	1

Some auction design elements will be considered closed based on low controversy

- Fixed premium instead of CfD (without closing door to CfDs in the future)
- Bid components: volume, price and capacity
- Transport costs, CAPEX and OPEX can all be priced into bid
- Section 3 (auction procedure e.g. static vs dynamic auction) except for ceiling price and tie-breaker rules

In addition, some medium-controversy items are considered closed for the pilot auction

- RFNBO vs. low-carbon hydrogen: political choice for RFNBO H2 in first pilot auction.
- Constraining value budget: EUR 800mn for first round IF budget constraint.
- Auction baskets, differentiation by regions or actors: not sufficient experience with level of competition in pilot round. Potentially later e.g. to support geographical balance.
- 10 year vs. longer support length: 10 years deemed sufficient, need to balance cost to public sector and goal to kick-off more projects quicker with more security for project developers.

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Objective of the auction largely supported (11 comments)

- (1.0) objective of the auction to support cost-efficiently production of RFNBO-H2 + connection of supply and demand
 - Additional objectives?
 - SoS/local content,
 - Focus on regions in transition from fossil fuels,
 - Job and growth creation, innovation,
 - Support uniquely for “hard to decarbonise” sectors,
 - Geographical balance
- *these objectives are reiterated in non-price criteria for ranking, baskets, offtake restriction and even tie-breaker rules*

Political decision on auctioned good, still need for clarifications

- (1.1) Auctioned good - Definition in line with revised RED and its Delegated Acts (43 comments)
 - Multiple asks for low-carbon H2 (separate auction basket, to be considered in the future)
 - Some asks for: hydrogen derivatives (RFNBOs), NH3 cracking
 - Interest in demand-side auctions for H2 consumption
 - Concerns over availability of RFNBO certification

Clarifications:

- Self-consumed H2 (e.g. for NH₃ or CH₃OH production) in scope
- RED II and its delegated acts definitions are to apply also for industrial use of hydrogen
- It is allowed to submit a bid only for a fraction of the RFNBO-H2 produced by a project
- Point of delivery should not matter: price is on subsidy need

Support type and form confirmed

- (1.3) Support type: operational (16 comments) and (1.5) support form (10 comments)
 - Concerns over availability of certification
 - Few asks for loans/guarantees, demand-side or double-sided auction
 - Regional differences (absence of transportation infrastructure and difference in regional electricity prices) affect the size of the bid
- (1.4) Reference price (2 comments)

Clarifications:

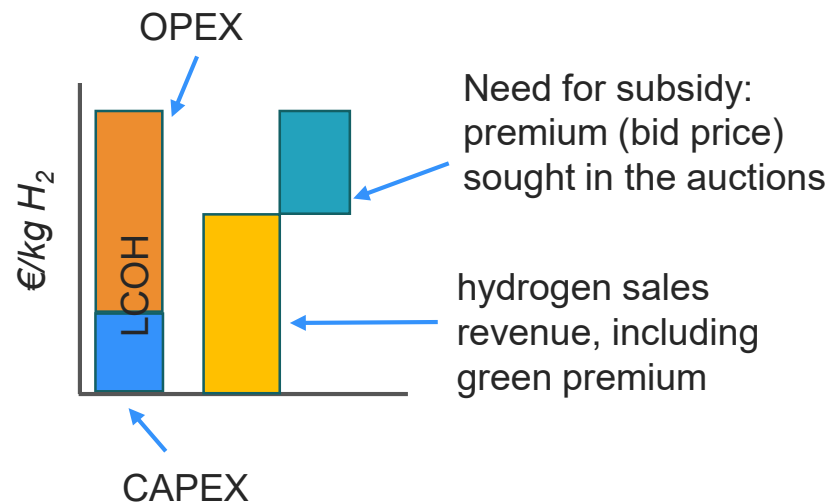
- Operational support covers both CEPEX and OPEX → important for cumulation discussion
- What kind of measurement is needed → tonnes of H2 produced and certified as RFNBOs (GoOs will not be sufficient)

A number of suggestions on non-price criteria and baskets

- (1.6) Limits to profitability (2 comments)
 - No claw-back even if HPA only required for 5 years
- (1.7) Ranking of bids (36 comments) and (1.13) baskets (26 comments)
 - Large support for price-only ranking in the pilot auction → simplicity, better price-discovery
 - Large majority supports single-basket → simplicity, budget not sufficient for multiple baskets
 - Suggestions to include other aspects as non-price criteria/baskets:
SoS/local content, focus on regions in transition from fossil fuels, job and growth creation, support hard to decarbonise sectors/specific offtakes, geographical balance, innovation, having SA or not, being in low electricity price zone or not, overall GHG impact
 - Geographical and sectoral balance are objectives of the IF

Bid components are largely supported

- (1.8) Bid components: bid price (EUR/kg_H2), volume of production, electrolyser capacity GW_el (6 comments)
- How to certify “fully operational” electrolyser capacity (also important for 2.1); are deviations from bid capacity allowed?



Clarifications:

- Bid is not on LCOH but on “green premium”/“funding gap” between LCOH and envisaged offtakes
- Yes, it will be possible to only bid with a fraction of the capacity of a project (NOTE cross-subsidization point 2.10) or bid in future auction rounds with additional capacity
- Should a stakeholder/entity with multiple projects place one bid or one bid per project – both are possible
- Checks for glaring inconsistencies in bid components

Rules concerning annual production

- (1.9) Average annual production volumes are part of bid, no min./max. thresholds (16 comments but mostly in relation to point 2.3)
- (1.10) Banking and borrowing (8 comments)
 - For some stakeholders 30% is too strict, more flexibility needed
 - For some 30% is too lenient - too big flexibility would require provisioning on the EC side
- Worries about impact on market prices?

Clarifications:

- No, support cannot be extended beyond 10y – constant underperformance will result in smaller overall support (e.g. 5y of production at 60% of volume)
- Please note special rules on severe underperformance (point 4.2)
- What happens in case of over-performance >130% – no further support can be received.
- EiO is before ramp-up and banking and borrowing

Support duration and indexation – options are defined by budget availability

- (1.11) Support duration (30 comments)
 - Some stakeholders ask for 15Y or even more → support per year would have to be reduced or fewer winners awarded
 - Lifetime of electrolysers' stacks to be considered
- (1.12) Indexation to inflation (28 comments)
 - Many stakeholders would like to have it, even if based on EU average
 - Lack of indexation will increase the bids
 - But necessary provisioning would reduce amount of support
 - PPA/HPA do not fully cover this risk?

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Qualification requirements heavily commented, but basic checks uncontroversial

Discussion of DRAFT T&C

- Basic checks such as legal entity checks -> **uncontroversial**
- Project description, basic financial model, timelines of FC and EiO -> **uncontroversial**
- List of self-declarations:
 - Non-Cumulation contentious and will be discussed in separate block
 - Greenfield project: needs clearer definition by the Commission. Intention is to only fund new electrolyser capacity, but allow e.g. for very large projects to be split up in multiple stages or electrolysers being installed on existing sites. Where to draw the project boundary?

Trade-off between heaviness of documentation and use of completion bonds

~~Discussion of DRAFT T&C~~

- General tone: too much documentation requested if completion bonds will be used
- Minimum requirements of all checked documentation needs to be clear, transparent and easy to assess in a yes/no fashion
- But: 9 comments go in the opposite direction asking for *additional/stricter* qualification requirements (feed study, extend HPA MoU to 10 years, BEDP...)

MoU requirements most widely discussed

MoU for fixed-price or narrow sleeve 10 year PPA, 90% of volumes

MoU for fixed-price 5year HPA 100% of volumes

- Intention behind ask: Because we went for fixed premium rather than CfD approach, project is not automatically hedged on cost or revenue side.
- We (and banks) will want to see projects having a hedging strategy to not stop production in the first high-power-price or low-gas-price year because [variable cost > revenue]
- Open to suggestions on how else this can be checked. Question to the room, what is your project's hedging strategy?

Clarifications

- yes, all volumes (e.g. PPA, HPA) refer to the volume that is part of the bid (see point 1.8 “bid components”)
- Company-internal PPAs for integrated RES+H2 projects feasible? Open to change language, but want to see company-internal commitment to not divert power from H2 project as soon as spot prices are high

Discussion of DRAFT T&C

MoUs serve as checks on project maturity. Up to project when to sign contracts.

~~Discussion of DRAFT T&C~~

- MoU with manufacturer of electrolyser equipment: Because of long delivery times we expect mature projects to be or have been in conversation with electrolyser suppliers.
- “Proof of advanced discussion with environmental authority” needs to be better defined.
 - What we want to see is a clear timeline towards reaching permits and EiO within maximum realization period. On applicant to describe national permitting process and show that they are realistically on track.
- Lol from bank on completion bond
 - Can be from mother company, but still has to come through bank for easier check and comparability
 - Template will be provided

Element 2.2 (Completion bonds) received 40 comments

~~Discussion of DRAFT T&C~~

- Open Completion bonds allow much lighter evaluation and application burden compared to existing IF grants
- Concerns from smaller companies and new market entrants that completion bonds will be out of reach
 - **Open to re-consider the size of the bond**
- Need to negotiate early with your bank to have MoU at bidding stage and be able to sign bond into force at grant signature!
 - We are in touch with banks to familiarise them with the scheme
 - Template will be provided and shared in advance
- “Not all projects will be funded via banks and bond markets, alternative means of funding must be allowed”
 - Absolutely, but completion bond has to take form of bank guarantee (even if project is equity financed). Cash deposits not possible for Commission.

Break

11:30 – 11:50

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Section 3 on auction procedures

- Section 3 has overwhelming support except for (3. 7) ceiling price and tie-breaker rules
- Ceiling price (29 comments)
 - How was it calculated? What is it for?
 - Still some misunderstanding that support and thus ceiling is on subsidy not on LCOH
 - Consider increasing (€5/kg or even €6/kg) because market has a lot of uncertainties, notably inflation
- Tie-breaker rules (22 comments)
 - Comments that support should go to bigger not smaller project
 - Ideas presented for objective of auction/non-price criteria/baskets come back
 - Mathematical solution: up to 5 digits after comma

~~Discussion of DRAFT (3.7-9) T&C~~

Section 4: realisation periods and sanctions

~~Discussion of DRAFT T&C~~

- (4.1) Realisation period of 3.5 years (42 comments)
 - Too short (nascent market with uncertainties, events outside the control (beyond force majeure), waiting time for electrolyser deliveries)
 - Consider increasing, possibly by coupling with check on FC
 - Consider reduction of support not termination
 - Strong ask for 5 or 6Y or less stringent penalties (completion bond)
- (4.2) Sanctions (31 comments)
 - No discussion on “severe underperformance” threshold
 - Strong ask for 1Y or 1.5Y of flexibility rather than current 6 months
 - Sanctions should focus on deliveries, not production
 - Force majeure/events outside the control of project promoter

Lunch break

12:20 – 13:30

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Minimum and maximum project size restrictions (2.3) – 54 comments

~~Discussion of DRAFT T&C~~

- Minimum project size currently 5MW. **Comments to increase and lower this threshold balance out.**
 - Some comments asking to increase to 5t/day in line with ETS Directive threshold for free allowances.
 - Some comments ask to lower or scrap completely to not disadvantage smaller projects in what is perceived to be a beneficial design for larger projects already.
- Maximum project size (33% of EUR 800mn) **too small**
 - Introduced to avoid “winner takes it all”.
 - We appreciated that 1/3 of EUR 800mn presents binding constraint for large projects.
 - Can be solved through future larger budgets / auctions-as-a-Service or enabling large projects to apply with multiple capacity stages.

Asks to restrict offtake (2.4) to hard-to-abate sectors (52 comments)

~~Discussion of DRAFT T&C~~

- DG CLIMA agrees with observation of scarcity of H2 and strong need in hard-to-abate, hard-to-electrify sectors
- In first pilot round two main concerns with restricting offtake:
 - Level of competition and maturity of project pipeline unclear. Need to make first auction round a success and not cannibalise bidding pipeline too early.
 - Checks needed for an offtake restriction to be actually implementable: What if offtaker is an aggregator or city government / utility etc. ? Not ready in 2023 to realise this feature.
- Possibility for future auction rounds, upon experience in pilot auction?

Introduction of local content rules (2.5) political choice (9 comments)

5. Bid restrictions

Discussion of DRAFT T&C

- Feedback received largely from electrolyser manufacturers and public authorities
- Stakeholder suggestions:
 - Complete restriction to EU manufactured equipment
 - ESG and labour rights criteria as qualification criteria (suggestions how these can look?)
 - Recycling obligations
- Introduction of local content requirements or softer criteria political choice. Implementation suggestions on ESG and recycling standards & related certifications welcome.

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(2.8) Treatment of general measures largely supported but need for clarifications

DISCUSSION OF DRAFT T&C

- 11 comments
- RFNBOs quotas are general measures, they might lead to different green premia across MS
 - Do RFNBOs targets create un-level playing field between industry and transport?
- Asks for more flexible implementation of general measures (e.g. measures allocated under level playing field conditions in the MS should be compatible e.g. electricity tariff exemptions)

Clarifications:

- General measure \neq State aid (notified or not, individual aid or schemes): green premia, green public procurement, taxation (if not selective).
- Applicants will need to verify if they are beneficiary of State aid (and provide self-declaration)
- ETS Free Allowances are not State aid

(2.8) No cumulation with State aid for H2 producers was the most debated topic

Discussion of DRAFT T&C

- **69 comments** received, with various suggestions:
 - Allow cumulation with all kinds of SA (“most mature-enough projects have all received SA”)
 - Allow Cumulation with SA for CAPEX (e.g. IPCEI) -> but IF auctions will provide support for CAPEX and OPEX
 - Allow those SA measures that are available to all players in a MS (e.g. levy exemptions, indirect compensation)
 - Allow Cumulation with GBER/de minimis measures
 - Allow Cumulation with SA awarded for early project stages such as FEED, feasibility studies...
 - Allow to “calculate out” SA received from IF
 - Allow projects to renounce SA

Clarifications:

No cumulation for the costs within the project boundary, during the 10Y when support is paid, concerns State aid (SA) and other EU funding (HE, IF grant, CEF)

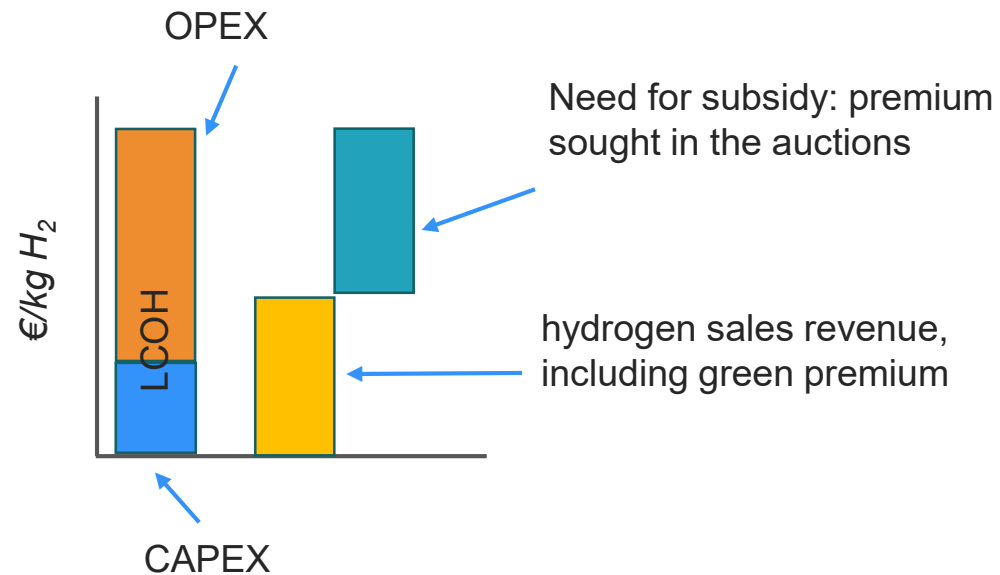
(2.8) No cumulation with State aid for H2 producers was the most debated topic

- Stakeholders suggestions on the way forward:
 - Draft proposal should remain unchanged
 - Calculate out the SA from IF support/calculate out the IF support from the SA (administrative burden, process will be delayed)
 - Possible to renounce awarded SA received if not yet paid out
 - Create categories of (paid) State aid that would be *tolerable* to cumulate
- Concerns remain over level-playing field and need to stack public support
- IF objective to fund excellence and auctions objective of price discovery
- Cases of projects receiving SA in the past

(2.9) No cumulation with State aid for offtakers who perceive OPEX support

Discussion of DRAFT T&C

- Strong support (19 comments)
- Difficulty in assessing impact of such subsidies on bidding of hydrogen producers



- Should not be wide-spread: few schemes address OPEX of hydrogen producers NL SDE++, DE CCfDs, PT scheme

(2.10) Exclusion of cross-subsidisation has strong support

- 19 comments received, many asks for clarification
- Requirement is too strict, overreaching
- Will only projects located in a Member State with a grid emission factor below 28 gCO₂/MJ be able to meet that criteria?
- What would be consequence? lack of self-declaration: no access to auction

Clarifications:

All the production of the electrolyser does not have to be RFNBO but has to respect the GHG reduction threshold (2nd DA)

- yes this concerns products outside the auction
- no there is no such requirement under RED II DAs
- consequences? lack of self-declaration → no access to auction

Discussion of DRAFT T&C

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Higher payment frequency will be considered to avoid liquidity costs

Discussion of DRAFT T&C

- Annual payment frequency (element 4.3, **20 comments**) deemed to low
 - Commission calculated liquidity cost of annual vs. bi-annual or quarterly payments and agrees that lower liquidity costs for companies outweigh administrative burden at CINEA -> bi-annual or quarterly payments will be considered
- Reporting requirements (element 4.4, **10 comments**)
 - Standard knowledge sharing requirements to help “second-movers” in Europe and abroad learn from experience
 - Worries around publication of off-take prices. Commission would like to publish off-take + premium = LCOH for price discover and market formation. **What are the key concerns with this approach?**

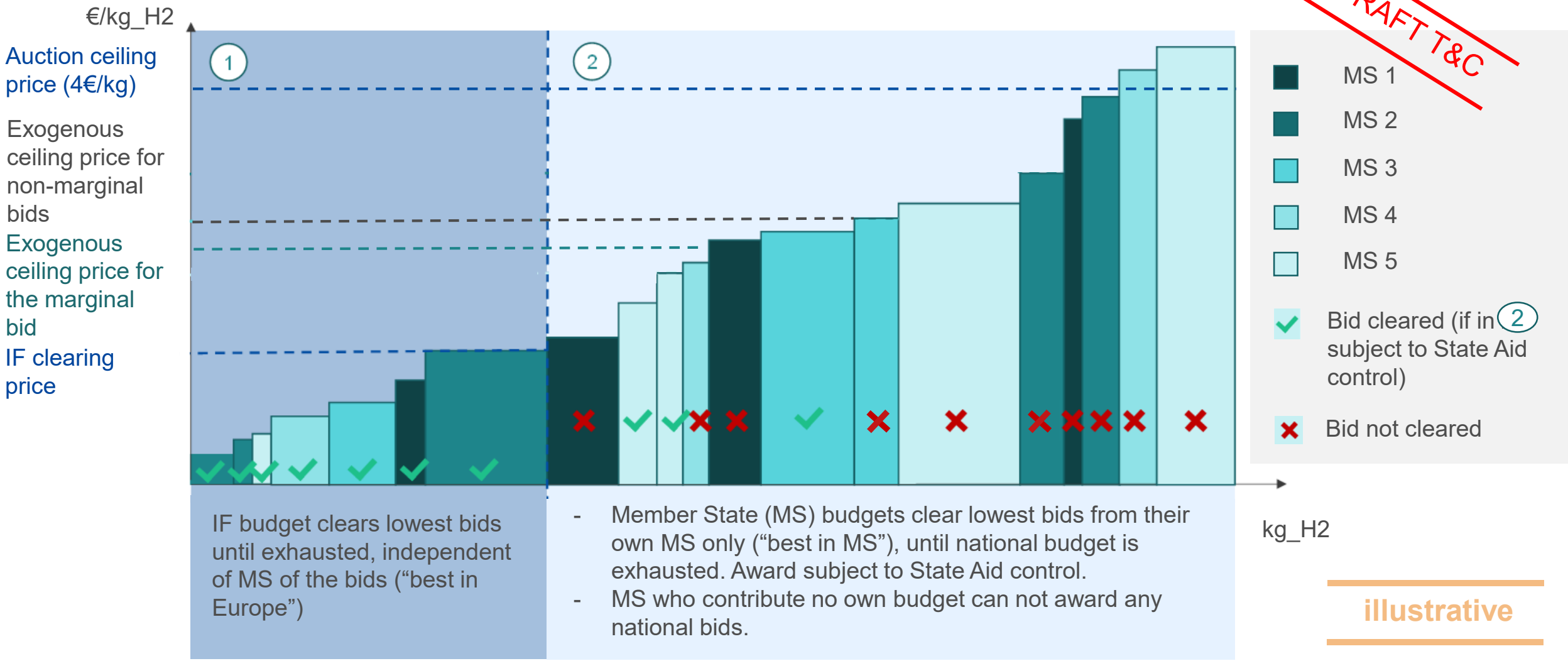
Budget constraint (1.2), auction frequency (5.1) and next steps

~~Discussion of DRAFT T&C~~

- Auction frequency and budget subject to IF budget constraints. EUR 800mn for 2023 fixed, due to IF RRF contribution and frontloading constraints.
 - IF remains a funding tool for a range of crucial deep decarbonisation technologies, not just H2.
- That said: Conscious of funding needs for H2 targets. Given CO2 price developments and high participation in 1st auction round, budget for 2024 auctions can be increased.
- Additional solution: DG CLIMA is putting forward the “Auctions-as-a-Service” concept, allowing MS to participate with *national funding for national projects* under the same auction design.
 - First meeting with MS planned on May 26th

Auctions-as-a-Service to MS to tackle funding challenge

Discussion of DRAFT T&C



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