Department for Business, Energy & Industrial Strategy

Industrial Hydrogen Accelerator: Stakeholder Engagement Session Q&A

An SBRI and Grant Competition

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Any enquiries regarding this publication should be sent to us at:
nzip.hydrogen@beis.gov.uk

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Industrial Hydrogen Accelerator: Stakeholder Engagement Session Question and Answer (Q&A)

UPDATE: This is an updated version of the Stakeholder Engagement Session Question and Answer (Q&A) originally published on 22/03/22; the updates provide the most up to date information, as reflected in the ITT/Guidance Notes for Stream 1 and Stream 2A.

The following questions now have an updated answer: 3; 4; 9; 10; 11; 13; 15; 17; 19; 20; 21; 22; 24; 25; 26; 29; 31; 32; 33; 34; 35; 37; 39.

This Q&A covers answers to key questions from the Stakeholder Engagement Session held on 8 March 2022 that may be relevant to applicants of the proposed Industrial Hydrogen Accelerator programme.

Further details are provided in the Industrial Hydrogen Accelerator Competition Guidance documents/ITTs for Stream 1 and Stream 2A, which are available on the competition webpage. If you require further clarification on the information presented in the Competition Guidance documents/ ITTs, please email us at nzip.hydrogen@beis.gov.uk by 14:00 BST, 18 May 2022.

All questions apply to both Stream 1 and Stream 2A of the competition, unless stated otherwise.

Abbreviations

TRL	Technology Readiness Level
ITT	Invitation to Tender
NZIP	Net Zero Innovation Portfolio
SBRI	Small Business Research Initiative
HMG	Her Majesty's Government
HBM	Hydrogen Business Model
NZHF	Net Zero Hydrogen Fund
BEIS	Department for Business, Energy & Industrial Strategy
RD&D	Research, Development and Demonstration
HHV	Higher Heating Value

Section 1: Competition Structure and Timetable

1. Can large businesses apply for SBRI funding? (Stream 2A)

Yes, all businesses can apply for SBRI funding.

2. Why do projects need to be complete by March 2025? Is there flexibility on timescales? (Stream 1 and Stream 2B)

All projects must be complete by March 2025. The funding period ends on 31st March 2025 in accordance with wider HMG funding allocation. For this reason, there is no flexibility on this timescale.

3. What is the definition of "completion" of the project? Is this a constructed & commissioned system, with operation to follow, or is there a minimum period of operation within the timeframe?

UPDATED: The aim of IHA is to promote the demonstration of innovative technology. We expect the demonstration period, after construction and commissioning, to be of the order 2 months. By February 2025 the demonstration of the end-to-end system must be complete, with the project and all outputs finished by March 2025. For Stream 2B, if a project is focussed on a FEED study, the FEED study must be complete and shared with BEIS by March 2025.

4. What is the rule about use of these facilities/capabilities after the end of the funding? Could they then be switched to commercial use for example? (Stream 1 and Stream 2B)

UPDATED: We expect projects to explain the proposed use of the assets post-demonstration (e.g. operational deployment at industrial site, further RD&D uses, decommissioning). Value for money is a scoring criteria. Projects will score better if they propose to use assets to provide additional evidence on industrial use of hydrogen after the demonstration ends, either in long term industrial operation or in further RD&D. This not an eligibility criterion. So yes, the facilities could be re-purposed for commercial use. Eligible costs are those associated with the demonstration, not the commercial deployment of the project or the wider infrastructure on the industrial or pilot site.

5. If a feasibility project, at the conclusion of the Stream 2A funding, shows that it is not commercially or technically viable or not sufficiently attractive, will the funding be withdrawn? (Stream 2A)

The funding for the completed feasibility project will not be withdrawn provided it is completed to the required standard. However, a follow-on project will likely not be successful in receiving funding for the Stream 2B demonstration phase if it is shown not to be viable.

Please note that funding for both Stream 2A and Stream 2B will be awarded after an application process. Succeeding in Stream 2A is not a guarantee of Stream 2B funding.

6. Is there any flexibility allowed for the Stage gate criteria? (Stream 1)

A stage gate decision will be taken on a case-by-case basis. For each project it will be taken into consideration what is feasible and necessary, and the timeframe to achieve it.

Section 2: Competition Scope and Eligibility

7. What does "end-to-end" mean in the context of the IHA programme? Would you accept projects that address only one technology component of an end-to-end system?

End-to-end means that projects must include hydrogen generation, hydrogen delivery infrastructure and industrial end-use in a robust chain as a single project. For the purposes of this competition, a robust chain means a full system configuration that could reasonably be used long term on a commercial basis; projects must justify this in their application. The hydrogen generation and end-use do not need to be co-located on the same site. All technologies within the end-to-end system must be within the same IHA application and project team.

8. What "end-use" of hydrogen is in scope?

The end-use of the hydrogen must be for an industrial process, such as manufacturing or refining.

End-use of hydrogen for building space and hot water heating, however large, is not considered an industrial process. Equally, use of hydrogen for district heating for building heat is also not considered an industrial process in this competition. End-use of hydrogen for transport applications or other mobile applications, such as forklifts, is not considered an industrial process. See question 13 for a response on multiple end-uses.

9. Are projects which have already received some funding in previous initiatives in scope?

UPDATED: For Stream 2A projects (SBRI funded feasibility studies), 100% of the project costs must be covered by the funding received through the IHA Stream 2A competition, so any previous funding cannot be used towards any of these project costs.

BEIS will support projects that have previously received other funding. If the other funding is required for the IHA project to progress, funding must be confirmed at the point of the IHA demonstrator application (Stream 1 and 2B), and there must be no overlap in the scope of the costs covered. Demonstrator applications (Stream 1 and 2B) will not be successful if their delivery relies on other funding sources which are not yet confirmed.

For Streams 1 and 2B if a project already has BEIS or other funding for one innovation aspect (e.g. Low Carbon Hydrogen Supply 2 or Industrial Fuel Switching), that does not exclude it from the IHA, provided the scope of costs is separate and the IHA application meets all other eligibility criteria and grant intensities.

Please note however that for Streams 1 & 2B, projects will be required to meet the funding intensity limits set out in the IHA competition guidance. Use of other public funds in scope of UK Subsidy Control & EU State Aid rules (whether received from BEIS or any other UK or non-UK public fund) for any element of the end-to-end demonstrator in scope or not in scope of IHA funding will count towards the funding intensity limits set in the competition guidance.

If considering the use of non-IHA public funds within their projects, applicants are further advised to consult the specific rules associated with the receipt of that funding.

10. Does the hydrogen produced have to be from electrolytic / green sources? Or can other sources be developed?

UPDATED: The IHA programme is technology agnostic and does not directly exclude any hydrogen generation technology types. Applicants must confirm the hydrogen generation technology can be operational by January 2025 and will be low carbon by 2030. Projects will score more highly if the hydrogen generation technology used in the Stream 2B demonstrator meets the Draft Low Carbon Hydrogen Standard (LCHS). Other hydrogen carriers, such as ammonia, may be included, but must justify that their use is widely applicable to UK industry and fully compatible with a net zero future.

11. Do projects need to have pre-existing on site renewables or will you consider projects either where renewables are delivered as part of the project or renewables are contracted and supply of green power is via the grid?

UPDATED: A project is not required to be connected to a dedicated renewable energy production system. As long as the hydrogen generation eligibility is met, applicants are free to choose their energy source for hydrogen production. If renewables are used these could be pre-existing or could be delivered as part of the project.

A portion of the funding requested can be used to cover:

- Renewable electricity generation capex
- Electrical infrastructure, such as grid/direct wire connection
- Other energy inputs to hydrogen generation e.g. biogas generation

Eligible costs exclude residual value of these assets at the end of the demonstration – see competition guidance for further information.

12. Does the hydrogen production have to be co-located on the same site(s) as the industrial switchers? Alternatively, can production & use take place on separate dispersed sites, or connected via an existing network?

Hydrogen production and use are not required to be co-located.

13. Could the hydrogen supply element of the project be used for mixed purposes, i.e. both the IHA end-use demonstration and the supply of hydrogen to another business for example?

UPDATED: The programme will allow projects which include multiple offtakers for the low carbon hydrogen. However, the core hydrogen end-use must be for industrial processes and a minimum of 50% of the hydrogen generated in the demonstration project in the timeframe of this competition funding must be used for the core industrial application(s). If any portion of the hydrogen is used for non-industrial end-use applications, BEIS will not provide funding for those end-uses or for the relevant portion of the hydrogen generation and delivery assets.

14. Is hydrogen power generation in scope?

Hydrogen based power generation is not considered as an industrial application in this programme unless the generator / CHP is integral to the industrial site / process. Hydrogen-based power generation primarily for grid export is not considered an industrial process. See the competition guidance for more detail.

15. What industrial sectors are in scope? What qualifies as industry - for example, does industry include ports and port operations or shipping?

UPDATED: The core hydrogen end-use must be for an industrial process under industrial operational conditions (but these could be simulated at a pilot facility). Non-exhaustive examples include the use of hydrogen in furnaces, kilns, dryers and steam boilers to replace fossil fuels in manufacturing and refining processes.

End-use of hydrogen for transport applications (including shipping) or other mobile applications, such as Non-Road Mobile Machinery (e.g. forklifts), is not considered an industrial process under this competition. Using a share of the hydrogen generated for such an application is permissible but these costs are ineligible (see competition guidance). The construction and mining and quarrying sectors are not considered industry for the purposes of this competition, as these are supported through the BEIS Red Diesel Replacement programme.

There can be more than one industrial application in a single project.

16. Can hydrogen be used as feedstock e.g in chemical plants?

Hydrogen can be used as an industrial feedstock, and this would be considered an industrial application. The applicant will need to justify that knowledge gained from the project/system demonstration is applicable widely to UK industry to achieve high marks.

17. Can the hydrogen be used for partial industrial fuel switching via blending?

UPDATED: Other hydrogen carriers, such as ammonia, may be included, but must justify that their use is widely applicable to UK industry and fully compatible with a net zero future. They must be produced from hydrogen which meets the criteria outlined above. Carbon-based synthetic fuels, such as synthetic methanol or methane, are not eligible for this competition. Hydrogen blends are acceptable if the hydrogen component is low carbon, projects can be justified as innovative in their production or end-use, are widely applicable to UK industry and compatible with a net zero future.

18. Is it necessary that the hydrogen generation is located in the UK, if the industrial application is in the UK?

Yes, all technologies within the end-to-end demonstration chain must be in the UK, including hydrogen generation.

19. What TRL level are the submissions expected to be at?

UPDATED: The end-to-end industrial hydrogen system will likely be made up of multiple component technologies (e.g. electrolyser/reformer, delivery pipework, furnace/burner), some of which may be more mature than others. Projects must be able to justify that the full solution/system and/or specific technologies within it are innovative and unproven prior to launch. There are no eligibility stipulations over the TRLs of the technologies; individual components are permitted to be mature/commercially available. However, applicants should bear in mind that projects where all component technologies are currently commercially available are unlikely to score highly unless there is significant innovation in the technology integration / system configuration. Conversely, projects where multiple component technologies in the system are low TRL may present a high risk to successful project completion.

20. Will there be a project size restriction, rather than a funding one e.g. in terms of size of electrolyser capacity / hydrogen demand? Can projects >10MW apply?

UPDATED: For Stream 1 and Stream 2B demonstration projects we expect them to be of the order 1-10MW (~1-7MWH2,HHV equivalent), but this is an indicative guide and not an eligibility criterion. Projects >10MW are therefore eligible. However, considering the existence of RD&D projects below 1 MW already in the UK, a project of this scale would be less likely to offer the level of knowledge-gain necessary at an industrial scale to score highly on the relevant assessment criteria.

21. Do you need to have completed feasibility/concept stage before applying to Stream 1 demonstrator grant? What evidence will you need to provide? (Stream 1)

UPDATED: A project does not have to have completed a funded feasibility project prior to application to Stream 1, but significant prior work will be expected to achieve high marks.

Please refer to Section 6 of the IHA Stream 1 ITT/ Competition Guidance document to see the information required in the assessed criteria.

22. Are feasibility studies from other competitions acceptable as pre-work for Stream 1? Are new applications of a similar nature to previous NZIP programmes such as Green Distilleries still considered innovative? (Stream 1)

UPDATED: As above, we do not require formal submission of a feasibility study in applying for Stream 1. However, any work completed in feasibility studies (from other competitions or otherwise) will be useful in developing a strong proposal. Applications of a similar nature to

previous NZIP programmes could apply if they meet the eligibility criteria; however, if they are very similar to projects that have already been funded, they may score less well on innovation.

23. Could the pilot activity be undertaken at an R&D (non-manufacturing) site?

Yes. The end-use must be an industrial application under industrial operational conditions, but these could be simulated at a pilot facility. The project must justify that the knowledge gained is relevant in an operational industrial environment.

24. Will RTO organisations be eligible for claiming 100% funding in the Demonstrator phases?

UPDATED: For all Streams, applications must be led by private organisations or research and technology organisations (RTO) and may not be led by universities or non-commercial organisations. We welcome university consortium partners where they can add value. As with other government funding bodies funding higher education institutions, we will not pay more than 80% of the Full Economic Costs (FEC) calculated using the Transparent Approach to Costing (TRAC) methodology. Any applications requesting items that would ordinarily be found in a department, for example non-specialist computers, must include justification. Where applicable, other research organisations that are not higher education institutions, can receive up to 100% funding.

25. Will applications to the Stream 2A feasibility stream need to specify who will provide the hydrogen supply, or can this question be answered as part of the feasibility investigations? (Stream 2A)

UPDATED: Projects must include hydrogen generation, hydrogen delivery infrastructure and industrial end-use in a robust chain as a single project. To score highly a Stream 2A applicant would need to show a draft plan for hydrogen supply and a letter of support from a potential supplier.

Section 3: Application

26. Can academic organisations join the competition as a partner? Will there be any requirement to have academic involvement?

UPDATED: Applications must be led by private organisations or research and technology organisations (RTO) and may not be led by universities or non-commercial organisations. Academic institutions can submit collaborative applications. There is no requirement to have academic involvement in an application.

27. Is IHA open to consortia or only individual companies?

IHA is open to both consortia and individual companies.

28. Is it possible to have subcontractors for a project funded by IHA?

Yes, it is possible to have subcontractors and partners.

29. Can one company apply to both streams?

UPDATED: Applicants may submit more than one application to the overall IHA programme. Applicants may submit more than one application to each Stream, provided they are materially different in their core innovation and/or configuration.

For a single project, applicants are encouraged to choose between Stream 1 and Stream 2A depending on how much feasibility work has already been completed on the project. If a project considers itself applicable to both IHA Streams, the applicant may apply to both Streams for the same project, but will need to fill out separate applications and declare on the application that the project has applied to both Streams. The same project or scope of work cannot be funded twice.

Section 4: Commercial

30. Why is the Stream 2 of the competition a hybrid of SBRI (for Stream 2A feasibility studies) and grants (for Stream 2B demonstration projects)?

At feasibility stage (Stream 2A) projects will be less developed and further from the commercial market, with more risk and uncertainty associated with them. For this reason BEIS will provide 100% funding through SBRI, to reduce the financial risk to applicants.

At demonstration stage (Stream 2B), projects will be better developed, with reduced risk of being unable to generate useful knowledge that informs commercial usage. For this reason, a sharing of risk through grant funding is more appropriate as it offers the best value for money for the taxpayer, whilst still mitigating the financial risk to the project.

31. Are there any restrictions on the source of matched funding? I.e. are all of debt, equity, other grants / project budgets acceptable?

UPDATED: Match funding will not be required for Stream 2A (SBRI funded feasibility studies), for which 100% of project costs must be funded through the IHA programme.

Match funding will be required for Streams 1 and 2B (grant funded demonstration projects). In line with UK Subsidy Control rules, projects will be eligible to receive a maximum level of public funding, as a percentage of overall project costs, which are set relative to the organisation's size and subject to adherence to competition rules. The funding level limits for each organisation type are set out within the competition guidance. Projects will be required to fund the remainder of project costs (i.e., match fund) from other sources beyond the IHA programme.

Debt and equity are acceptable sources of match funding, provided that this is accessible and projects are able to provide evidence of the availability of this funding by the first project milestone (the timing of project milestones will be agreed with projects at contracting stage). In

circumstances where equity or debt is not accessible for use against project costs by the first milestone, for example where equity has not been sold/released, this would not be an acceptable form of match funding.

For an explanation of whether other grants and public funding are acceptable forms of match funding, please see Question 32.

32. Can we match-fund against other grant funding?

UPDATED: Other public funds (whether received from BEIS or any other UK or non-UK public fund) will not be acceptable forms of match funding.

Projects receiving other public funds (whether received from BEIS or any other UK or non-UK public funding) may still apply to the IHA. However, all forms of public funding will count towards the public funding limits and grant intensities set for the programme.

Please see the answer to Question 9 and the competition guidance documents for more information.

33. Is funding from overseas governments allowed against any of the stream routes?

UPDATED: Other public funds (whether received from BEIS or any other UK or non-UK public fund) will not be acceptable forms of match funding.

For Streams 1 and 2B, a project which already has funding from overseas governments (or any other public funding route) for one innovation, may apply for the IHA, provided the scope of costs is separate and the IHA application meets all other eligibility criteria and grant intensities. For Stream 2A, all project costs must be funded through the IHA.

Please see the answer to Question 9 and the competition guidance documents for more information.

34. Should match funding be cash in bank or is in kind (tangible - labour etc) allowable? (Stream 1)

UPDATED: In kind contributions such as staff time can be included in the match funding total, as long as they relate to eligible project costs, are appropriately costed at a fair market value, and are robust, realistic and justified in terms of the proposed project plans.

Section 5: Other BEIS Funding and Competitions

35. How does IHA link to the Hydrogen Business Model (HBM) and the Net Zero Hydrogen Fund (NZHF)? Can projects apply to IHA and also HBM, for operational support?

UPDATED: Please see section 2.3 of the competition guidance document / ITT.

36. Is there a link with other Net Zero Innovation Portfolio (NZIP) funding and could a project receive both?

The IHA is a new competition, and there is no requirement to have participated in any other NZIP programmes. If a project already has BEIS or other funding for one innovation aspect (e.g. Low Carbon Hydrogen Supply 2 or Industrial Fuel Switching), that does not exclude it from the IHA, provided the scope of costs is separate and the IHA application meets all other eligibility criteria and grant intensities. For example, a project which is already receiving funding to demonstrate a novel electrolyser, could apply to the IHA for the remainder of the chain (hydrogen delivery and industrial end-use). Please see section 2.3 of the competition guidance notes / ITT for further information.

Section 6: Miscellaneous

37. Will there be any networking events to help connect hydrogen SMEs to potential industrial partners?

UPDATED: A Launch and Networking event is taking place on Monday 9th May 10-12. BEIS will provide an overview of the competition and attendees will have the chance to meet and network with other prospective applicants. For more information please visit the competition webpage and the Gemserv website here.

For anyone who would like to network with others who may be interested in applying to the IHA competition and are looking for collaborators, please sign up to the B2Match IHA networking platform. You can sign up here: https://industrial-hydrogen-accelerator.b2match.io/.

38. Will BEIS be managing the grant competition?

Yes, BEIS will manage all the IHA competition phases. External third-party support is planned to be used for assessment and project monitoring.

39. Are companies that are based outside of the UK able to participate, or will the company need to register in the UK to participate?

UPDATED: For all IHA Streams, projects can work with international partners, but over 50% of the funded project work (by value) must be conducted in the UK. The physical demonstrators must be conducted in the UK.

This publication is available from: https://www.gov.uk/government/publications/industrial-hydrogen-accelerator-programme

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