

HYDROGEN HEADSTART

CONSULTATION PAPER

JULY 2023



Australian Government
Department of Climate Change, Energy,
the Environment and Water



Australian Government
Australian Renewable
Energy Agency

ARENA

OVERVIEW

On 9 May 2023, the Federal Government announced it will invest \$2.0 billion in the new Hydrogen Headstart program (the **Program**) to accelerate development of Australia's hydrogen industry, catalyse clean energy industries, and help Australia connect to new global hydrogen supply chains, to take advantage of hydrogen's immense jobs and investment potential.

The Program reflects a responsive approach to global market signals. International hydrogen industry support in other countries reflects strengthening international competition for early investment attraction, including the US Inflation Reduction Act, Germany's H2Global auction and the UK's hydrogen production business model.

The Department of Climate Change, Energy, Environment and Water (**DCCEEW**) and the Australian Renewable Energy Agency (**ARENA**) will work in collaboration to design the Program which intends to bridge the commercial gap for early projects and put Australia on course for up to a gigawatt of electrolyser capacity by 2030 through at least 2 large-scale projects. The Program will use a competitive process (**Competitive Round**) expected to focus on cost and deliverability, to select large Australian-based projects producing either hydrogen or derivative products made from hydrogen produced from renewable energy.

Successful projects will be able to receive a production credit over a 10-year period to cover the commercial gap between the cost of hydrogen produced from renewables and the sales price of that hydrogen or its derivative products.

Consultation Process

This consultation paper contains indicative specifications for the Competitive Round, on which DCCEEW and ARENA are seeking stakeholder feedback.

It should be noted that the specifications as outlined are indicative only and designed to stimulate input from stakeholders during the consultation process. They should not be taken to presuppose any final design features. The final program design will be developed from input from the consultation process and may differ to the parameters outlined below.

We encourage you to respond with feedback and to also attend one of the public consultation forums to be held throughout July 2023 in relation to the Program. More information on these consultation forums can be found on the DCCEEW [website](#).

How to respond

DCCEEW and ARENA welcome feedback from stakeholders on any of the questions or details contained in this consultation paper. Stakeholders may also wish to comment on other design considerations not raised in this paper. This can be provided by completing the online form available via the DCCEEW Consultation Hub ([website](#)), or raised directly during the consultation forums scheduled for July 2023.

Please also provide a response to Appendix B (through the online form also available via the DCCEEW Consultation Hub) noting the details of any hydrogen project(s) you are currently developing that may seek support under the Hydrogen Headstart Program. Responses provided will be used to assist with the development and design of the Program. The consultation period will close on **Thursday 3 August 2023**.

Respondents who wish for their comments to be treated as confidential should note this in their submissions. DCCEEW may publish all or part of any non-confidential submissions it receives. Please note that information from responses will be shared with other parts of Government including ARENA, even if marked as confidential, to inform the development of the Hydrogen Headstart program.

ISSUE	EXPLANATION
1. Competitive Round Objectives	<ul style="list-style-type: none"> • Produce renewable hydrogen at scale in Australia, facilitating an accelerated pathway to the technical and commercial viability of renewable hydrogen production and use at scale in Australia. • Support domestic decarbonisation, build industry capability and provide for new economic opportunities in our manufacturing and export industries. • Reduce barriers for future deployments through attracting private sector capital (debt, equity & offtake). • Develop and retain investment, skilled labour, intellectual property and supply chains for a domestic hydrogen industry. • Provide price discovery and transparency in relation to the current and projected economics for renewable hydrogen (and its derivative products) technologies, by sharing the actual and forecast economics of applications received as part of the Competitive Round. • Facilitate knowledge sharing throughout industry to assist with maturing the Australian hydrogen industry.
2. Proposed eligibility requirements	<p>The proposed eligibility requirements for the Competitive Round are noted below. Applicants would be expected to comply with all eligibility requirements as noted in the final Guidelines which are expected to be published in Q4 CY23 or Q1 CY24.</p> <p>It is proposed the Competitive Round be restricted to the following:</p>
Technology	<ul style="list-style-type: none"> • Must be a new deployment of electrolysis/renewable hydrogen production facilities. Deployment may utilise existing energy generation or hydrogen end use infrastructure. • The hydrogen production must be renewable hydrogen and be 100% powered by one, or a combination of, the following: <ul style="list-style-type: none"> ◦ behind the meter renewables (where any large-scale generation certificates (LGC)¹ created are surrendered) ◦ grid electricity where LGCs created within 12 months of the hydrogen production or other certificates eligible under the proposed Guarantee of Origin (GO) Scheme are surrendered to match 100% of electricity use, or ◦ electricity from a renewable generation Power Purchase Agreement (PPA) with associated retirement of LGCs. • For the avoidance of doubt, hydrogen produced using coal gasification or steam methane reforming (SMR) coupled with carbon capture and storage (CCS) technology will not be eligible under the Competitive Round. • Projects will also need to comply with the proposed GO Scheme (currently under development) to verify the carbon intensity of production and ensure alignment with the above parameters.
Eligible end uses / offtake	<ul style="list-style-type: none"> • All end uses of hydrogen or hydrogen derivative products are proposed to be eligible. • There will be consideration of the balance between hydrogen production for export and domestic use.
Minimum electrolysis deployment	<ul style="list-style-type: none"> • 50MW
Maximum project size	<ul style="list-style-type: none"> • Unrestricted

1 Or an equivalent acceptable instrument

ISSUE	EXPLANATION
Location	<ul style="list-style-type: none"> • Must be located within Australia. Projects do not need to be located in a Federal or State Government hydrogen hub region.
Other	<ul style="list-style-type: none"> • Projects must be for a single site deployment. • Applications must have a valid commercial case for the end use of hydrogen. • Applications must include a commercialisation pathway (cost reduction pathway) analysis.
<p><i>Question 2.1: Please provide any feedback on the proposed eligibility requirements. Are there any other eligibility requirements the Program should consider?</i></p> <p><i>Question 2.2: Is a minimum deployment size of 50MW appropriate for the Program?</i></p> <p><i>Question 2.3: Are there benefits to considering a suite of project sizes, with both large and smaller scale projects (for example less than 50MW) being eligible?</i></p> <p><i>Question 2.4: Are there benefits to considering projects that may only have scale if aggregated across multiple, but related sites?</i></p> <p><i>Question 2.5: Other international schemes have sought to implement additional requirements of the renewable energy used in hydrogen projects such as new-build or time matched renewable energy. Please provide your views on any additional requirements the Government should consider for the Program in relation to renewable energy.</i></p> <p><i>Question 2.6: Some international schemes have limitations on proposed end uses of hydrogen such as the UK scheme which specifically excludes gas blending. Should any limitations be placed on the end uses eligible for the Program?</i></p> <p><i>Question 2.7: Other international schemes consider both export and domestic use of hydrogen as eligible while others specifically exclude export projects. How should the Program consider projects with proposed export offtake and the extent to which this offtake may support the development of an Australian hydrogen industry or other additional benefits to Australia?</i></p> <p><i>Question 2.8: The proposed GO Scheme will be used to support the verification of hydrogen production. Are there projects where this would not be suitable? Should the Program apply a maximum emissions intensity for hydrogen production on a project lifecycle basis?</i></p>	
3. Total funding allocation	<ul style="list-style-type: none"> • \$2 billion of funding has been announced under the Program (the Total Funding Allocation). • An amount of funding that is less than the Total Funding Allocation may be allocated if proposals are not considered to be of sufficient merit to support an offer of funding.

ISSUE	EXPLANATION
4. Proposed funding mechanism	<p>The proposed funding mechanism is outlined below:</p> <ul style="list-style-type: none"> Recipients will receive a 'Hydrogen Production Credit' (HPC) for each kilogram of renewable hydrogen (or equivalent metric of hydrogen derivative) produced by the facility (subject to certain criteria being met). As part of the application process, applicants will nominate a HPC value (per kilogram or equivalent metric) that should represent the difference between the expected sales price to each offtaker and the applicant's cost of production (inclusive of a justifiable return on capital). Applicants will also be asked to specify a total volume cap for hydrogen expected to be delivered by their facility over the 10-year period, which should represent a realistic estimate of the facility's production capacity. The maximum support available to a recipient will be the value of the HPC multiplied by the total volume cap for the facility. Any output beyond the total volume cap will not be eligible for funding through the Program. A minimum production level is not proposed to be enforced but if a project ceases production for an extended period, excluding technical outages, the funding may be terminated. For applicants seeking to produce hydrogen derivative products, applicants must also nominate the HPC value and total volume cap with respect to that specific product (e.g., \$/tonne of renewable ammonia). Funding will not be provided under the Program to support the upfront capital cost of projects. <p><i>Question 4.1: Please provide any feedback on the proposed funding mechanism.</i></p> <p><i>Question 4.2: Are there other design features or structures for the proposed Program that you think could be more impactful or efficient to catalyse large-scale hydrogen production in Australia?</i></p> <p><i>Question 4.3: How should the Program treat additional Commonwealth or State Government funding or other support for the same project?</i></p> <p><i>Question 4.4: How should the Program treat a project that has been able to attract international government investment such as that under H2Global? How can the Program best leverage this support?</i></p> <p><i>Questions 4.5: How should the HPC consider inflation?</i></p>
5. Proposed upside sharing or reduction in funding	<p>A proposed mechanism for upside sharing or any reduction in funding is outlined below:</p> <ul style="list-style-type: none"> Potential upside arising from decreased operating costs or increased sales price over the contract term will be shared on a 50/50 basis. Upside sharing will only commence if realised upside exceeds a certain value (materiality threshold to be determined). To access quarterly HPC payments, recipients will be required to report on the quantity of production, emissions intensity of the hydrogen and renewable electricity use through certificates created under the proposed GO Scheme. The realised sales price and cost of production will also need to be provided. To the extent the realised sales price increases or cost of production decreases beyond the materiality threshold, the HPC payment for that period will be reduced to represent a 50/50 sharing in upside. In addition to the above, in the event the sales price materially exceeds the level of support required within the 10-year period, recipients will be required to pay back an amount of the Government support received in previous years. The amount to be repaid will be determined at the time, with consideration of the difference between expected and realised project returns. The agreed HPC value will not be adjusted in the event of higher capital or operating costs than expected at the time of award of funding (i.e. there will be no sharing in any potential downside). <p><i>Question 5.1: Other international schemes have varying upside sharing arrangements such as the UK scheme which requires projects to share 90% of upside back to the Government. Please provide your views on the proposed upside sharing arrangements for the Program, including with reference to the methodology for sharing upside (a reduction in the HPC).</i></p> <p><i>Question 5.2: Please provide any additional feedback on the proposal for recipients to repay Government support in the event the sales price increases materially during the 10 year period.</i></p>

ISSUE	EXPLANATION
6. Volume risk support	<p>Some international programs include volume risk support as a contractual component. These mechanisms have the following features:</p> <ul style="list-style-type: none"> • A volume risk support mechanism would protect the recipient by providing a top-up payment on qualifying volumes when total volumes sold are less than a certain percentage of forecast volumes from offtake customers. • The volume risk support mechanism mitigates the risk for recipients that their offtake customers unexpectedly reduce their demand and that hydrogen sales fall below the producer's fixed costs (for example, cost of capital). This will ensure proponents can still, at a minimum, service any debt repayments but are structured such that returns cannot be improved. • In other international programs, volume risk support is paid to recipients through an increased HPC credit for each kilogram of hydrogen produced. <p><i>Question 6.1: Do you think the Program should include volume risk support? If so, why?</i></p> <p><i>Question 6.2: If volume risk support is required, what is the preferred structuring of the mechanism?</i></p>
7. Proposed payment frequency and term	<ul style="list-style-type: none"> • HPC payments will be made quarterly in arrears with funding available from FY27. • Projects will be eligible for HPC funding over a maximum 10-year term. • The 10-year term will commence on an agreed start date linked to the commercial operations date and aligned with sunset dates in key commercial agreements (i.e. offtake). • It is proposed that selected projects would agree to a development and construction schedule with the ability for funding to be terminated should the project cease development or be materially delayed, as agreed by the parties. <p><i>Question 7.1: Please provide any feedback on the proposed payment frequency and term.</i></p>
8. Proposed assessment process	<p>It is proposed that the Competitive Round will be run through a two-stage process and include:</p> <ul style="list-style-type: none"> • The application process will be two stages involving an Expression of Interest (EOI) stage followed by a Full Application stage. • Project must be eligible for funding as defined under the Guidelines. • The Guidelines will outline the merit criteria for the Program. Applicants will be assessed on how they can demonstrate merit against each criterion. • Only Proposals assessed as being of high merit against the Program merit criteria may be invited to submit a Full Application. • Not all Proposals assessed as high merit may be invited to submit a Full Application; only the highest-ranking Proposals will be invited to submit a Full Application. • At assessment of the Full Application stage, only projects that are assessed as being of overall high merit against Merit Criteria will be considered for funding (High Merit projects). • The highest ranked projects based on the merit criteria outlined will be recommended for funding subject to the constraint of the Total Funding Allocation and the portfolio approach described in section 10 below.

ISSUE	EXPLANATION
9. Proposed Merit Criteria	<p>The proposed Merit Criteria for the Program are under development, however, in assessing proposals, the following areas will be of focus under each criterion:</p> <p>Merit Criterion A: Alignment to Competitive Round Objectives</p> <ul style="list-style-type: none"> • the alignment to the Competitive Round Objectives. • the total funding request for a project, and the justification for the amount of funding requested. • the cost competitiveness and efficiency of the project with reference to the following: <ul style="list-style-type: none"> ◦ the implied cost per kilogram of hydrogen (and hydrogen derivative product where applicable) delivered over the contract term (including capital and operating costs) excluding any concessional funding. ◦ MWh / tonne of hydrogen delivered over contract term. ◦ Program funding \$² / MW of electrolysis capacity installed. ◦ Program funding \$ / tonne of CO₂e abated. ◦ Program funding \$ / kg of hydrogen delivered or \$ / tonne of hydrogen derivative product such as ammonia or methanol (i.e. value of HPC) over contract term (10 years). • the potential for the project and its application to be replicated and/or provide a clear path for further cost reduction of renewable hydrogen production over a specified timeframe and production volumes. • the potential of the project to lead to further decarbonisation, manufacturing or value add opportunities in Australia or international export opportunities. • the alignment of the project with the proponent's broader decarbonisation strategy. <p>Merit Criterion B: Capability and Capacity</p> <ul style="list-style-type: none"> • the demonstrated level of experience and expertise of the applicant and/or applicant's consortium (including major equipment suppliers and Engineering, Procurement and Construction (EPC) contractors) including where members of the consortium have successfully delivered hydrogen or other projects of a similar nature, scale or value in Australia or internationally. • the appropriateness of the proposed allocation or roles and responsibilities between the applicant, the applicant's consortium and project partners (including but not limited to major equipment suppliers, EPC contractors, advisors and commercial partners). • the quality and completeness of project documentation and agreements provided (such as procurement processes, timelines and participation agreements), as well as the extent to which these provide evidence of the applicant's capability and readiness to implement the project.

2 All forms of concessional funding will be considered including state government grant funding in the calculation of funding required for competitive metrics. Financing obtained from Clean Energy Finance Corporation and Northern Australia Infrastructure Facility is not considered to represent a subsidy.

Merit Criterion C: Scope, Methodology, Deliverability and Risk

- the quality and completeness of the Project Plan, including the level of project definition and the hydrogen use case or offtake agreement (where relevant).
- the level of project technical definition, current development work completed to date and pathway to complete the front-end engineering and design phase (**FEED**) including process flow diagrams, utility flow diagrams, preliminary piping and instrument diagrams, plot plan, developed layout drawings and engineered process and utility equipment lists.
- the completeness of the project timeline and the timing of project development and delivery up to and including the point of commissioning. The timetable should include expected timing of:
 - expected timing of total project cost moving to more definitive confidence levels (e.g. from +/- 30% to +/- 5%).
 - key technical design milestones.
 - key commercial and financial milestones.
 - other key activities.
 - the applicant's internal investment decision making process (including interim and final approvals).
 - overlay of Competitive Round timetable.
 - financial close for the project.
 - commissioning for the project.
- projects that have a more timely proposed financial close and commissioning timetable may be viewed as higher merit. The timetable should be developed to provide an expected timing of key development events supported with firm internal and external evidence.
- the level of detail regarding management of water source for the project including detail on the proposed source of water, water consumption, water quality and access and the environmental impact of the proposed water source.
- the quality of the risk management plan (including hazard and operability analysis, supply chain risk, EPC constraints, price pressure, availability of specialist advisors, workplace health and safety, safety management plan and (where relevant) modern slavery) and the extent to which key risks have been identified and mitigated in project contracts and the financial model.
- the identification and consideration of securing the proposed site and all required permits (including environmental and planning), licences, approvals and consents for the project.
- the extent to which the applicant accepts the terms of the Funding Agreement template (template to be developed).
- the applicant's compliance with any other requirements outlined in the Guidelines.
- the extent to which the proposal uses local supply chains, including sourcing of domestically manufactured equipment or domestically supplied services to deliver the project or supports the establishment of new manufacturing capability.
- the extent to which the proposal will create and maintain jobs and provide skills and training opportunities for young people, apprentices, Aboriginal and Torres Strait Islander individuals and people with disability.
- the extent to which the proposal supports development of utility (for example water) and social infrastructure (for example community facilities).
- the extent to which the project has engaged with the community including First Nations communities.
- the extent to which the project will support the development of domestic demand for renewable hydrogen (or its derivative products).

Merit Criterion D: Financial Capability

- the amount of the proposed HPC credit.
- the cost of emissions abatement (where the hydrogen or derivative product use-case is known).
- deliverability of the financing plan.
- level of conditionality of the funding commitments.
- creditworthiness of proposed hydrogen offtaker/s and level of conditionality of the offtake agreements.
- the risk of cost overruns.
- the financial strength and capability of the applicant and/or applicant's consortium to deliver a large-scale hydrogen project, including the ability to contribute required equity to the project and capacity to manage cost overruns.
- the quality of the financial model and assumptions for the project.
- ability of the proposal to leverage investment from international investors.

Merit Criterion E: Knowledge Sharing

- how well the knowledge generated will contribute to the objectives of the Program.
- the extent to which the applicant is willing to comply with the Program's Knowledge Sharing Plan (to be developed).
- the extent to which additional valuable knowledge may be generated and shared from the project.
- the extent to which the knowledge generated supports the development of new markets and supply chains.
- the capabilities, depth and maturity of the various supply chains required to deliver the project.

Question 9.1: Please provide any feedback on the proposed merit criteria.

Question 9.2: How should merit criteria be structured or weighted to ensure the success of delivery of hydrogen from projects? (For example, by adding weighting to criteria that deal with: the capability and capacity of a project proponent to deliver its proposal; the credibility and level of conditionality of the offtake agreement, the extent to which the project has already undergone project planning processes including feasibility/FEED studies, the identification of sustainable water sources, other environmental aspects and community engagement; and/or the unique attributes of the project.)

Question 9.3: Should an applicant be required to have at least a conditional offtake arrangement in place before applying to the Program? What standard should be applied to determine the reliability of such an arrangement?

Question 9.4: What additional outcomes should be incorporated into the formal merit criteria for the Program in order to deliver broader benefits? (For example: level of private investment leveraged; number of jobs created; number of apprentices supported; level/value of common user infrastructure supported; level/value of social infrastructure supported; level/value of local suppliers; use of hydrogen towards existing or new manufacturing industries; level of knowledge shared with the broader industry.)

Question 9.5: What other aspects of an export-oriented proposal should be assessed to ensure the Program funds demonstrate tangible benefits to Australians?

Question 9.6: How should emissions abatement calculations consider the different end uses of hydrogen and greenfield vs brownfield facilities?

ISSUE	EXPLANATION
10. Portfolio approach	<ul style="list-style-type: none"> A portfolio approach may be taken when offering funding under the Competitive Round. An otherwise meritorious project may not receive funding if the aims or outcomes of that project are the same as, or similar to, the aims and outcomes of a higher ranked project that the Program is intending to fund. At its discretion, the Program may elect to fund more or less than 2 projects depending on applications received.
11. Funding Agreement	<ul style="list-style-type: none"> The Program proposes to use a template Funding Agreement which will be developed as part of the Program.
12. Knowledge Sharing Plan	<ul style="list-style-type: none"> The Program proposes to use a template Knowledge Sharing Plan which will be published at the commencement of the EOI Stage on the ARENA website. Compliance with the Knowledge Sharing Plan template will impact the assessment of merit against Merit Criterion E (Knowledge Sharing).
13. Project confirmation	<ul style="list-style-type: none"> Upon award of funding, projects will be required to agree to a development timeline and provide monthly confirmation that the project remains on track to reach financial close and commissioning by the proposed dates, otherwise an offer of funding may be withdrawn. Extensions to the proposed dates may be provided if the proponent is working diligently and reasons for delays are considered reasonable. If a previous offer of funding is withdrawn that funding may be offered to an alternative high merit project.
14. Bid bond and support for development costs	<ul style="list-style-type: none"> The Program is considering the use of bid bonds. It is proposed that upon the award of funding when an Offer to Negotiate letter is issued, the recipient will be required to provide a non-refundable bid bond (amount to be determined), which is a realistic pre-estimate of the costs in seeking a replacement project. The Bid Bond will be forfeited where the project does not reach financial close within the date specified in the Offer to Negotiate letter. Key development milestones may also be noted in the Offer to Negotiate for the project. Where these development milestones are not achieved, funding agreement negotiations may be terminated. It is proposed that shortlisted applicants invited to the Full Application stage that are unsuccessful in receiving funding may be eligible to claim up to 50% of external development costs incurred during the Full Application period.
15. Proposed timetable ³	<i>Question 15.1: Does the timing proposed for the Program outlined below appear appropriate? If not, please note in your view an appropriate alternative.</i>
Application Stage 1	
EOI Open Date	It is proposed the Program would open for EOIs in Q4 CY23/Q1 CY24
EOI Due Date	Date to be determined (estimated minimum 8 weeks from EOI Open Date)
Application Stage 2	
Applicants advised if invited to proceed to Full Application	Assessment of EOIs and notification to applicants within 45 business days of EOI Due Date
Full Application Due Date	Q3 CY24 – date to be determined and subject to change following EOI stage (estimated minimum 12 weeks from Invitation to Full Application)
Decision outcome	Q4 CY24 – date to be determined and subject to change following EOI stage

3 These dates will be confirmed following the consultation period and may be varied at discretion

ISSUE	EXPLANATION
Implementation	
Financial Close and Commissioning Date	As above, projects that have a more timely proposed financial close and commissioning timetable may be assessed as higher merit. The timetable should be developed to provide an expected timing of key development events supported with firm internal and external evidence.
Knowledge sharing reporting period	Extends to the payment of the final HPC subsidy (or 10 years from start of operations)

Acknowledgement of Country

We acknowledge the Traditional Custodians of Australia and their continuing connection to land and sea, waters, environment and community. We pay our respects to the Traditional Custodians of the lands we live and work on, their culture, and their Elders past and present.

Disclaimer

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The Australian Government acting through the Department of Climate Change, Energy, the Environment and Water and in collaboration with the Australian Renewable Energy Agency has exercised due care and skill in preparing and compiling the information and data in this publication.

Notwithstanding, the Department of Climate Change, Energy, the Environment and Water along with the Australian Renewable Energy Agency, its employees and advisers disclaim all liability, including liability for negligence and for any loss, damage, injury, expense or cost incurred by any person as a result of accessing, using or relying on any of the information or data in this publication to the maximum extent permitted by law.

APPENDIX A - INFORMATION REQUIREMENTS AT EOI AND FULL APPLICATION

EOI Requirements

Assessment Process

- Projects will be ranked against the Merit Criteria as specified under the Program Guidelines (note: each Merit Criteria will be weighted equally).
- Only those projects that are assessed as being of overall high merit against the Program Merit Criteria following review of EOIs will be invited to submit a Full Application.
- It is expected that applicants provide the following:
 - Overview of HPC support requested, noting requested HPC value, calculation methodology and basis of calculation (i.e. pre-tax, pre-HPC equity/project internal rate of return (IRR) and pre-tax, post-HPC equity/project IRR).
 - MOU⁴ for renewable energy supply including pricing, term and key conditions if contracted, or agreement to acquire and retire required LGCs. If applicants are constructing renewable energy assets for the project detail should be provided on the proposed sizing of the renewable energy assets, construction timelines and costs.
 - MOU for sponsor and other equity (including key terms and conditions).
 - A financing plan for all other capital required for the project.
 - The level of project technical definition and status of FEED.
 - MOU with third party for offtake or hydrogen use. The MOU should specify timing, volume, price and any specific conditions. In the case of self consumption, applicants should provide comprehensive detail on the use case for the hydrogen.
 - Evidence of total project cost estimates to a confidence interval of +/-30%.
 - Evidence of proposed electrolyser supplier(s) pricing.
- Applications should also provide a short form project plan document that includes (at a minimum), limited to 30 pages:
 - Summary of the project including description, size, proposed location and use of the hydrogen.
 - The current design of the project including the source of renewable energy as well as process flow diagrams.
 - Feasibility or FEED work undertaken to date.
 - Outline of the key project partners including equipment suppliers and note relevant experience both in Australia and internationally.
 - Detail on current status of development, planning and environmental approvals required for the project and anticipated pathway and timing to finalisation.
 - Detail on current status of assessment under the EPBC Act, if required.
 - Detail any land access requirements and current status of approval. Detail of any regulatory licences required to carry out the project and current status of registration.
 - Analysis of the availability of required power capacity and to what extent grid augmentation would be needed to support the project's electricity requirements.
 - Detail regarding the status of grid connection agreement process and where possible, evidence provided to confirm the current status.

4 Memorandum of Understanding or alternative evidence of support

- Detail regarding proposed source of water, water quality, estimated consumption per annum, costs and any related approval required (including status), along with detail on the environmental impact of using that water source and managing its use, or any waste products.
- Detail regarding the proposed use of local supply chains, including sourcing of domestically manufactured equipment or domestically supplied services to deliver the project or support the establishment of new manufacturing capability.
- Detail on the estimated jobs maintained and created through the construction and operational period of the project as well as any skills and training opportunities.
- Detail on how the project may support the development of utility (for example water) and social infrastructure (for example community facilities).
- Note the status of any community consultation and engagement with relevant Traditional Owner groups that has occurred to date and any planned activities.
- Timetable for the project, including key milestones, target final investment decision, target financial close date and target commissioning date.
- Provide key project metrics including targeted electricity supply cost (\$/MWh), capacity factor (%), hydrogen (or derivative) production cost (\$/kg hydrogen or appropriate metric).
- A section summarising the estimated carbon abatement potential of the project. Applicants should calculate the estimated Scope 1, Scope 2 and Scope 3 CO₂e emissions that would be avoided relative to incumbent fossil-fuel production technologies. Carbon abatement should be calculated using a consistent framework to be specified (for example, the proposed GO Scheme).
- Detail on whether the hydrogen (or its derivative product) is expected to abate existing emissions or drive development of new clean energy industries.
- Details of all development costs including any pre-feasibility, feasibility and FEED costs spent to date. Note any development costs that will be repaid at financial close.
- An outline of the proposed capital structure to fund the project including evidence of the proposed sources of such funds, noting level of commitment in line with the compulsory requirements above, including timeline for financing becoming unconditional.

Financial Model

- A dynamic financial model must also be provided, including at a minimum:
 - Clear, best practice calculation of all capital and operating costs and revenues, provided at a quarterly or monthly granularity, with a clear breakdown of cost/revenue categories.
 - All assumptions to be clearly labelled and dynamic.
 - Note key project metrics including targeted electricity supply cost (\$/MWh), capacity factor (%), hydrogen (or derivative) production cost (\$/kg hydrogen or appropriate metric) and proposed HPC (\$/kg hydrogen or \$/tonne ammonia, or other metric as appropriate).
 - Integration of the proposed HPC subsidy with appropriate tax treatment.
 - Ability to clearly sensitise the model to view the equity and project IRR (pre- and post-tax) with and without Program funding.
 - Comprehensive assumption book with evidence of third-party information for all key inputs.

All submission materials will be treated as commercial-in-confidence.

Question: Do the above EOI information requirements seem reasonable? Are there any additional items you would add to the EOI information list, or items that may be subject to different interpretations / challenging to provide?

Full Application Requirements

(subject to amendment following the EOI phase)

- It is expected that applicants provide the following:
 - Overview of HPC support requested, noting requested HPC value, calculation methodology and basis of calculation (i.e. pre-tax, pre-HPC equity/project internal rate of return (IRR) and pre-tax, post-HPC equity/project IRR)
 - Detailed long form countersigned term sheet for renewable energy supply including pricing, term and key conditions if contracted, or a signed agreement to acquire and retire required LGCs. If applicants are constructing renewable energy assets for the project detail should be provided on the proposed sizing of the renewable energy assets, construction timelines and costs.
 - Detailed term sheet for equity including any conditions.
 - Detailed term sheet for any debt funding including any conditions.
 - Detailed term sheet for offtake or hydrogen use. The term sheet should specify timing, volume and price and any specific conditions. In the case of self consumption, applicants should provide comprehensive detail on the use case for the hydrogen.
 - Applicants should have completed feasibility and FEED studies, and provide evidence or copies of these studies.
 - Evidence of total project cost estimates to a confidence interval of +/-20%.
 - Evidence of preferred electrolyser supplier firm pricing and details of performance guarantees.
- Applications should also provide a long form project plan document updated following EOI submission and feedback that includes (at a minimum):
 - Summary of the project including size, proposed location and use of the hydrogen.
 - The current technical design of the project including the source of renewable energy, piping and instrumentation diagrams (P&ID) as well as any feasibility work undertaken to date.
 - Outline of the key project partners including equipment suppliers and note relevant experience both in Australia and internationally.
 - Detail on current status of development, planning and environmental approvals required for the project and anticipated pathway and timing to finalisation.
 - Detail on current status of assessment under the EPBC Act, if required.
 - Evidence of land access for proposed site of project.
 - Detail of any regulatory licences required to carry out the project and current status of registration.
 - Analysis of the availability of required power capacity and to what extent grid augmentation would be needed to support the project's electricity requirements.
 - Detail regarding the status of grid connection agreement process and where possible, evidence provided to confirm the current status.
 - Detail regarding proposed source of water, water quality, estimated consumption per annum, costs and any related approval required (including status), along with detail on the environmental impact of using that water source and managing its use, or any waste products.
 - Detail regarding the proposed use of local supply chains, including sourcing of domestically manufactured equipment or domestically supplied services to deliver the project or support the establishment of new manufacturing capability.
 - Detail on the estimated jobs maintained and created through the construction and operational period of the project as well as any skills and training opportunities.
 - Detail on how the project may support the development of utility (for example water) and social infrastructure (for example community facilities).
 - Timetable for the project, including key milestones, target final investment decision, target financial close date and target commissioning date.
 - Provide key project metrics including targeted electricity supply cost (\$/MWh), capacity factor (%), hydrogen (or derivative) production cost (\$/kg hydrogen or appropriate metric).

- A section summarising the estimated carbon abatement potential of the project. Applicants should calculate the estimated Scope 1, Scope 2 and Scope 3 CO₂e emissions that would be avoided relative to incumbent fossil-fuel production technologies. Carbon abatement should be calculated using a consistent framework to be specified (for example, the proposed GO Scheme).
- Detail on whether the hydrogen (or its derivative product) is expected to abate existing emissions or drive development of new clean energy industries.
- Details of all development costs including any pre-feasibility, feasibility and FEED costs spent to date. Note any development costs that will be repaid at financial close.
- An outline of the proposed capital structure to fund the project including evidence of the proposed sources of such funds, noting level of commitment in line with the compulsory requirements above, including timeline for financing becoming unconditional.
- Details on how the applicant will manage contingency costs and cost overruns.
- Details on the proposed maintenance and replacement regime for the lifetime of the asset.
- Analysis to demonstrate a clear path to further cost reductions beyond this project, which might allow the project to be replicated with a reduced subsidy within the medium term.
- Detail on the applicant's long term hydrogen investment strategy.
- An appendix noting responses to any EOI feedback.

Attachments

- A detailed risk management plan for the project.
- A detailed community consultation plan for the project. Note and provide evidence of any community consultation completed to date including engagement with Traditional Owner groups.
- A statement of acceptance of the requirements set out in the Knowledge Sharing Plan template.
- An Australian Industry Participation Plan.
- A statement of compliance with acceptance to the standard terms and conditions in the Funding Agreement template.
- Any further letters of support of commitment from partners.
- List of any further documents available for due diligence.

Financial Model

- A dynamic financial model must also be provided, including at a minimum:
 - Clear, best practice calculation of all capital and operating costs and revenues, provided at a quarterly or monthly granularity, with a clear breakdown of cost/revenue categories.
 - All assumptions to be clearly labelled and dynamic.
 - Note key project metrics including targeted electricity supply cost (\$/MWh), capacity factor (%), hydrogen (or derivative) production cost (\$/kg hydrogen or appropriate metric) and proposed HPC (\$/kg hydrogen or \$/tonne ammonia, or other metric as appropriate).
 - Integration of the proposed HPC subsidy with appropriate tax treatment.
 - Ability to clearly sensitise the model to view the equity and project IRR (pre- and post-tax) with and without Program (and other concessional) funding.
 - Comprehensive assumption book with evidence of third-party information for all key inputs.

All submission materials will be treated as commercial-in-confidence.

Question: Do the above Full Application information requirements seem reasonable? Are there any additional items you would add to the Full Application information list?

APPENDIX B – PROJECT DETAILS

Instructions

To inform the design of the Program, we are asking you to provide us with information on the projects that you consider may be most prospective in your portfolio under the Hydrogen Headstart Program. This information will be used by DCCEEW and ARENA to develop the final design parameters. Completion of the form is not considered an application to the Program and is optional. Please note that DCCEEW and ARENA also accept that the information provided in this response is subject to change as you develop your project.

Please complete the form with respect to each Project you wish to apply for funding under the Hydrogen Headstart Program. If you are intending to submit applications for multiple projects, please complete a new form for each project. Please note all responses and information provided will be treated as commercial-in-confidence and will not be released publicly.

PROJECT DETAILS	RESPONSE
1. Name of project	
2. Key project contact (name and email)	
3. Project proponent(s) (include all project development partners)	
4. Project location (City, State)	
5. Proposed electrolysis capacity (initial phase) (MW, total electrical load of the electrolyser only)	
6. Proposed electrolysis capacity (total final project capacity, inclusive of all development phases) (MW, total electrical load of the electrolyser only)	
7. Proposed hydrogen production per annum (tonnes per annum)	
8. If the project involves the conversion of hydrogen into a derivative, please specify the derivative (ammonia, methanol, liquefied hydrogen, other) and proposed production per annum of the derivative (tonnes per annum)	
9. Proposed hydrogen or derivative end use(s) (select all that apply - industrial (chemical processing, manufacturing, iron/steel, alumina), ammonia and other e-fuels, transport, electricity, gas-blending, export, other)	
10. Do you have identified offtakers?	
11. Estimated cost of hydrogen (or derivative) production? (\$/kg or other appropriate metric)	
12. Current status of project development (pre-feasibility, feasibility, front-end engineering and design underway, front-end engineering and design complete)	
13. Proposed date for final investment decision (mm/yyyy)	
14. What is required to meet final investment decision?	
15. Proposed date for construction commencement (mm/yyyy)	
16. Proposed date for commissioning (initial phase of production) (mm/yyyy)	

PROJECT DETAILS

RESPONSE

17. **Proposed renewable energy supply & reasons for that approach** (power purchase agreement, behind the meter solar/wind, grid connection with LGC purchase, other)

18. **Estimate development costs to be incurred throughout the FEED stage?**

19. **Estimated development costs to be incurred between FEED and FID?**

20. **Please outline the estimated additional benefits that are likely to result from the development and operation of the project including jobs, training opportunities, local supply chains, developing local industry expertise, social license, community or regional benefit.**
