

REQUEST FOR EXPRESSIONS OF INTEREST CONSULTING SERVICES

Selection # as assigned by e-Tool: TT-T1118-P001

Selection Method: Full Competitive Process

Country: Trinidad and Tobago

Sector: Energy

Funding – TC #: ATN/OC-19235-TT

Project #: TT-T1118

TC name: Decarbonization Initiatives in the Energy, Power and Transport Sectors in T&T

Description of Services: To structure the project plan for green hydrogen demonstration projects in T&T

Link to TC document: <https://www.iadb.org/en/project/TT-T1118>

The Inter-American Development Bank (IDB) is executing the above-mentioned operation. For this operation, the IDB intends to contract consulting services described in this Request for Expressions of Interest. Expressions of interest must be delivered using the IDB Portal for Bank Executed Operations (<http://beo-procurement.iadb.org/home>) by: *9 of September*, 5:00 P.M. (Washington D.C. Time).

EoI should include summarized information about the firm or consortium's experience in relation to: (i) green hydrogen production; (ii) transformation of GH₂ into green ammonia and/or methanol for export and cement industry; (iii) thorough understanding of petrochemical plant adaptation to deal with green hydrogen; (iv) pricing structures of different types of hydrogen, hydrogen buyer markets, trade and commercialization conditions; (v) thorough understanding of the stakeholders and players in the ammonia/methanol industry in Trinidad and Tobago and (vi) experience in PPP schemes.

To access the IDB Portal, the firms must generate a registration account, including **all** the data requested by the Portal. In the event that any of the information requested is not included, the firm will not be able to participate in this or any other Bank-executed selection process for operational work. If the firm has been previously registered, please validate that you have **all** the firm's information updated and complete before submitting an expression of interest.

The consulting services, which will be further specified to the short-listed firms or consortiums in the Terms of Reference of this consultancy, may include the development of a project plan for the first green hydrogen plant in Trinidad and Tobago. The overall objective of the consultancy is to structure the demonstration project for green hydrogen production in Trinidad and Tobago. This service builds on a prefeasibility study that is currently in its last stages. The study has identified opportunities for use of wind and solar energy, repurposing of current fossil fuel infrastructure, and digitalization of the intervention, amongst others. Based on the findings of the study, the consultant firm will deliver the activities in the initiation stage of the project development for a facility that can be built in the short term. The consultancy will take approximately six months from the date of the signing of the contract.

Eligible consulting firms will be selected in accordance with the procedures set out in the Inter-American Development Bank: [Policy for the Selection and Contracting of Consulting firms for Bank-executed](#)

[Operational Work](#) - GN-2765-4. All eligible consulting firms, as defined in the Policy may express an interest. If the Consulting Firm is presented in a Consortium, it will designate one of them as a representative, and the latter will be responsible for the communications, the registration in the portal and for submitting the corresponding documents.

The IDB now invites eligible consulting firms to indicate their interest in providing the services described above in the [draft summary](#) of the intended Terms of Reference for the assignment. Interested consulting firms must provide information establishing that they are qualified to perform the Services (brochures, description of similar assignments, experience in similar conditions, availability of appropriate skills among staff, etc.). Eligible consulting firms may associate in a form of a Joint Venture or a sub-consultancy agreement to enhance their qualifications. Such association or Joint Venture shall appoint one of the firms as the representative.

Interested eligible consulting firms may obtain further information during office hours, 09:00 AM to 05:00 PM, (Washington D.C. Time) by sending an email to: [Augusto Bonzi](#), abonzi@IADB.ORG; [Christiaan Gischler](#), CHRISTIAANG@iadb.org, and [Ziza Machado](#) zizam@iadb.org

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Background and Justification

- 1.1. T&T has traditionally relied on the exploration of hydrocarbons for its energy supply for domestic consumption and for export. This strategy has served the country well and supported its development. However, there is a new appetite for low carbon and greener products together with the traditional hydrocarbon-based products.
 - 1.2. Trinidad and Tobago (T&T) have a tremendous opportunity to augment the competitiveness of its export-oriented energy economy with low carbon products such as green hydrogen (GH₂), green ammonia, green methanol, and green cement and to reduce greenhouse gas (GHG) emissions in the industrial and transport sectors.
 - 1.3. Trinidad and Tobago, in conjunction with the IADB, seek to introduce customized and innovative demonstration projects that have visible results in the short-term with long-term benefits. A study to assess the potential of a green hydrogen market in Trinidad & Tobago was commissioned by IDB in 2021, to support Trinidad & Tobago's transition plans.
 - 1.4. This study identifies Trinidad & Tobago's potential to reshape its energy landscape through green hydrogen, with renewable energy sourced from offshore wind.
 - 1.5. Two options for demonstration projects have been identified during the first study. The projects are to develop a renewable energy facility, which could be solar PV and/or onshore wind, with an electrolyser to produce green hydrogen (GH₂). The production from GH₂ to green ammonia will be done using existing infrastructure.
 - 1.6. Trinidad & Tobago's value proposition lies in its existing transformation infrastructure (cement, ammonia, and methanol). Leveraging this existing infrastructure, the skills, knowledge and trade relations will allow Trinidad & Tobago to achieve a competitive position in the global green hydrogen market.
2. Objective
 - 2.1. The main objective is to support the GORTT to develop demonstration projects for green hydrogen production in Trinidad and Tobago.
 - i. Perform an ammonia market assessment to determine the size of the project Trinidad & Tobago
 - ii. Develop the green hydrogen project plan
 - iii. Monitoring & Evaluation of the operation.
 - iv. Support engagement with local stakeholders, industry, and suppliers
3. Scope of Services
 - 3.1. Define size and scope of the demonstration project to meet the demand.
 - Industrial map of energy and mass outputs of gas that can be replaced by green hydrogen (how much gas is consumed, how much is transformed, how much is shipped, etc.) for ammonia, cement, and methanol industry.
 - Determine whether there are demand gaps and how much of the demand can be satisfied in the short-medium term with green hydrogen. Include assessment of potential off-takers for green products from Trinidad & Tobago.
 - Define the size and scope of the demonstration project addressing the demand needs.
 - 3.2. Design of the demonstration projects

Develop technical and operational details for the identified demonstration project(s). This will include:

- Design parameters – design assumptions, facility configuration, footprint, renewable energy source, circular economy practice, PPA prices
- Technical definition for the hydrogen facility i.e., plot plan and initial specifications for procurement for major blocks associated with H2 facility
- Mass / Energy Balance – connecting all elements of the demonstration projects to identify flow of electrons, molecules, CO2, losses
- Ammonia & methanol mass and energy balance sheets for green products for the pilot project
- Technical and operational specifications to the transportation demonstration projects
- Preparation of Terms of Reference with technical specifications to support procurement activities including Expression of Interests to the market as well as Request for Proposals

3.3. Develop the legal agreements for the GORTT partnerships with industry and procurement of the project(s)

To support the development of the hydrogen plant, the firm will develop

- An assessment of existing industry infrastructure, when upgrades to existing infrastructure would be required to support the transportation of green hydrogen produced by the new facility.
- Identification and incorporation of synergies with other industries in line with decarbonizing the ammonia sector that can be worked in parallel with the green hydrogen plant
- Recommendations for full digitalization of interventions
- Further recommendations on re-use of existing infrastructure and potential for innovation
- Define the PPP models and business model for the engagement of the GORTT with the private sector.
- Identifying other possible projects (other industries, steel, ferries, etc.)

3.4. Support engagement with local stakeholders, industry, academia, and suppliers

Provide ongoing support to engage with local stakeholders (ministries of Trinidad & Tobago), industry (ammonia, methanol, cement, steel, mobility), academia (universities, technical training schools, etc.) and suppliers (solar, wind, H2), including local in-country engagements (through subconsultant based in Trinidad & Tobago) for information gathering, site visits, etc. This includes the development multimedia and dissemination (through presentations, conferences, meetings, etc.) of the findings to the stakeholders.

Travel to Trinidad & Tobago for local stakeholder engagements

1. Expected Outcome and Deliverables

1.1. In close coordination with the IDB team, the consultancy firm shall prepare the following deliverables:

2. Support engagement with local stakeholders, industry, and suppliers

2.1.1. Deliverable 1: Project proposal with a defined size and scope of the demonstration project oriented to meet the demand

2.1.2. Deliverable 2. Detailed technical and operational details for the demonstration project

2.1.3. **Deliverable 3:** Develop the legal agreements for the GORTT partnerships with industry and procurement of the project(s)

2.1.4. **Deliverable 4:** Monitoring & Evaluation report

2.1.5. **Deliverable 5:** Report of the engagement support with local stakeholders, industry, and suppliers including all multimedia utilized for dissemination of knowledge.

3. Project Schedule and Milestones

3.1. The expected duration of the project will be eight (8) months. However, the consultant could propose a shorter duration in the work plan.

Deliverables	Reports required
1. Project proposal with a defined size and scope of the demonstration project	First report
2. Detailed technical and operational plan for the demonstration project	Second Report
3. Templates for the legal agreements for the GORTT partnerships with industry and procurement of the project(s)	
4. Monitoring & Evaluation report	Third report
5. Final report: Executive summary with the overall results and recommendations and all multimedia utilized for dissemination of knowledge.	Fourth report

4. Reporting Requirements

4.1. All deliverables shall be submitted to the IDBG.

4.2. All documents and reports will be written in English. Every report must be submitted in draft version to the corresponding supervisor in an electronic file. The Bank will provide feedback that must be addressed until agreeing on a final report. The report should include the cover, main document, and all annexes. Zip files will not be accepted as final reports, due to Records Management Section regulations; they must be submitted in PDF, Word, Excel or Jpeg formats.

4.3. The reports are expected to become publications that will be of open access in the IDB website.

5. Acceptance Criteria

5.1. Reports should be in Word format, with any graphs, tables, and related data in Excel format. All methodologies, assumptions, and data sources used should be clearly outlined.

5.2. The deliverables should be submitted from the official email address of the selected

consulting firm. Any delay in the delivery of the products should be communicated and approved by the IDB team.

- 5.3. The deliverables will be officially accepted by the supervisor(s) defined in this document. The approval of each deliverable will be communicated by email and it will be a requirement to process any payment.

6. Supervision and Reporting

This consultancy will be under the supervision of Augusto Cesar Bonzi Teixeira (abonzi@iadb.org) in coordination with Christiaan Gischler (christiaang@iadb.org).

7. Schedule of Payments

- 7.1. Payment terms will be based on project milestones or deliverables. The Bank does not expect to make advance payments under consulting contracts unless a significant amount of travel is required. The Bank wishes to receive the most competitive cost proposal for the services described herein.
- 7.2. The IDB Official Exchange Rate indicated in the RFP will be applied for necessary conversions of local currency payments.

Payment Schedule	
<i>Deliverable</i>	<i>%</i>
1. Project proposal with a defined size and scope of the demonstration project	20%
2. Detailed technical and operational plan for the demonstration project	30%
3. Templates for the legal agreements for the GORTT partnerships with industry and procurement of the project(s)	10%
4. Monitoring & Evaluation report	10%
5. Final report: Executive summary with the overall results and recommendations and all multimedia utilized for knowledge dissemination	30%
TOTAL	100%

11. Consulting Team

- 11.1. The consulting firm should propose a consulting team with the experience, capabilities organization and structure to execute the activities described in section 5.
- 11.2. The work team should consist, at least, of a Project Manager with a Master or PhD in economics, public policy, engineering, or related field with at least 10 years of experience working on similar energy projects, including hydrogen, natural gas, petrochemical industry, or renewable energy. (up to 15 relevant project experience of similar scope of the consultancy shall be presented in the Project manager CVs)
- 11.3. The team should also include at least three experts: i) expert in hydrogen, ii) expert in natural gas and petrochemicals, iii) expert in renewable energy, iv) expert in energy regulation and (v) expert in open innovation processes. All the experts should demonstrate a master's or PhD degree in economics, engineering, or related relevant field, with at least 5 years of experience working on relevant or similar projects. (Up to 15 relevant project experience of similar scope of the consultancy shall be presented in the Experts CVs)

