

REQUEST FOR EXPRESSIONS OF INTEREST CONSULTING SERVICES

Selection #: **RG-T3725-P003**

Selection Method: *Simplified Competitive Selection*

Country: **Chile**

Sector: **Energy**

Funding – TC #: **ATN/OC-18070-RG**

Project #: **RG-T3725**

TC name: **Support for the Preparation of Energy Projects Aimed at Employment and Economic Recovery in Latin America and the Caribbean (LAC).**

Description of Services: **Development pathways for “hydrogen hubs” in Chile.**

<https://www.iadb.org/es/project/RG-T3725>

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: **March 23rd, 2021**, 5:00 P.M. (Washington D.C. Time).

The consulting services (“the Services”) include *development of pathways for “hydrogen hubs” in Chile.*

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-2765-1. 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 below 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.

Special requirements according to the Donor Trust Fund (DTF), if applicable.

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: ejanqulo@iadb.org

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Synopsis Terms of Reference for EOI

1. Background and Justification

- 1.1. Internationally recognized organizations, governments, NGOs, researchers, and companies have concluded that the use of low-carbon hydrogen (H₂) as an energy carrier is key to a rapid, sustained, and cost-effective reduction of emissions of greenhouse gases throughout the economy and, in particular, in hard-to-abate sectors such as heavy transport or high-grade heat. This is required for an effective mitigation of the effects of man-induced climate change and provides a solution for jurisdictions to achieve their emissions reduction commitments in a timely and cost-effective manner. Regarding the latter, a Climate Change Draft Bill of Law is currently in Congress, which states that Chile will become a carbon-neutral country by 2050¹. The National Determined Contribution (NDC) for Chile for 2030 has been recently updated with a more ambitious goal of reaching a peak of national Greenhouse Gas emissions by 2025 and a target of 95 MtonCO_{2eq} by 2030 –a reduction of approximately 30% in per GDP terms from 2016 emissions–². Hence, it is in the interest of the Government of Chile (GoC) to explore and promote the potential of green H₂ for decarbonization, identifying and reducing the barriers to its full deployment.
- 1.2. Chile is a country with a significant potential for competitive production of green H₂ –due to its extensive, high-quality renewable resources and its suitable ecosystem for clean energy investments–, as well as a country with significant emissions reduction commitments. Building on these strengths, the Government of Chile has recently published a National Green Hydrogen Strategy, to promote green H₂ production for both domestic use and export³. The Strategy established 3 main targets: (i) to produce the cheapest green H₂ on the planet by 2030, below 1.5 USD/kg H₂, (ii) to be within the top 3 exporters of green H₂ and its derivatives by 2040, and (iii) to have 5 GW of electrolyzer capacity under development by 2025. These goals seek to tap into the over 160 million tons per year of green H₂ production potential that has been recognized in Chile⁴, which correlates with over 1.75 TW of untapped renewable electricity generation potential mapped in the country⁵.
- 1.3. If market and development projections defined by the National Green Hydrogen Strategy come to unfold,

¹ Bulletin 13191-12 of the Senate of Chile. Available at:

https://www.senado.cl/appsenado/templates/tramitacion/index.php?boletin_ini=13191-12

² Ministry of Environment. (2020). First update of the Nationally Determined Contribution of Chile. Available at: <https://mma.gob.cl/primer-proceso-de-actualizacion-de-la-contribucion-determinada-a-nivel-nacional-ndc/>

³ https://energia.gob.cl/sites/default/files/national_green_hydrogen_strategy_-_chile.pdf

⁴ IEA. (2019). *The Future of Hydrogen: Seizing today's opportunities*. Report prepared by the IEA for the G20, Japan. Available at: www.iea.org/reports/the-future-of-hydrogen

⁵ Ministry of Energy of Chile & GIZ. (2014). *Energías Renovables en Chile – El Potencial eólico, solar e hidroeléctrico de Arica a Chiloé*. Available at: <http://4echile.cl/4echile/wp-content/uploads/2017/03/Energias-Renovables-en-Chile-El-potencial-eolico-solar-e-hidroele%CC%81ctrico-de-Arica-a-Chiloe.pdf>

then a new clean industry of the size of the mining sector will have emerged in Chile. The Strategy estimates cumulative investments of over 200 billion USD in the next 20 years on hydrogen's value chain, as well as 200 GW of new renewable power capacity. These massive infrastructure developments would create between up to 400.000 new jobs in construction, operation, and associated activities. Green hydrogen creates, thus, significant opportunities for sustainable and inclusive regional economic development, especially in areas in which there is large renewable resource potential, such as the North of Chile, and the Magallanes region. These "ecosystems" of hydrogen production, distribution, utilization, and innovation are usually termed in global discussions as "hydrogen valleys" or "hydrogen hubs".

- 1.4. On the other hand, such a transformational industrial development in these areas will entail the emergence of new challenges. Firstly, the infrastructure and resources needed to deploy a hydrogen hub in a region need to be assessed, including for instance the need for pipelines and transmission lines, ports, roads, water, land, and skilled workers. Secondly, the establishment of a hydrogen hub will require reevaluating territorial planning, given the large footprint of renewable power and hydrogen infrastructure needed to be deployed. Synergies with existing infrastructure and resources should be exploited to accelerate the deployment of hydrogen and reduce the need for new investments and interventions to the territory, while barriers and potential conflicts are identified for future resolution. Finally, the macroeconomic impacts of the deployment of hydrogen hubs on specific areas and the microeconomic impacts on the firms located there should be quantified in order to better assess the opportunity for local growth to inform decisions by policy makers, both at local and national levels.
- 1.5. The study proposed here thus aims to produce key information and recommendations for public and private stakeholders, including local and national authorities, companies, communities, and researchers, on the opportunities and challenges that the development of hydrogen hubs could entail to specific areas. The findings of this study will be key for policy makers, industry, societal, and academia stakeholders and will provide a strong analytical basis to spur further discussions on the future local challenges of green hydrogen deployment, as well as on the means to adequately capture the opportunities it offers. As defined in the National Green Hydrogen Strategy, the GoC will play a key role in promoting a clean industrial growth that creates quality employment, development of skills, local supply chains, innovation, and is harmonically integrated into the territory, creating and sharing value with local stakeholders.

2. Objectives

- 2.1. **General objective:** To study the deployment of hydrogen hubs in specific regions in Chile.
 - 2.1.1. **Specific objective 1:** To determine possible pathways for the deployment of hydrogen hubs in Chile, including the required infrastructure and installations, as well as the required resources (land, water, skilled labor, commodities, etc).
 - 2.1.2. **Specific objective 2:** To describe the macroeconomic impacts of the development of green hydrogen in each hydrogen hub, including new investment, infrastructure, services, tax revenues, and job creation.
 - 2.1.3. **Specific objective 3:** To outline local challenges arising from the development of the hydrogen hubs, including territorial planning, reutilization of infrastructure, potential strained supply of specific resources, among others, as well as opportunities for local value creation and growth, especially those that allow the emergence of local supply chains.
 - 2.1.4. **Specific objective 4:** To recommend actions to local and national government entities to mitigate the risks arising from the outlined challenges, as well as to capture the outlined opportunities for local development.

3. Scope of Services

- 3.1. A consulting firm with experience in strategic, technical, economic, and/or commercial studies regarding the hydrogen sector is required. It is desirable that the firm also has experience in socioenvironmental and economic development studies. Experience in supporting the development of strategic plans and roadmaps for private and public stakeholders in the hydrogen and renewable power sectors is also desirable. The firm is required to have experience in projects in Latin America and/or the Caribbean regions.
- 3.2. The team proposed to execute the study by the consulting firm shall be multidisciplinary and have experience per section 3.1. The team shall consolidate both quantitative skills, as well as the ability to effectively communicate findings and methodologies.