

REQUEST FOR EXPRESSIONS OF INTEREST **CONSULTING SERVICES**

Selection #: CH-T1235-P004

Selection Method: Simplified Competitive

Country: Chile

Sector: Energy

Funding – TC #: ATN/JF-18347-CH

Project #: CH-T1235

TC name: Promotion for the Development of a Green Hydrogen Market in Chile.

Description of Services: Support development of a regulatory framework for hydrogen and multi-fuel refueling stations for vehicles.

<https://www.iadb.org/es/project/CH-T1235>

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 25th, 2021, 5:00 P.M. (Washington D.C. Time).

The consulting services (“the Services”) are to study the technical and regulatory feasibility of including the supply of hydrogen as a fuel for vehicles and mobile machinery in both public and private refueling stations in Chile (second quarter of 2021).

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.

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: paolar@iadb.org

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Draft 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. However, the production and use of H₂ and, specially, green H₂ –that which is produced through the renewable-electricity-powered electrolysis of water– as an energy carrier is a novel trend, so costs are relatively high when compared to existing fossil technologies and thus there is uncertainty regarding various techno-economic and operational aspects. In addition, there are no established markets - yet- for trading this clean fuel. However, some countries and states are strongly promoting these technologies in an effort to develop these markets and commercialize such technologies.
- 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. Regarding the former, a potential for green H₂ production of over 160 million tons per year has been recognized in Chile¹, which correlates with the over 1.75 TW of untapped renewable electricity generation potential mapped in the country². 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 2050³. The National Determined Contribution (NDC) for Chile for 2030 has recently been 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–⁴.

¹IEA. (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

² 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>

³ Boletín 13191-12 del Senado de Chile. Available at: https://www.senado.cl/appsenado/templates/tramitacion/index.php?boletin_ini=13191-12

⁴ 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/>

- 1.3. One of the most promising markets in the medium to long-term for green hydrogen is its use in long-haul or heavy transportation, both on-road and off-road, such as trucks, buses, tractors, mining trucks, and other vehicles which have high energy input requirements. Green hydrogen (H₂) has been estimated to be the most competitive low-carbon solution for the energy transition in this transport sector⁵. Private companies in Europe, North America, Asia, and increasingly in Chile, are interested in incorporating hydrogen technologies for land transportation services in order to reduce carbon emissions. This interest explains, in part, the significant rise in stock value of hydrogen-vehicle companies such as Nikola⁶.
- 1.4. Nonetheless, a significant regulatory challenge remains unresolved in several geographies, such as Chile, regarding the use of hydrogen for transportation: refueling stations are only regulated for the storage and commercialization of hydrocarbons traditionally used in vehicles. Hence, a study is required to produce technical and regulatory information that supports the required modifications to the existing regulatory framework, or new regulation altogether, to facilitate the introduction of hydrogen as a clean fuel for transportation.

2. Objectives

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- 2.1. **General objective:** To study the technical and regulatory feasibility of including the supply of hydrogen as a fuel for vehicles and mobile machinery in both public and private refueling stations in Chile.
 - 2.1.1. **Specific objective 1:** Describe the state of the art regarding regulatory, safety, design, construction, and operational issues of multi-fuel refueling stations that incorporate new energy carriers other than conventional oil derivatives.
 - 2.1.2. **Specific objective 2:** Recommend safety standards and regulatory modifications that enable the supply of hydrogen as a fuel for vehicles in refueling stations in Chile in addition to existing supply of energy carriers such as gasoline, diesel, kerosene, natural gas, liquified petroleum gas, and charging stations for battery-powered electric vehicles.

3. Scope of Services

- 3.1. A consulting firm with experience in regulatory, technical, economic, and/or commercial studies in the liquid and gaseous fuel sectors is required. Experience in supporting the development of regulatory and technical plans and roadmaps for private and public stakeholders in the hydrogen and oil&gas sectors is also required.
- 3.2. Experience with regulatory, design, and operational issues regarding refueling stations is desired. Refueling stations considered in these Terms of Reference encompass all stations that serve terrestrial vehicles, both public and private, in industrial and retail contexts.

⁵ Hydrogen Council. (2020). *The Path to Hydrogen Competitiveness*. Supported by McKinsey&Company.

⁶ <https://www.barrons.com/articles/nikola-stock-rise-hydrogen-future-role-51595607803>