

REQUEST FOR EXPRESSIONS OF INTEREST CONSULTING SERVICES

REOI # IDB Invest 24-002

Department: Department of Strategy and Planning – Advisory Services Division

Selection Method: Formal Competition

Beneficiary Country: Regional

The Inter-American Investment Corporation (IDB Invest) aims to be the partner of choice for the private sector in Latin America and the Caribbean. We finance projects to advance clean energy, modernize agriculture, strengthen transportation systems, and expand access to financing. For more information about IDB Invest please refer to IDB Invest's website at www.idbinvest.org

Section 1. Purpose of this REOI

- 1.1 IDB Invest intends to contract consulting services described in this Request for Expressions of Interest (REOI). The purpose of this REOI is to obtain sufficient information to enable IDB Invest to evaluate if the eligible¹ consulting firms have the experience and qualifications relevant to the consulting services requested by IDB Invest. After the REOI process is completed, IDB Invest intends to issue a Request for Proposal (RFP) to those firms IDB Invest deems qualified and select one firm to establish a consulting services contract.
- 1.2 All eligible consulting firms, as defined in the [IDB Invest Procurement Manual](#) may submit an expression of interest (EOI). Consulting firms that have the required experience and competence relevant to the assignment shall be assessed and compared, and the best qualified and most experienced firm shall be selected. An Evaluation Panel will conduct the assessment and ranking of the EOI submitted by the consulting firms that expressed interest. The best-ranked consulting firm(s) will then be invited to continue further in the procurement process. This REOI sets out the criteria IDB Invest will apply for this short-listing process in Paragraph 3.2.
- 1.3 This REOI is not to be construed as either an RFP or an offer to contract and in no way obligates IDB Invest to do so. IDB Invest reserves the right to reject any or all participating consulting firms for any reason or for no reason without recourse, to request substitution and/or clarification of any information provided, to ask for interviews with the firm's management staff, and/or to visit the participating firm's site. IDB Invest does not bind itself in any way to select any participating consulting firm. No debrief will be provided to firms that have not been shortlisted.

Section 2. Instructions to the eligible consulting firms

- 2.1 Expressions of interest must be delivered by email to alopezlopez@iadb.org by no later than **July 17, 2024**
- 2.2 Eligible consulting firms may associate in the form of a Consortium/Joint Venture to enhance their qualifications. Such Consortium/Joint Venture shall appoint one of the firms as the representative, which

¹ The IDB Invest Procurement Manual establishes general eligibility requirements.

will be responsible for the communications, and the submission of the corresponding documents.

2.3 IDB Invest now invites eligible consulting firms to indicate their interest in providing the services described below in the intended Terms of Reference for the consulting services. Interested consulting firms must provide information establishing that they have the experience and are qualified to perform the Services. To ensure that all responses are evaluated in an equivalent fashion, eligible consulting firms must submit a response that includes the information that clearly explains all issues addressed in the following section.

Section 3. Consulting Services

3.1 The consulting services include **developing a market-facing study that assesses the state of the art of Grid Enhancing Technologies (GETS) applicable to Transmission assets, including early use cases (if any), market potential, and how these technologies can help transmission line operators and developers make better projects in terms of supporting the regional energy transition. Given IDB Invest's mandate to support the development of the private sector, particular focus shall be on identifying use cases and opportunities for these stakeholders.**

3.2 Eligible consulting firms must submit the EOI following the subsequent order:

1) Basic Information including:

Legal Entity Information:

- a) Legal Entity complete name
- b) Legal entity complete address
- c) Legal entity phone number

Authorized person from the consulting firm to receive notices:

- d) Name
- e) Title
- f) Phone number
- g) E-mail address

2) Background

3) Experience related to the requested consulting services

4) Resources and financial capacity to carry out the requested consulting services

5) Added value that the firm could offer to IDB Invest for this project

Inter-American Investment Corporation

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ANNEX A - TERMS OF REFERENCE

MARKET-FACING PUBLICATION ON GRID-ENHANCING TECHNOLOGIES FOR TRANSMISSION IN LATIN AMERICA AND THE CARIBBEAN

1. Background

IDB Invest is an international organization that was established in 1986 and began operations in 1989 with the mission of promoting the economic development of its regional developing member countries, which are located in Latin America and the Caribbean, by encouraging the establishment, expansion, and modernization of private enterprises in such a way as to supplement the activities of the IDB. As part of its mission, IDB Invest supports the private sector and state-owned enterprises (that do not benefit from a full sovereign guarantee) through financing NSG Projects and providing advisory and training services. IDB Invest is an autonomous international organization and a member of the IDB Group, which also includes the IDB and the Multilateral Investment Fund (“IDB Lab”), which is administered by the IDB.

For more information, please refer to IDB Invest’s website at www.idbinvest.org

2. Overview

Grid Enhancing Technologies (GETS) are a set of advanced technologies and solutions designed to improve the efficiency, reliability, and resilience of electrical grids. These technologies may play a pivotal role in modernizing power systems to accommodate renewable energy integration, enhance grid stability, and meet increasing electrical demand. GETS can often enable advanced grid monitoring, grid control and automation, grid resilience and flexibility, and demand response programs.

Some relevant GETS include:

- **Synchrophasor Technology:** Synchrophasors are advanced sensors that measure the magnitude and phase angle of electrical quantities in real time. They offer precise monitoring of grid conditions, enable faster detection of grid disturbances, and support enhanced grid stability. Implementing synchrophasor technology in key locations across the LAC grid can improve system resilience and response to dynamic changes.
- **Dynamic Line Ratings (DLR):** Traditional line ratings are static and conservative, meaning they are based on worst-case scenarios such as high ambient temperatures or maximum wind speeds. DLRs, on the other hand, use real-time data and advanced analytics to dynamically adjust the ratings of power lines based on actual operating conditions. This allows utilities to safely increase the capacity of transmission and distribution lines when conditions permit, optimizing grid utilization without compromising reliability.
- **Digital Twins (DT) and AI:** In the context of transmission lines, a DT would replicate the entire structure, components, and operational characteristics of a transmission line in a virtual environment. Artificial Intelligence (AI) algorithms, such as machine learning and optimization techniques, can analyze vast amounts of data from digital twins, sensors, and historical records to optimize transmission line operations related for fault detections, efficiency, and grid planning.
- **Reconductoring:** replacing existing conductors with advanced conductors (that can increase line capacity by >1.5x; advanced conductors use composite core instead of traditional steel cores to improve efficiency and increase capacity with limited sag).

Some GETS are geared more towards distribution networks, whereas an emerging set of technologies are being increasingly studied for application in transmission systems (such as those listed above).

IDB Invest is heavily invested in supporting the energy transition in LAC, investing in renewable generation projects, energy storage technologies, energy efficiency across end users, and transmission and distribution (T&D) assets.

3. **Objectives**

IDB Invest is looking to procure a market-facing study that assesses the state of the art of GETS applicable to Transmission assets, including early use cases (if any), market potential, and how these technologies can help transmission line operators and developers make better projects in terms of supporting the regional energy transition. Given IDB Invest's mandate to support the development of the private sector, particular focus shall be on identifying use cases and opportunities for these stakeholders.

4. **Scope of Services**

Develop a market-facing publication on GETS applied to energy transmission assets in Latin America and the Caribbean.

5. **Key Activities**

Task 1 – Market Facing report: GETS for LAC, with a focus on transmission and distribution and the private sector

Develop a market-facing report (60-80 pages long) that covers the following topics:

- State of the art of GETS for Transmission assets, including, but not limited to synchrophasors, reconductoring, DLR, DT+AI. Evaluate recent advancements and innovations in these GETS globally and assess their potential applicability and scalability in the context of LAC's energy infrastructure, regulatory frameworks, and environmental conditions.
- Review and highlight at least two case studies (either in LAC or outside the region) that highlight the successful implementation of GETS in privately owned Transmission assets. Highlight success stories, lessons learned, and strategies for overcoming barriers to adoption. These case studies should be seamlessly integrated into the body of the report.
- Identify key challenges and opportunities in the LAC region's electrical grid, including changes in regulation needed, compensation of capital expenditures for utilities, grid reliability, renewable energy integration, energy access, grid resilience to natural disasters, grid modernization needs, and expansion requirements that these GETS could help overcome. Estimate/quantify through an analytical model, if possible, the market potential and overall regional benefits associated with a large-scale rollout of GETS for Transmission in LAC.
- Analyze existing policy and regulatory barriers and opportunities in LAC related to GETS adoption for Transmission infrastructure, by benchmarking Chile, Colombia, and a third country to be proposed by the consultant in either Central America or the Caribbean.
- Conduct at least five interviews with key interested stakeholders in GETS (TSOs, DSOs, energy planning agencies, ministries, etc) to incorporate their views in the report. IDB Invest can help establishing contact with these stakeholders, but they must be identified by the consultant.

Since this is a market-facing report, emphasis should be placed on integrating infographics, tables, easy to read content, and highlight texts that make it visually appealing.

6. **Technical Requirements**

Consultancy firm with the following profile:

- **Expertise in Energy and Grid Technologies:** The consultancy firm should have a proven track record and deep expertise in energy systems, grid technologies, and renewable energy integration. They should demonstrate experience in analyzing and implementing Grid Enhancing Technologies in diverse environments.
- **Knowledge of LAC Energy Landscape:** The firm should have a thorough understanding of the energy landscape in Latin America and the Caribbean, including regulatory frameworks, market structures, grid infrastructure, renewable energy potential, and challenges specific to the region.

- **Technical Capabilities:** The firm shall have technical capabilities in conducting comprehensive studies, data analysis, modeling, and simulation related to grid technologies, dynamic line ratings, and GETS in general.
- **Experience in Policy and Regulatory Analysis:** Given the importance of policy and regulatory frameworks in the adoption of GETS, the consultancy firm should have experience in policy analysis, regulatory assessments, and market design related to energy technologies and grid modernization.
- **Case Studies and References:** Provide at least five project references of previous assignments where the consultancy firm has successfully conducted similar studies, implemented grid enhancements, or provided strategic recommendations for energy transitions.

7. **Expected Outcome and Deliverables**

Interim Deliverable: An interim version of the report with draft sections shall be shared with IDB Invest to provide comments as the final report is being drafted.

Final Deliverable: Final market facing-report.

8. **Project Schedule and Milestones**

Progress meetings	Every two weeks
Interim Deliverables	1.5 months after kick-off
Final deliverables	3 months after kick-off

9. **Place of Performance**

Home-based.

10. **Acceptance Criteria**

Final report that shall be between 60-80 pages (including annexes) long. Delivered in editable format, so it can be proofread and applied final design by a third party. The report shall be drafted in English.

IDB Invest will have the opportunity to review the deliverable and provide comments to be integrated into the final product.

11. **Other Requirements**

After the final draft is approved, IDB Invest will engage with a third party to procure final proofreading and design services to align it with the Bank's brand manual. As such, it is expected that the consultancy firm will be available to collaborate with this third party in replying to ad-hoc requests.