TC Document

I. Basic Information for TC

▪ Country/Region:	REGIONAL
▪ TC Name:	Latin America And The Caribbean Energy Information And Innovation Platform - Observatorio & ENEsources
▪ TC Number:	RG-T3490
▪ Team Leader/Members:	Carvalho Metanias Hallack, Michelle (INE/ENE) Team Leader; Snyder, Virginia Maria (INE/ENE) Alternate Team Leader; Arguello, Ana Lucia (INE/ENE); Carvajal Ledesma, Franco Israel (INE/ENE); Chueca Montuenga, Jesus Enrique (INE/ENE); Colina Unda, Vanessa Carolina (ITE/IPS); Cuervo, Javier (INE/ENE); Lopez Soto, David Daniel (INE/ENE); Marquez Barroeta, Fidel (INE/ENE); Marzolf, Natacha (INE/ENE); Negret Garrido, Cesar Andres (LEG/SGO); Nunez Zelaya, Anamaria (KIC/DCC); Perez Martinez, Luis Carlos (INE/ENE); Sanin Vazquez, Maria Eugenia (INE/INE); Suber, Stephanie Anne (INE/ENE)
▪ Taxonomy:	Research and Dissemination
▪ Operation Supported by the TC:	n/a
▪ Date of TC Abstract authorization:	02 May 2019
▪ Beneficiary:	LAC
▪ Executing Agency and contact name:	Inter-American Development Bank through its Energy Division (INE/ENE)
▪ Donors providing funding:	OC Strategic Development Program for Infrastructure(INF)
▪ IDB Funding Requested:	US$920,000.00
▪ Local counterpart funding, if any:	US$0
▪ Disbursement period (which includes Execution period):	36 months for execution and 40 months for disbursement
▪ Required start date:	August 2019
▪ Types of consultants:	Individuals, firms and non-consulting services
▪ Prepared by Unit:	INE/ENE-Energy
▪ Unit of Disbursement Responsibility:	INE-Infrastructure and Energy Sector
▪ TC included in Country Strategy (y/n):	No
▪ TC included in CPD (y/n):	No
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Productivity and innovation; Economic integration; Institutional capacity and rule of law; Environmental sustainability; Gender equality

II. Objectives and Justification of the TC

2.1 **The general objective** of this Technical Cooperation (TC) is to provide Latin America and the Caribbean (LAC) a continuous forum for collaboration of the multilateral, government and private sector to promote the access of information and knowledge to advance an innovative energy sector. The aim is to position the IDB at the forefront for the promotion of innovation that supports developing countries to solve energy challenges.

2.2 The specific objectives of the LAC Observatory of Energy are to: (i) establish a digital platform compiling available energy data of the region; (ii) act as a forum to drive regional research and cross-dissemination of experiences; and (iii) be a key driver for innovation and strategic leadership in the energy sector.

2.3 The expected results are to accelerate the knowledge towards the state of the energy sector (evolution of the main indicators for energy services provision), the best energy policies for LAC, and – simultaneously – the development and deployment of clean technologies in the region. In addition, this TC will strengthen the IDB's capacity to serve its counterparts by improving the quality of the services provided to the clients through its operations, and by expanding the scope and quality of its knowledge products. As a result, the IDB's energy research would become a benchmark for LAC. The observatory is also a public good that will be open and available for every stakeholder interested on the energy sector. In a period of innovation and data driven economy, free available data becomes a key resource for the sector's development.

2.4 The operation will offer opportunities to promote gender equality and women's empowerment, through the collection and publication of available data on women's engagement in the energy industry and possibilities for improvement.

2.5 **Justification.** The energy sector is globally experiencing a technological and digital revolution; the potential for disruption and the ability to take advantage of the derived benefits would depend on the capacity of the region's governments and institutions to rapidly internalize these changes. To be part of this revolution, LAC countries and energy stakeholders should be able to: (i) understand the state of the energy services and the room for improvement; (ii) evaluate the challenges hindering the growth of their industry; (iii) learn about the evolving technologies that represent an opportunity for solutions in the region; (iv) absorb quickly the chances to leapfrog and avoid lock-in situations; (v) adapt or innovate technological changes to national needs and; (vi) follow up on the changes undertaken to transform the process in cumulative knowledge.

2.6 It has also been recognized that the region has limitations in having solid and comparable information at the regional level to measure progress, warning signs, and policy investment opportunities for various energy issues.

2.7 Continuous strengthening, update and feeding of information, evaluation and development of specific knowledge are key elements for LAC to benefit from new opportunities and efficient adaptation of policies and regulations. Adaptation of innovative technologies needs to be credible, efficient and quick to drive investments. Increasing the amount, availability and transparency of updated information and knowledge are the *sine qua non* condition for LAC governments to move forward and benefit from the new opportunities that innovation will unlock.

2.8 It becomes strategic for the IDB to develop a regional hub that integrates relevant data and works of research to connect information with the stakeholders of the sector, to boost the synergies of investment programs in the region towards energy innovation, decarbonization and sustainable development.

2.9 Innovation and renewables open room for increasing women participation in the energy industry; highlighting the importance of monitoring how women's participation in the industry evolves and making data on woman specialists available in the key areas of the energy sector.

2.10 As a result of the above, this TC will: (i) develop a digital platform to compile and systematize internal and external data; and (ii) develop a research network in LAC to connect energy stakeholders in the public and private sectors.

Strategic Alignment. This TC is consistent with the Update to the Institutional Strategy 2010-2020: Partnering with Latin America and the Caribbean to Improve

Lives (UIS) (AB-3008) and aligned with the: (i) establish institutional frameworks for infrastructure development to ensure an effective institutional frameworks to establish and maintain a transparent interactions with governments; (ii) productivity and innovation, as it contributes to the development of a regional knowledge focused on energy; and (iii) increase of knowledge and expertise to partner with countries to enhance its overall value added and sharing the knowledge among policymakers across the region. This TC is consistent with the Energy Sector Framework Document (GN-2830-3): regulatory framework and institutional strengthening since it promotes knowledge for the region. Finally, the TC is aligned with the objectives of the Ordinary Capital Strategic Development Program for Infrastructure (GN-2819-1) since it will focus, among other things, to expand access to intraregional experiences and advance the exchange of cooperative know-how among all borrowing member countries.

III. Description of activities/components and budget

3.1 **Component I. Development of a data management Platform (US$220,000).** This component will finance a unified data management platform (UDMP), as a centralized system for collecting and analyzing large datasets originated from diverse sources. The platform will link information from external resources and the information generated by the IDB's Energy Division (ENE). The expected audience includes the general public, university professors and students, industry specialists and policymakers, among others. The expected result is to harmonize and promote the dissemination of information and knowledge about energy in LAC.

3.2 The platform will include: (i) an open and harmonized access to databases and information collected by the IDB; (ii) visualization of the data collected by the institutions with which we have an association/partnership; (iii) presentation of innovative indicators and knowledge products, academic network and specific research works focused on the region; and (iv) easy access links to other databases, publications and blogs by theme and country whenever possible.

3.3 The main sources of information for the platform are data generated from: (i) IDB Energy Dossiers; (ii) the SER/ElectroRating; and (iii) the Regulatory Database currently under development with the Regional Public Good (ATN/OC-17013-RG). The Energy Dossiers and the associated databases are very important in preparing operations, CDC, and key inputs for the dialogue between IDB specialists and their counterparts. These documents and databases should be made available to the specialists in a format that is comparable between countries. The Regulatory Database will be developed with the regulators of the region. This database must be digitized and automated for easy updating and maintenance. It will complement the SER base and facilitate the process of updating the Energy Dossiers.

3.4 This component will finance all the data treatment and analysis necessary to deliver meaningful information to the internal and external users. The platform will seek to harmonize, share and promote the dissemination of information and knowledge about LAC to researchers, policymakers, companies, specialists and energy stakeholders[1].

[1] The digital platform of the Observatory will be a visual interface of the key information about energy in LAC. It will include visualization of the information generated by ENE and the platform aggregating all the information generated by other institutions, such as OLADE, CEPAL, CIER, IRENA, IEA. Data availability

A communication and marketing strategy plan will be developed to define the entire range of activities the TC will do to market the products and benefits of the Energy HUB.

3.5 **Component II. ElectroRating (US$300,000[2]).** Under this component ENE will: (i) improve and complete the SER[3] database and create the new ElectroRating. The ElectroRating objective is to build a platform that allows the electric utilities and the regulators of the region to see how they are positioned compared to the top performers. The SER database includes information on market operation, gender, resilience measures and sustainability (environmental and financial data). The SER database was created a few years ago by ENE to address the information gap and generate comparable information of utilities and was finalized in 2016; (ii) develop data visualization; and (iii) design an automated data collection system. The objective is to take the current SER database, improve it, complete the gaps, automate the collection the data as much as possible and make it a sustainable tool for the IDB: something that can be useful, public and constantly updated. Incorporating innovative tools such as digitalization for data gathering and visualization of information will help electricity providers to better identify problems, challenges, encourage transparency and good practices, while showing them possible paths for improvement and replicate pre-identified good practices. This activity may trigger the improvement and enhancement for data management of the electricity sector information for sustainable development in the region, which contributes to regional and national energy sector through the development of standardized, integrated and comparable methodology. Also, as a result of this regional initiative, the improvement and expansion of an electricity information database with information and statistics at the level of electricity companies will help to identify opportunities for regional trade and integration. The implementation of this initiative at the regional level will also ensure the transfer of knowledge and training to the main stakeholders in energy sector.

3.6 The amount of data collected to create the SER index is a rich source of information and with a strong potential to scale it up. However, to make it a lively and useful database it is necessary to streamline the content and facilitate the data collection for easier use. This task includes an analysis of the main variables of the database; a selection of the most important variables and the methodology and process for the automatization of data which will require continuous updates. The selection of the

---

is a fundamental element for the promotion of investment projects on the renewable energy transition and better policy-making decisions in the region.

[2] The development of the ElectroRating aims to complete the scarce information about energy utilities in LAC. The wide heterogeneity of electric utilities within and between countries in LAC and the scarce information on relevant topics (e.g. energy efficiency, adoption of renewable energy, gender inclusion) make it necessary to try to raise homogeneous and comparable information based on a consistent framework that will allow to perform an in-depth analysis of the companies in the sector and contribute to build sustainable capacity. Available and detailed information regarding companies in the electricity sector in LAC, including the identification of best practices, is a key asset to improve the performance and sustainability of such utilities and their respective energy sector. In 2015, ENE developed the SER for LAC to address the information gap and generate comparable information of utilities. SER developed indicators to assess the performance (financial, operating, quality of service, coverage, affordability, gender and diversity) and sustainability (environmental, financial, resilience to external shocks, demand management and energy conservation) of electricity utilities in LAC. However, the database needs to be checked and cleaned, data collection needs to be automated and the methodology for the index revised.

[3] The database of the SER was funded by ATN/FI-13875-RG and ATN/OC-13876-RG. Through surveys and data collection, it included 101 variables of 153 utilities in LAC (24 countries represented), in distribution, transmission and generation segments.

variables will be based on the easiness of the updates. We will include a high-tech process to gather public data through web scraping to facilitate the data collection. The products of the proposal are expected to be: (i) a consistent and quality database with key indicators selected; (ii) data visualization; and (iii) automated data collection system.

3.7 This component will also facilitate the collection and presentation of gender information in the LAC energy sector, promote and provide data from companies, government, non-governmental entities as well as researchers about women in the energy sector. The platform will provide access to the Infrastructure Gender Toolkit.

3.8 **Component III. Research Network (US$150,000[4])**. This component will finance the establishment of a LAC Network of Universities for Energy Research and Development of Knowledge to advance research in the sector through mechanisms that will promote collaboration between the IDB and the academic research centers in LAC. It will aim to promote and disseminate knowledge of the energy sector in the region. Special emphasis will be placed on issues of access, affordability, integration, security, sustainability, innovation, regulation and governance.

3.9 Under this component a new initiative will be launched, called Gigawatts. The first year of a two Gigawatts project and an annual meeting to launch the Research Network will be financed under this component. ENE will coordinate the research of the university network; promote an open platform to disseminate information on the selected topics; promote dialogue between the information needs of IDB clients and the energy research centers in the region; promote dialogue between institutions with information and research centers with the capacity to analyze them; promote dialogue and multidisciplinary knowledge, with strong methodological support and aimed at solving problems that developing countries have, supporting researchers in the region.

3.10 The selection of the projects to be financed under this initiative will be based on a transparent and open competition process. The requirements will be set on an annual basis and will include at least three sorts of deliverables: (i) a working paper; (ii) database collection; and (iii) research presentation. The quality and acceptance of the deliverable is a necessary condition for the eligibility of the continuity of the project in the following year. The work will be presented at an IDB event for discussion with specialists and submitted for comments before the latest version is published. The expected results include a baseline of high-quality research and data for the energy sector. An important result is to strengthen the commitment of research institutions in LAC towards a quality and sustainable research to guide the debate of the best energy policies to implement in the region. The selection of projects will include gender component valorizing institutions with higher diversity.

3.11 **Component V. Innovation and Regulation Sandboxes (US$100,000).** This component will track the inclusion of innovation in Energy Sector in LAC countries. Using the innovation indicators that we are building under ATN/OC-16912-RG that

[4] The Research Network will promote and disseminate the research about the energy sector in LAC with special emphasis in the areas of access, integration, security, sustainability, innovation, regulation and governance. It aims to support regional innovation and knowledge as it intersects with regional challenges and opportunities. The promotion of the dialogue between researchers, policy makers, companies, development banks and other key institutions in the region will help promote quality knowledge (through continuous feedback) in strategic topics, canalize resources and generate positive spillovers in LAC. The collaboration between the IDB and the Research Network will create continuity and a knowledge-shared community.

identify the level of innovation in the energy sector in LAC. We will deeply analyze the gap and the opportunities of increasing digitalization and development of new business models in the region. Also, under this component at least one regulatory sandbox will be financed. A regulatory framework allows small scale, live testing of innovations in a controlled environment (operating under a special exemption, allowance, or other limited, timebound exception) under the regulator's supervision.

3.12 The energy landscape is changing so fast and drastically, regulation simply cannot keep up. After all, regulation involves a time frame which simply fails to keep pace with the day-to-day reality. In terms of scale, a sandbox is somewhere between an R&D pilot project and a fully-fledged project. Under this component we will be able to test a regulatory change and get results interesting for the sector, they gain an idea of the feasibility without having to roll anything out on a large scale.

3.13 **Component V. Dissemination (US$135,000).** This component will finance the dissemination of successful knowledge outputs resulting from this TC through relevant resources, including webinars, online media, blogs, and presentations at regional events.

3.14 **Expected results.** See Results Matrix.

3.15 **Budget.** The TC total budget is US$920,000 financed by the IDB Strategic Development Program for Infrastructure (INF). The eligible expenditures for financing will be limited to: (i) consultancies (firms and individual consultants); (ii) travel cost and per-diem for consultants; (iii) workshop organization for results presentation; (iv) educational funding for eligible regulators; and (v) survey data collection. The execution and disbursement periods will be 36 months and 40 months, respectively. The table below shows the detailed budget.

Table 1. Indicative Budget (in US$)

Activity/Component	Description	Total Funding
Platform	Development and update of visualization	220,000
ElectroRating	Visualization and new organization of the SER (ElectroRating)	300,000
Research Network	Project Giga-Watts and Annual Meeting	150,000
Innovation in LAC and regulatory sandbox	Digitalization and regulatory sandboxes	100,000
Dissemination & PM support	Webinars, online media, blogs, regional events	150,000
Total		**920,000**

IV. Executing agency and execution structure

4.1 The Energy Division (INE/ENE) will be the Executing Agency of this TC to facilitate its execution given the region-wide scope, cutting edge digital focus and diversity of stakeholders to be involved. The TC is an initiative of the Bank and it will include

information about the 26 borrowing member countries of the IDB. Under the proposed taxonomy, this TCs will generate knowledge and disseminate it. The Bank is the Executing Agency and has no counterpart. The Bank will engage individual consultants, consulting firms and non-consulting services in accordance with the Bank's current procurement policies and procedures. The TC will follow the governing policies of the IDB and procedures that are applicable for the procurement of goods, works and services as well as all IDB governing policies and procedures that are applicable for selecting and contracting consultants and consulting firm for technical cooperation.

4.2 The activities to be executed under this TC have been included in the Procurement Plan (Annex III) and will be executed in accordance with the Bank's established procurement methods, namely: (i) recruitment of individual consultants, as established in AM-650; (ii) hiring of consulting firms for services of an intellectual natural according to GN-2765-1 and its associated operational guides (OP-1155-4) and (iii) hiring of logistic services and other services other than consulting, according to the Policy GN-2303-20.The intellectual property of the products will belong to the Bank. If any specific partnership agreements with specialized organizations are required, ENE will seek guidance from ORP as to the applicability of AM-901 (Procedures for the development of Partnership Agreements) and/or AM-902 (Facilitated Partnerships Guidelines).[5]

4.3 In compliance with the Operational Guidelines for Technical Cooperation Products -Revised version (GN-2629-1), this TC is classified as Research and Dissemination. The focal points designated and sector specialist responsible for executing and supervising this TC will be Michelle Hallack, Project Team Leader and Virginia Snyder, Energy Specialist.

V. Major issues

5.1 The main risks to be considered for the execution of this TC are: (i) challenges to develop comprehensive and interesting data visualization; and comparable data between countries to obtain regional aggregates and tendencies; (ii) difficult to extract valid knowledge from academic networks; (iii) use of data and dealing with protecting it against attacks and hackers (even though most of the data won't be sensible or protected data) (iii) long-term sustainability database updating. To mitigate those risks, the team plans to use the experiences and lessons learned internally in ENE and key experts on data collection and analysis. Based on lessons learned, the TC will start with harmonizing the visualization of the existing data information that will build up the platform, then run a platform test with policy makers groups and academics (such as the researchers from the network) to adjust and customize it to the envisioned finished product. To mitigate the issue of data management and protection and considering the digital character of the initiative and the management of multiple actors, the TC will work with cybersecurity experts to make sure the right measures are in place. Additionally, to continue with the work once the funding from this TC is executed, a strategic plan has been prepared to make it sustainable, and maximize existing TC, initiatives and the work that will be established with the Universities.

[5] If needed for dissemination purposes or to achieve the objective of this TC, the Bank may license intellectual products developed under this TC in accordance with AM-331 (Procedures for Publication of Knowledge Products) and its applicable annexes."

5.2 The combination of academic work with practical use is challenging. To get the most benefit of this exercise, we will establish interaction between the IDB specialists and the research work. We will promote online workshops during the research phase and promote annual meetings with a heterogenous group for mutual feedback and discussion. The process of selection will also consider the applicability of the project for pre-identified challenges in LAC. We may consider also the experience of the research team in applied research before. To deal with the challenges with data collection, and as a lesson learned from the creation of the SER, the team is proposing to use a limited but useful number of variables focusing on those that public companies have available online. We will use digital technologies for data gathering that will be defined based on the easiness to update and the amount/importance of the information.

VI. Exceptions to Bank policy.

6.1 N/A

VII. Environmental and Social Strategy

7.1 No environmental or social risks associated with the activities set forth in this operation have been identified in accordance with the IDB's "Environment and Safeguards Compliance Policy" (OP-703), by which the operation is classified as Category "C ".

Required Annexes:

Results Matrix_78105.pdf

Procurement Plan_50994.pdf

Results Matrix - RG-T3490

Terms of Reference - RG-T3490

Procurement Plan - RG-T3490