

REGULATION AND GOVERNANCE: REGIONAL DATABASE AND DISSEMINATION

RG-T3281

CERTIFICATION

I hereby certify that this operation was approved for financing under the **Ordinary Capital Strategic Development Program for Infrastructure (INF)**, through a communication dated June 11, 2018 and signed by Felipe Caicedo. Also, I certify that resources from said fund are available for up to **US\$630,000** in order to finance the activities described and budgeted in this document. This certification reserves resource for the referenced project for a period of four (4) calendar months counted from the date of eligibility from the funding source. If the project is not approved by the IDB within that period, the reserve of resources will be cancelled, except in the case a new certification is granted. The commitment and disbursement of these resources shall be made only by the Bank in US dollars. The same currency shall be used to stipulate the remuneration and payments to consultants, except in the case of local consultants working in their own borrowing member country who shall have their remuneration defined and paid in the currency of such country. No resources of the Fund shall be made available to cover amounts greater than the amount certified herein above for the implementation of this operation. Amounts greater than the certified amount may arise from commitments on contracts denominated in a currency other than the Fund currency, resulting in currency exchange rate differences, representing a risk that will not be absorbed by the Fund.

Certified by:	(original signed)	10/09/2018
	_____ Sonia M. Rivera Chief Grants and Co-Financing Management Unit ORP/GCM	_____ Date

Approved by:	(original signed)	10/11/2018
	_____ Rigoberto Ariel Yopez-Garcia Division Chief Energy Division INE/ENE	_____ Date

TC DOCUMENT

I. BASIC INFORMATION FOR THE TECHNICAL COOPERATION (TC)

▪ Country/Region:	Regional
▪ TC Name:	Regulation and Governance: Regional Database and Dissemination
▪ TC Number:	RG-T3281
▪ Team Leader/Members:	Michelle Carvalho Hallack, Team Leader, Virginia Snyder, Alternate Team Leader, Stephanie Suber; Jeanette Bonifaz, Cecilia Seminario, Natacha Marzolf, Roberto Aiello, Verónica Prado, Christiaan Gischler, Juan Carlos Cárdenas, David Lopez, Yi Ji, and Alexandre Novaes (INE/ENE); and Javier Jiménez (LEG/SGO)
▪ Taxonomy:	Research and Dissemination
▪ Date of TC Abstract authorization:	May 7 th , 2018
▪ Beneficiary:	Governments of Latin American and the Caribbean Countries (LAC)
▪ Executing Agency:	Inter-American Development Bank (IDB) through the Energy Division (INE/ENE)
▪ Donors providing funding:	N/A
▪ IDB Funding Requested:	US\$630,000.00 - Strategic Development Program for Infrastructure (INF)
▪ Disbursement period:	36 months for execution and 40 months for disbursement
▪ Required start date:	October 2018
▪ Types of consultants:	Consulting firms and individual consultants
▪ Prepared by Unit:	INE/ENE
▪ Unit of Disbursement Responsibility:	INE/ENE
▪ 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:	Institutional capacity and rule of law; establish smart institutional frameworks and productivity and innovation

II. OBJECTIVES AND JUSTIFICATION OF THE TC

- 2.1 The general objective of this TC is to support the improvement of the energy sector institutional framework, and in particular of the regulation and governance in the Latin American and the Caribbean (LAC) energy sector. The specific objective is to facilitate and encourage the best practices and tools to promote the use of open, transparent, and accountable data and information for decision-making policymakers, regulators and other key players of the energy sector.
- 2.2 In the energy sector, regulation and governance are crucial. The energy value chain is complex, and its technical characteristics demand strong coordination among players. Historically, vertical integration (most frequently under a public company) was the main coordination format of the modern electricity industry. However, since the 1990's industry organization started to change. Currently, most of the systems are based on hybrid coordination with participation of public

companies, regulatory agencies, non-profit organizations and private players.¹ There are strong heterogeneity of the sectorial frameworks and most of the them are under constant transformation. Some preliminary assessment based on Bloomberg New Energy Finance data (BNEF, 2017) shows strong heterogeneity among countries, when considering utility unbundling, the presence of independent power transmission, retail market liberalization, wholesale market and market concentration. BNEF and the International Energy Agency (IEA) have done some effort to gather and harmonize some data, however, it is limited in scope and skewed towards developed economies. There is a lack of key rules of power market design, especially the rules associated with the penetration of new technologies, such as auctions design, distributed energy regulation and tariff regulation. Besides, there is no public available database allowing the comparison of the utilities in LAC and consumers perception of energy services and new technologies in LAC. There are several studies describing the context and energy market of each country, however, these documents are descriptive and use heterogenous concepts. Comparison between these countries are spurious. The understanding of the energy sector and the economic incentives depends on a deep understand of the rules of the game, which is different in each country.

- 2.3 The understanding of the regulatory framework and the efforts to develop a comparative database is important to: (i) allow benchmarking (allowing countries to draw lessons from each other); (ii) allow the mutual understanding of the energy market across countries in LAC; and (iii) allow a compatibility analysis (regulatory divergences can be a key barrier to market integration).
- 2.4 In LAC, harmonization of regulatory systems is important to allow trade across borders. Different from other international trades, the contracts in the energy markets depends on each market design and regulatory system. Frequently, there are several rules about how the contracts must, should or should not be done in energy. The regulatory system and market design usually consider concerns about security of supply, natural resources management, marginal costs, network constraints among other variables. As a result, there is an important divergence about how to trade energy in LAC, some of these divergences are important barriers for energy integration. For instance, the definition of firm energy in a long-term contract can disqualify international as a source of a reliable product. Harmonization of the regulatory systems and market design means improve the compatibility of national rules with international trade. Allowing players to trade in different countries at the same time.
- 2.5 The heterogeneity in LAC is not only in the rules itself, but also the regulatory governance and institutional capacity. It includes another layer in the harmonization process. There is an enormous heterogeneity among the countries, some of them are starting to develop a regulatory body and to standardize the governance process, while others have more than 20 years of experience. Moreover, even the countries with higher institutional capability rely just on their national experiences. The efforts of harmonization and dialogue between market design and regulation to promote market integration have been rather limited. For instance, the *Sistema de Interconexión Eléctrica de los Países de América Central (SIEPAC)*, is still working to improve regulatory dialogue and market design

¹ Just as an illustration of the importance of private sector, it is worth to note that 92% of investment in renewables in 2016 worldwide was performed by the private sector (IRENA, 2018). Global Landscape of Renewable Energy Finance. January 2018. ISBN:978-92-9260-054-9

harmonization. To improve the regulatory dialogue, it is necessary to establish a set of comparable concepts, data and information. This will improve the mutual understanding of neighbor's systems. For that it is important to create platforms allowing common ground definitions, data gathering and comparison among countries. Sharing and applying knowledge transfers are sometimes hard to coordinate, especially when it is disaggregated in country level and needs further harmonization. The role of IDB as a regional and neutral institution is key to drive this process.

- 2.6 The Energy Dossiers. The starting point of this TC is to harmonize key information and databases in LAC. The energy dossiers, covering 26 borrowing member countries of the IDB aim to understand the characteristics and challenges of each country in the energy sector. The dossiers should incorporate fundamental energy data, trade flow and institutional framework of each country's energy and electricity sector (including regulation, market designs, tariffs structures). In addition, the dossiers should be a descriptive an up-to-date document that can be used for internal purposes to facilitate the preparation of Country Development Challenge (CDCs) inputs to improve operational documents; and to be a starting point for countries analysis on energy. The dossiers can also be a source of information for LAC countries (government, companies and researchers) when looking for a comparable and abbreviated description of the energy sector. It is necessary to build an easy and friendly-to-use format (template), to facilitate the update and increase the comparability of information when comparing countries. In this context, it is important to redesign the existing IDB Energy Dossiers separating the information in two parts: (i) the historical/descriptive information of the countries (lower need of updating); and (ii) a simplified group of harmonized and comparable information (higher frequency and lower cost of update).
- 2.7 Once the dossiers are updated, they will serve the Bank's staff, especially country's specialists, to establish a more informed dialogue with the Bank's counterparts and to help with the process of CDCs preparation as well as Manager's briefings. Furthermore, the harmonization of country information will also promote internal communication among INE/ENE staff and collaboration with other sectors of the Bank.
- 2.8 The energy dossiers aim to compile, systemize and organize public available information from a sectorial point of view. However, utilities and consumers behavior which are two main components where there is not enough public data will be fed by the components of this TC. The information about these two set of players has recently gained importance. For example, new technologies are starting to disrupt consumers to become active players; nevertheless, the installation of these technologies depends on how prepared the utilities are to innovate. Understanding the services of utilities and the needs of consumers will serve as a crucial foundation for energy governance. The interface between these two set of players will rely on the regulatory framework in place. The deep understating of the energy sector and what it can become will depend on the interface of these three group of variables, consumers, suppliers and regulators.
- 2.9 The Sustainable Energy Rating (SER), the energy rating created by INE/ENE, has concluded its first phase, based on an assessment of utilities' performance, compliance and resilience. Approximately, 153 utilities in 24 LAC countries participated in the energy rating, and 110 indicators were created based on technical, financial and performance data collection. This TC aims to harmonize

SER's current available data, integrate the data with other databases of the division to increase the comparability between the different utilities along LAC. To compare the utilities, it is necessary to have a sound database and methodology, which will help to provide a comprehensive and sound backup for operations and knowledge products.

- 2.10 Additionally, the Energy Division would like to explore and work on consumer behaviors issues. The innovation in the energy industry, especially the digitalization process, is placing, for the first time, final consumers in the center of the business. This TC will lead the way to capture consumers behaviors in face of various emerging energy services, e.g. energy audit, demand response programs. The objective is to introduce perspectives from the consumer side for policy designs, policymaker, regulators and stakeholders to exchange experience on energy policy.
- 2.11 A quality database should have multiple dimensions and relevant information, it should also be applicable for a wide range of audiences. Transparent and comparable data is important for every player in the industry (public and private) to make educated decisions. It should allow regulators, governments and decision makers to analyze and to better understand the industry failures, challenges and advances. Information may also allow investors, communities and other stakeholders to make informed decisions.
- 2.12 The IDB will work with the Association of Iberoamerican Energy Regulatory Agencies (ARIAE). The interaction with LAC regulators, through ARIAE platform, will promote the use of the IDB databases and the interaction with decision makers and technical staff and general public interested on regulation in LAC by using three mechanisms: (i) developing a workshop in the ARIAE annual meetings to convey the key knowledge and messages and also to have feedbacks to better understand regulators demand and to improve our knowledge product; (ii) supporting the capacitation of regulators in a regional context (building regional network, allowing the comparison of LAC experiences during the courses and developing common concepts); (iii) producing learning material for regulatory courses in LAC using the database built (or made available) by IDB projects. It will help the capacitation of the regulators and become a reference for general public interested in the topic in LAC.
- 2.13 **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, on studies to carry out regulatory analysis as an input for improvements of current national legal and regulatory frameworks focused on facilitating secure and enabling environments.

III. DESCRIPTION OF ACTIVITIES/COMPONENTS AND BUDGET

- 3.1 **Component I. Update of energy dossiers (US\$210,000).** This component includes three activities: (i) to update the information of energy resources and consumption; (ii) to redesign the countries' document (as a general and scalable model/template to be applied for further updates); and (iii) to update at least four dossiers (chosen countries according to the demand of Energy Specialists for CDCs or in the preparation of PBLs) in the new format. The energy dossiers are part of a series of publications produced by INE/ENE. These dossiers are designed to increase the knowledge background about the composition and organization of the energy sector of LAC countries, and each one describes the energy matrix of the country under analysis and then dives deeply into the institutional organization and regulatory framework of the energy sector countrywide.
- 3.2 **Component II. Database treatment (enhancement and improvement): Sustainable Energy Rating (US\$70,000).** This component will finance the required work for a statistical treatment and analysis of the SER database.² The SER database currently includes 110 variables of 153 utilities in LAC, in distribution, transmission and generation segments; and it also includes information about companies of 24 countries in LAC. The amount of data collected to create the SER index can be an impressive source of information and potentially valuable for statistical analysis. Key variables in the database include gender, resilience measures, sustainability (environmental and financial data). Nevertheless, to get sound and robust results, the data must be treated and completed. It is necessary to apply a suitable statistical tool to deal with qualitative data. The objective of this component is to refine the methodology and statistical methods to make full use of the database. The work will include, among other things, an analysis to understand whether there is relation between these institutional variables and company's traditional performances measures, such as EBITDA, work productivity, sales/revenue, Capex/Opex ratio.
- 3.3 **Component III. Data collection and preliminary analysis from experimental studies on consumers' behavior (US\$110,000).** This component will finance the consumers behavior data's collection and treatment. There will be three surveys conducted on consumers behavior and innovation. The objective is to collect data considering different perspectives such as: (i) what is the information that energy consumers have access nowadays? (What are the mechanisms to inform consumers? Do they understand the energy bill? Do they know what are they paying and what their options are?); (ii) what is the consumers knowledge and acceptability on innovation?; and (iii) how to frame and effectively implement energy policies so the final consumers really benefit from those innovations? (i.e. how to nudge consumers to adopt efficient measures such as demand response and energy efficiency).
- 3.4 **Component IV. Capacity building in energy regulation, including dissemination of ENE dataset and analysis (US\$240,000).** This component will finance regulation workshops for regulators and policy makers, including the preparation of educational material.

² SER for LAC: was funded through ATN/FI-13875-RG for US\$450,000 and ATN/OC-13876-RG for US\$450,000, both totally disbursed and closed.

- 3.5 Expected Results. See [Results Matrix](#).
- 3.6 Budget. The TC total budget is US\$630,000 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
Component I. Update of energy dossiers	Data organization and publishing	190,000
	Edition of the dossiers for four countries.	20,000
Component II. Database treatment: SER	Update and analysis of the current SER database to compare utilities performances across LAC	70,000
Component III. Data collection and preliminary analysis from experimental studies on consumers' behavior	Survey design, data collection and data analysis on energy consumers behavior and public perception of innovative technologies	110,000
Component IV. Capacity building in energy regulation, including dissemination of ENE dataset and analysis	Workshops with LAC regulators about regulatory principles and cases of best practices (includes event organization, educational material for the workshops, etc.)	240,000
		630,000

IV. EXECUTING AGENCY AND EXECUTION STRUCTURE

- 4.1 The Bank through the Energy Division will contract individual consultants, consulting firms and non-consulting services in accordance with the Bank's current procurement policies and procedures: (i) the individual consultants will be hired in accordance with the AM-650 Administrative Manual 'Complementary Workforce'; (ii) the procurement process for consulting firms will follow the Bank Policy for the Selection and Contracting of Consulting Firms for Bank-executed Operational Work (GN-2765-1) and the related Operational Guidelines (OP-1155-4) for hiring consulting services of intellectual nature; and (iii) the procurement of non-consultant services will follow the Bank Corporate Procurement Policy (GN-2303-20). The initial procurement plan provides information on the contracts foreseen and their applicable monitoring and contracting methods.
- 4.2 In compliance with the Operational Guidelines for Technical Cooperation Products-Revised Version (GN-2629-1), this TC is classified as Research and Dissemination. The technical responsibility will be overseen by INE/ENE, and the focal points designated responsible for the TC execution will be the Energy Specialists, Michelle Hallack and Virginia Snyder.

V. MAJOR ISSUES

- 5.1 The main risks to be considered for the execution of this TC are: (i) the challenge to extract valid information from sizeable qualitative database from various sources; (ii) the risks associated with the collection and the treatment of the final consumers data. To mitigate these risks, the team plans to use the experiences and lessons learned internally in the division and key experts on data collection and analysis. For the data collection on behavior we will collaborate, together with the DIA team and with well-known organizations of public opinion surveys, such as LAPOP, *Latinobarometro*, Geopoll and Ideas. We will have the support of colleagues of other divisions in the elaboration of the questions. The current dialogue between IDB and the regulators in LAC has increased recently, the Division has received several requests for collaboration, which shows the need and the interest of the agencies in the project. ARIAE and the Latin America School of regulation are two organization which have a close collaboration with IDB. This close relationships will facilitate the dialogue and work with the regulators.

VI. EXCEPTIONS TO BANK POLICY

- 6.1 No exceptions to Bank's policies are requested.

VII. ENVIRONMENTAL AND SOCIAL STRATEGY

- 7.1 The TC does not have direct environmental or social impacts and according to the Bank's Environmental and Safeguards Compliance Policy (OP-703), since it has been classified as Category "C" (see filters [SPF](#) and [SSF](#)).

Required Annexes:

- Annex I: [Results Matrix.](#)
- Annex II: [ToR. Component 1](#); [ToR. Component 2](#); [ToR. Component 3.](#)
- Annex III: [Procurement Plan.](#)