

TC Document

I. Basic Information for TC

▪ Country/Region:	REGIONAL
▪ TC Name:	Energy HUB Database
▪ TC Number:	RG-T3691
▪ Team Leader/Members:	Snyder, Virginia Maria (INE/ENE) Team Leader; Carvalho Metanias Hallack, Michelle (INE/ENE) Alternate Team Leader; Baltodano Carrasquilla, Fabiola (INE/ENE); Carvajal Ledesma, Franco Israel (INE/ENE); Chueca Montuenga, Jesus Enrique (INE/ENE); Greco, Maria Sofia (LEG/SGO); Marquez Barroeta, Fidel (INE/ENE); Perez Martinez, Luis Carlos (INE/ENE); Ravillard, Pauline (INE/ENE); Sanchez Olivares, Cristina (INE/ENE); Sanin Vazquez, Maria Eugenia (INE/ENE); Suber, Stephanie Anne (INE/ENE)
▪ Taxonomy:	Research and Dissemination
▪ Operation Supported by the TC:	N/A
▪ Date of TC Abstract authorization:	07 Apr 2020.
▪ Beneficiaries:	Government officials related to the energy sector and regulators; Energy companies; Academics and the General Public in the Latin America and the Caribbean.
▪ Executing Agency and contact name:	Inter-American Development Bank
▪ Donors providing funding:	OC Strategic Development Program for Infrastructure(INF)
▪ IDB Funding Requested:	US\$400,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (which includes Execution period):	24 months
▪ Required start date:	May 2020
▪ Types of consultants:	Individual and Consulting firms
▪ Prepared by Unit:	INE/ENE-Energy
▪ Unit of Disbursement Responsibility:	INE-Infrastructure and Energy Sector
▪ TC included in Country Strategy (y/n):	N/A
▪ TC included in CPD (y/n):	N/A
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Social inclusion and equality; Productivity and innovation; Economic integration; Institutional capacity and rule of law

II. Objectives and Justification of the TC

- 2.1 The general objective of this Technical Cooperation (TC) is to support the different countries of the region, their counterparts and the actors involved in the energy sector in the development of an energy sector data, information and knowledge hub for Latin America and the Caribbean (LAC).
- 2.2 The energy sector is experiencing a technological and digital revolution, which has allowed an explosion of data in volumes never imagined, growing exponentially at extraordinary speed. This data is the new fuel for creating effective public policies, giving basis to new business models, helping in decision-making processes, detecting trends, saving costs and time, responding to current problems and, ultimately, powering the innovation of the sector.
- 2.3 In 2019, under the TC ATN/OC-17534-RG, the Energy Division (INE/ENE) started working on the creation and construction of the HUB. The digital platform aims to:

- (i) act as a forum to drive regional research and cross-dissemination of experiences; and (ii) be a key driver for innovation and strategic leadership in the energy sector. Develop a forum for data and research exchange in LAC. It aims to stimulate and facilitate regional academic research, generating knowledge and cross-dissemination of experiences (south-south cooperation). However, given the large amount of data and information, there is a need to continue supporting the work started under ATN/OC-17534-RG and continue adding and improving data collection. The platform will be launched in the second semester of 2020. All the data included in the HUB will be open and free to access.
- 2.4 This TC will complement the current work by generating more data, visualizations, and functionalities in the HUB (ATN/OC-17534-RG). Additionally, as the world is experiencing the COVID-19 pandemic, data collection is now more critical and the need for the HUB is increasing because decision makers and leaders require more information about the pandemic's impact on the energy sector. This includes impact on demand, revenue gap provoked (by the shock), and policies and tools used by the energy sector in LAC to move toward recovery and re-equilibrium of the economy.
- 2.5 The HUB can be a resource to support post-COVID-19 economic recovery in the energy sector by providing consistent, comprehensive and up-to-date analytical tools, data and policy recommendations to help countries improve decision-making services vis-à-vis the challenges and consequences of the pandemic. This support would be through: (i) monitoring comparable information on energy demand, prices and generation to measure continuously the size of the crises impact in the sector, (ii) supporting the identification of the sector revenue gap and the potential tools and best practices for recovering after the crises.
- 2.6 This TC will strengthen the Bank's capacity to serve its counterparts by improving the quality of the services to the clients through its operations, and by expanding the scope and quality of its knowledge products.
- 2.7 The TC will integrate and disseminate the energy information available in LAC through an easy-to-use Digital Platform – the HUB. The data will be offered as open data for free consumption. It will also provide friendly visualizations of the public data, and it will develop new datasets. Under this TC the Bank will promote and provide to decision maker of the region, access to relevant data of the sector and help stakeholders to access data that facilitates the creation of energy sector public policies and programs.
- 2.8 The energy HUB will also include research, publications and policies of the energy sector. The digital platform seeks to: (i) act as a forum to drive regional research and cross-dissemination of experiences; and (ii) be a key driver for innovation and strategic leadership in the energy sector.
- 2.9 This TC is consistent with the Second Update to the Institutional Strategy: Development Solutions that Reignite Growth and Improve Lives (AB-3190-2) and aligned with the: (i) establishment of effective institutional frameworks for infrastructure development, to establish and maintain a transparent interaction with governments; (ii) productivity and innovation, as it contributes to the development of regional knowledge; 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. It is also aligned with the cross-cutting issues of: (i) technology and innovation by promoting the generation and use of data and make it easily available, among other things, to help decision makers on energy issues; and (ii) gender equality inclusion and diversity by promoting and sharing data on women in the energy sector.

- 2.10 This TC is consistent with the Energy Sector Framework Document (GN-2830-8): regulatory framework and institutional strengthening since it promotes knowledge for the region, it also promotes sustainability by informing about potential and new technologies for the energy transition. 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. Energy Data and visualization.** This component will support the management of the Energy HUB for LAC by updating and creating content from diverse sources. This will allow to improve the quality of the HUB platform (to be launched in 2020) and to automate and digitalize the HUB with the latest technologies. It will incorporate data visualization of COVID-19 impact on the energy sector. The expected result is to maximize the data availability, to guarantee and promote the dissemination of information.
- 3.2 The HUB includes data and information on renewable energy, energy access, energy efficiency, gender and energy, tariff, cybersecurity, subsidies, among other things.
- 3.3 The IDB team together with a group of consultants will define, design and create new analytics and visualizations for determined energy statistics issues. The work done under this component should use the best tools for the data analytics and visualization, such as Tableau, Power BI, and others following high standards, formats of the Energy HUB. The team will prepare and apply user test cases, in order to guarantee the quality, effectiveness, and innovation of the visualizations.
- 3.4 **Component II. Dissemination of knowledge products, monitoring of COVID-19 impact in the energy sector.** The objective of this component is to develop communication products on data, knowledge, innovation and the monitoring of the COVID-19 crisis in the electricity sector in LAC. The following activities will be completed: (i) design and production of multimedia material; (ii) a communication strategy; and (iii) webinar events.
- 3.5 The IDB team, together with consultants, will create an editorial content for traditional media and social media, blogs, e-mails, tweets, etc. Additionally, the team will produce and edit a promotional video of the HUB and its adaptation for the web and social media platforms such as Instagram, Facebook and Twitter.
- 3.6 **Component III. Research Network.** This component will finance the advancement and establishment of a LAC Network of Universities for Energy Research and Development of Knowledge. This Network will promote new research in the sector and promote collaboration between the IDB and the academic research centers in LAC. The University Network, encompassing up to 14 academic institutions in LAC¹, will

¹ The participant institutions are: Universidad Nacional de Rafaela (Argentina), Fundación Universidad Privada de Santa Cruz de la Sierra (Bolivia), COPPE-UFRJ (Brasil), Institute of Energy and Environment, University of Sao Paulo (Brasil), Escuela Iberoamericana de Regulación – UC (Chile), Universidad de los Andes (Colombia), Universidad de Costa Rica (Costa Rica), Universidad de Cuenca (Ecuador), Universidad Tecnológica Centroamericana (Honduras), Universidad Tecnológica de Panamá (Panama), Centro de Recursos Naturales, Energía y Desarrollo (Paraguay), Pontificia Universidad Católica Madre y Maestra

promote and disseminate knowledge, with special emphasis on the issues of access, integration, energy security, sustainability, innovation, regulation and governance, and on issues of crises recovery post COVID-19.

- 3.7 Some of the research expected to be completed under the research network includes: (i) development of a synthetic indicator on energy efficiency; (ii) inequality and energy: diagnosis and reform proposals; (iii) cost structure in the electricity sector; and (iv) energy regulation after the COVID-19. The final objective of the research project is the production of one publication, with evidence-based policy recommendations, as well as the development of capabilities in the research energy sector in LAC.
- 3.8 The University Network was officially launched in February 2020. During the first trimester of this year, INE/ENE identified four energy research themes to guide the proposed academic projects which will be funded through this TC as well as the ATN/OC-17534-RG. The project team is currently working on the guidelines for the “GIGAWATTS” research project, to be developed by the University Network. The current module has research institutions from 13 countries. This component aims to increase the university network, including new research institution from other LAC countries and develop a research topic associated with COVID 19 impacts.
- 3.9 **Component IV. Improving Data Collection.** This component will support the improvement of data collection process in at least two energy sector entities in LAC. It is essential to include new countries in the harmonized database. Therefore, under this TC, the IDB team together with a team of consultants will support the energy entities or agencies to collect existing quantitative and qualitative statistical information from official sources of information. The team will employ the best available digital tools to use available data and information to generate missing or new data and information.
- 3.10 Additionally, the Bank will support on the development of information systematization tools and on the design of an efficient way to keep the data bases up to date. The data base should allow for data and information to be extracted in an agile and interactive way for the user and should consider the end-user experience. Technical support will be also provided for the design of visualizations that allow for quick access to information, trends, among other things.

Indicative Budget

Activity / Component	Description	IDB/Fund Funding	Total Funding
Component I. Data Management.	Update and create content from diverse sources.	US\$200,000.00	US\$200,000.00
Component II. Dissemination of knowledge products	(i) Production of media material;(ii) design and editing of knowledge, innovation and communication products (data, policies) on innovation issues, inclusion in the region's electricity sector; (iii) an updated communication strategy; and (iv) events.	US\$55,000.00	US\$55,000.00
Component III. Research Network	Develop academic research	US\$45,000.00	US\$45,000.00

(República Dominicana), Universidad Católica del Uruguay (Uruguay) y el Instituto de Estudios Superiores de Administración (Venezuela).

Component IV. Improving Data Collection	Contribute with the different energy agencies and ministries of to strengthen their data collection capabilities and harmonized the database.	US\$100,000.00	US\$100,000.00
Total		US\$400,000.00	US\$400,000.00

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 has extensive experience and capacity to convene different actors in different sub-sectors of the countries involved, which is essential to successfully complete this project, as demonstrated with similar initiatives.
- 4.2 The activities to be executed under this TC have been included in its Procurement Plan and will be executed in accordance to the procurement methods and guidelines established by the Bank, specifically: (i) Policies for the Procurement of Goods and Works financed by the IDB (GN-2349-15); (ii) Policies for the Selection and Contracting of Consulting Firms (GN-2765-4), and associated Operational Guidelines (OP-1155-4); and (iii) Policies for the Hiring of Individual Consultants (AM-650). The TC will also benefit from the Policies for the Selection and Contracting of Consultants financed by the IDB for the immediate public health response authorized by the Board of Executive Directors in response to the COVID-19 Pandemic Outbreak (GN-2996).

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) difficulties for retrieving valid knowledge from academic networks; (iii) use of data and dealing with protecting it against attacks and hackers (even though most of the data will not be sensitive or protected); (iv) 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.
- 5.2 To mitigate the issue of data management and protection – 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 funds, initiatives and the work that will be established with the universities. Additionally, in order to support the sustainability of the HUB, INE/ENE has been working on building agreements with the regional partners. Moreover, our focus on available public data means that, after the launch of each tool in the platform, the update of data information is carried by our partners. Our investment in the automatization of the update process

decrease the maintenance and operation costs to a minimum level. The main costs of the HUB are associated with its expansion and knowledge dissemination, not with the sustainability of the existent tools. For instance, we are including a new tool for COVID 19 energy sector monitoring in the platform.

- 5.3 Finally, the combination of academic work with practical use is challenging. To get the most benefit of this exercise, the Bank will establish frequent interactions and a communication and work protocol between the IDB specialists and the research network. The IDB will establish the HUB platform as the communication and collaboration channel, so the academia can have a digital collaboration space, to work together, exchange information, share files and data, among other things. The Bank will promote online workshops during the research phase and promote annual virtual meetings.

VI. Exceptions to Bank policy

- 6.1 No exceptions to Bank policy are expected.

VII. Environmental and Social Strategy

- 7.1 As per the Directive B.3 of the Environmental and Safeguards Compliance Policy, this operation is classified as Category “C” (operations that are likely to cause minimal or no negative environmental and/or social impacts). For further details, see the [Safeguard Policy Filter Report \(SPF\)](#) and [the Safeguard Screening Form \(SSF\)](#).

Required Annexes:

[Results Matrix_76573.pdf](#)

[Terms of Reference_5836.pdf](#)

[Procurement Plan_75708.pdf](#)