TC Document

I. Basic Information for TC

▪ Country/Region:	REGIONAL
▪ TC Name:	Data, knowledge and accelerating energy transition
▪ TC Number:	RG-T4078
▪ Team Leader/Members:	Carvalho Metanias Hallack, Michelle (INE/ENE) Team Leader; Irigoyen, Jose Luis (INE/ENE) Alternate Team Leader; Snyder, Virginia Maria (INE/ENE) Alternate Team Leader; Balza Angulo, Lenin Humberto (INE/INE); Carvajal Ledesma, Franco Israel (INE/ENE); Edilberto Matias (INE/ENE); Emilio Angulo (INE/ENE); Gabriela Montes De Oca Fehr (INE/ENE); Goldenberg Lopez, Federico (INE/ENE); Jorge Luis Malpartida Ampudia (INE/ENE); Karla Arias (INE/ENE); Loana Vega (INE/ENE); Mariana Weiss (INE/ENE); Marzolf, Natacha (INE/ENE); Mendoza Benavente, Horacio (LEG/SGO); Urquijo Vanegas, Lee Harvey (ITE/IPS); Yuri Daltro (INE/ENE) Team Leader; Irigoyen, Jose Luis (INE/ENE) Alternate Team Leader; Snyder, Virginia Maria (INE/ENE) Alternate Team Leader; Balza Angulo, Lenin Humberto (INE/INE); Carvajal Ledesma, Franco Israel (INE/ENE); Emilio Angulo (INE/ENE); Goldenberg Lopez, Federico (INE/ENE); Jorge Luis Malpartida Ampudia (INE/ENE); Mariana Weiss (INE/ENE); Marzolf, Natacha (INE/ENE); Mendoza Benavente, Horacio (LEG/SGO)
▪ Taxonomy:	Research and Dissemination
▪ Operation Supported by the TC:	N/A
▪ Date of TC Abstract authorization:	06 Apr 2022.
▪ Beneficiary:	Regional
▪ Executing Agency and contact name:	Inter-American Development Bank
▪ Donors providing funding:	OC SDP Window 2 - Infrastructure(W2B)
▪ IDB Funding Requested:	US$600,000.00
▪ Local counterpart funding, if any:	US$0
▪ Disbursement period (which includes Execution period):	36 meses
▪ Required start date:	August 2022
▪ Types of consultants:	Individual Consultants, Firms
▪ Prepared by Unit:	INE/ENE-Energy
▪ Unit of Disbursement Responsibility:	INE/ENE-Energy
▪ TC included in Country Strategy (y/n):	N
▪ TC included in CPD (y/n):	N
▪ Alignment to the Update to the Institutional Strategy 2020-2023:	Economic integration; Institutional capacity and rule of law; Gender equality; Diversity

II. Objectives and Justification of the TC

II.1 **The general objective of this Technical Cooperation (TC)** is to help policymakers and regulators in Latin America and the Caribbean (LAC) countries to monitor the energy transition policy goals and make evidence-based decisions by promoting the use of data and information through the Energy HUB. The specific objectives are: (i) to maintain the Energy Hub platform updated and relevant for users in the region and to enhance its user experience by improving its design, data visualization, and

quality; and (ii) to develop and integrate new databases and studies regarding the energy transition and post-COVID-19 economic recovery, such as job creation in the sector and the internalization of clean fuels value chains.

II.2 The Energy HUB compiles, integrates, disseminates, and drives the generation of data and information on LAC's energy sector in a single place. As a result, it contributes to the creation of knowledge that will allow the region to be better prepared to face the energy challenges, benefit from the opportunities of the energy transition, and thus improve the quality of life of its inhabitants. The HUB takes data and information from various verified sources to support a cross-cutting analysis of the LAC energy landscape. It promotes analytical publications (from IDB and partner organizations) and hosts a university network. In this way, the HUB contributes to improving data collection; allows for data comparability, analysis, and dissemination; and promotes research, innovation, collaboration, and transparency. Currently, the Energy HUB works with six organizations: Latin American Energy Organization (OLADE), International Renewable Energy Agency (IRENA), *Asociación Ibero-Americana de Entidades Reguladoras de la Energía* (ARIAE), Sustainable Energy for All (SE4All), World Resources Institute (WRI), and the United Nations Economic Commission for Latin America and the Caribbean (ECLAC).

II.3 **Justification.** The Energy Hub was launched in September 2020 and currently disposes of 24 data visualizations (with more than 20 000 views), 75 datasets, 55 blogs, 370 publications, and a communication strategy to disseminate the gathered knowledge. It was created with funding from RG-T3490 (**ATN/OC-17534-RG)** and RG-T3691 (**ATN/OC-18006-RG)** in 2019. It organizes and synthesizes data and information from verified and recognized international sources. It fills a gap in the energy sector in LAC since there is no other digital platform that combines the relevant energy data in one site. The data is organized in database formats, making it easy to download, visualize and compare. As of May 2022, the HUB had 4,769 users, of which 1,353 were recurrent users, from the United States, Colombia, Argentina, Mexico, and Peru, among others. The HUB's Latin American University Network currently has 33 participating universities from 24 countries in the region.

II.4 Additionally, the HUB platform hosts important regional initiatives such as Renewables in Latin America and the Caribbean (RELAC) and Latin America and the Caribbean Energy Management Systems Observatory (OSGELAC), two initiatives that promote the inclusion and track the evolution of electricity renewables adoption and energy efficiency in LAC. With this new TC, the HUB plans to host three more initiatives: (i) a Green Hydrogen Module, (ii) an Electrorating Module, and (iii) an Energy Regulation Module. The first one consolidates and systematizes the available data and information on green hydrogen in LAC. The Electrorating Database gathers publicly available data on electricity utilities (collected through machine learning and web scraping technics). This database provides the required data and information to analyze improvements to utility infrastructure services, including sustainability and transparency, to name a few. The third initiative, the Energy Regulation Platform, provides a map of the regulatory agencies' governance and the main regulatory tools associated with the energy transition in LAC. These databases will allow benchmark comparison and evaluation of policies and regulations' impact on utilities, decarbonization, services quality, and affordability.

II.5 The continued improvement of the HUB is key to guaranteeing continuity, sustainability, cybersecurity, reputation, and expansion of data generated with IDB and donor funds. This TC aims to maintain, improve, and expand the HUB functionalities.

To guarantee the project's continuity, securing the TC funds and hiring experts to update and improve its services is necessary. Keeping the databases updated and the platform running online is central to avoiding any interruption in the project. Moreover, considering the current information required to develop analysis in the context of the Vision 2025, it is crucial to start the development of the new databases. It should include surveys about the labor market transformation and develop a methodology and a database to follow the energy transition value chain.

II.6 The Energy HUB initiative is fully aligned with IDB's Vision 2025: Reinvest In The Americas: A Decade Of Opportunity (AB-3266), particularly with: (i) the Digitalization pillar, as it improves the visibility of the information on the digitalization of the energy sector and also promotes the use of data collected through digitalization (i.e., Electrorating and Energizados); (ii) Climate Change, as it promotes data availability and comparability, and monitors critical energy transition indicators and how the region moves forward in the climate change agenda (i.e., renewables targets, CO_2 emissions, and projections); (iii) Regional Economic Integration, as it tracks regional energy transition projects, such as RELAC and OSGELAC; (iv) Gender and Inclusion, by increasing the availability of data on the energy sector gender gap as well as on policies and tools to close the gender gap; and (v) Small and Medium Enterprises Support as it creates new databases about value chain and job creation of the energy transition.

II.7 **Strategic Alignment**. This TC is consistent with the Second Update to the Institutional Strategy: Development Solutions that Reignite Growth and Improve Lives (AB-3190-2) and aligns with the challenges of (i) Productivity and Innovation by promoting the generation and use of data and making it readily available, among other things, to help decision-makers on energy issues; and (ii) Economic Integration as this initiative is a forum for data sharing and discussion among LAC countries in the energy sector and it contributes to the development of regional knowledge. It is also aligned with the cross-cutting issues of (i) Gender Equality, Inclusion, and Diversity by promoting and sharing data on women in the energy sector; and (ii) Institutional Capacity and Rule of Law by promoting data transparency and disseminating knowledge of the energy sector in the region, emphasizing traditional challenges in the sector such as access, affordability, integration, security, sustainability, innovation, regulation, and governance. This TC is consistent with the Energy Sector Framework Document (GN-2830-8) since it promotes knowledge for the region; it also promotes sustainability by informing about the potential and new technologies for the energy transition. Finally, the TC is aligned with the objectives of the OC SDP Window 2 - Infrastructure (W2B) since it will focus, among other things, on expanding access to intraregional experiences and advancing the exchange of cooperative know-how among all borrowing member countries.

III. Description of Activities/Components and Budget

III.1 **Component I. Improvement of the Energy Hub Platform and maintenance (US$ 200,000).** This component will support the HUB's management by updating and creating content from diverse sources. The expected results are: (i) to improve the structure of the platform; (ii) to ensure an efficient updating of available data with cybersecurity by incorporating HUB databases into the IDB Infradigital Cloud;[1] (iii) to

[1] The IDB Infradigital Cloud is the new IDB cloud storage infrastructure.

coordinate and facilitate the update of regional partners' information, and (iv) to include three new modules (Green Hydrogen Module, Electrorating Module, and Energy Regulation Module). The Energy Hub Platform includes information, database, and data visualizations on renewable energy, energy access, energy efficiency, gender participation in the energy sector, electricity tariff, cybersecurity, and subsidies, among other sectorial statistics for LAC. The work under this component will use the best data visualization and analysis tools, such as Tableau, Power BI, and others following high-level standards. In addition, the IDB team will prepare and apply user test cases to guarantee the quality, effectiveness, and innovation of the HUB's visualizations. To mitigate data management and protection issues – considering the digital character of the initiative and the management of multiple actors – the TC will work with cybersecurity experts to ensure suitable measures are in place.

III.2 **Component II. New Data Collection and Database Construction (US$ 250,000).** This component will support the improvement of data collection and the creation of two new harmonized HUB databases[2], expanding the Platform's database. Those new databases are (i) Energy Sector Employment Database and (ii) the Energy Transition Supply Chain database. This component will finance the development of databases on the energy sector labor market in at least 4 LAC countries that will complement the original information collected by the IDB in 6 LAC countries (Bolivia, Chile, Costa Rica, Mexico, Panama, Uruguay). Moreover, it will finance the development of a database to measure the internalization of the value chain of critical components of the energy transition in at least four countries. It should include information on industrial production, innovation, patents, and international trade of renewables and clean fuels. The database construction will consider information systematization tools, advanced updating methods, and interactive data visualizations to provide information in an agile and interactive way for the user and improve the end-user experience.

III.3 **Component III. Energy HUB Coordination and Dissemination (US$ 150,000).** This component will finance the coordination and the dissemination of successful knowledge outputs resulting from this TC through relevant resources, including webinars, online media, blogs, and presentations at regional events. The following activities will be financed: (i) the production of media material to share the public databases, reports, and publications available at the Hub, and the platform itself; (ii) events; (iii) an updated communication strategy; (iv) the development of a long-term sustainability strategy for the Energy Hub; and (v) the data management coordination. The communication strategy will include a plan to disseminate the assembled knowledge in the Energy Hub internally at the Bank (in all relevant sectors of the IDB, IDB Lab, and IDB Invest), through blogs, webinars, e-mails, and other tools. Externally, this information will be disseminated to our clients and to the public in general, through traditional media and social media, such as Instagram, Facebook, and Twitter. The long-term sustainability strategy aims to establish agreements with our current collaborators (OLADE, IRENA, ARIAE, SE4All, WRI, and ECLAC) and counterparts, and potentially new collaborators beyond the data provision, to share responsibilities considering the maintenance of the Hub platform and workflow coordination.

[2] The 2 new databases will be built from 7 independently databases.

III.4 **Budget.** The TC's total budget is US$600,000, financed by the OC SDP Window 2 - Infrastructure (W2B). The execution and disbursement periods will be 36 months. The table below shows the detailed budget.

Table 1. Indicative Budget (in US$)

Activity/ Component	Description	IDB/Fund Funding	Counterpart Funding	Total Funding
Component I. Improvement of the Energy Hub Platform and maintenance	(i) Improve the structure of the Platform; (ii) incorporate HUB databases into the IDB Infradigital Cloud; (iii) coordinate and facilitate the update of regional partners' information; and (iv) include three new modules.	US$185,000.00	US$0.00	US$185,000.00
Component II. New data collection and database construction	(i) Energy Sector Employment Database; and (ii) Energy Transition Supply Chain Database.	US$350,000.00	US$0.00	US$350,000.00
Component III. Energy HUB coordination and dissemination	(i) Data management coordination; (ii) production of media material; (iii) updated communication strategy; (iv) development of a long-term sustainability strategy for the Energy Hub; and (v) events.	US$65,000.00	US$0.00	US$65,000.00
Total		**US$600,000.00**	**US$0.00**	**US$600,000.00**

IV. Executing Agency and Execution Structure

IV.1 In accordance with OP-619-4, the execution will be carried out by the Bank, through its Energy Division (INE/ENE). The Bank will hire individual consultants and/or firms in accordance with the Bank's procurement policies and procedures. Since the Bank is currently responsible for managing the Energy HUB, it will facilitate the execution of the TC considering the diversity of stakeholders involved, its region-wide scope, and cutting-edge digital focus. The Bank has extensive experience and capacity to convene different actors in different sub-sectors of the countries involved, which is essential to complete this project successfully. In compliance with GN-2629-1, this TC is classified as Research and Dissemination.

IV.2 The activities to be executed under this operation have been included in the Procurement Plan (Annex IV) and will be executed in accordance with the procurement methods established by the Bank, namely: (i) hiring of individual consultants, as

established in the AM-650 standards; (ii) contracting of consulting firms for services of an intellectual nature according to GN-2765-4 and its associated operational guidelines (OP-1155-4); and (iii) contracting of logistics services and other services other than consulting, in accordance with policy GN-2303-28. The TC shall not finance any administrative expenditure of the Bank. All products derived from this TC will be the Bank's intellectual property.

IV.3 If any consultants (or other service providers) carry out activities in the territory of a beneficiary country during the execution of this TC, it will be necessary to obtain a letter of no objection from the corresponding liaison entity before the beginning of such activities.

IV.4 Finally, to continue with the work once the funding from this TC is executed, a strategic procurement plan has been prepared to make it sustainable and maximize existing TC funds. Additionally, INE/ENE has been working on building agreements with regional partners to develop a long-term sustainability strategy for the Energy Hub. Moreover, this TC aims to invest in automating the update process to minimize maintenance and operation costs.

V. Major Issues

V.1 The main risk of this TC is weak coordination between the different stakeholders that collaborate with the Energy HUB. To mitigate this risk, the team plans to generate a strategic communication plan for the HUB and closer interaction with partners and potential donors to keep the platform updated, promote a sustained interest in the target population, and promote long-term sustainability.

V.2 The main lessons learned from the Energy Hub are: (i) the use of scalable technologies that require low operation costs (such as the use of a modular platform) eases and reduces the cost of expanding and increasing the number of users; (ii) the storytelling is critical to disseminate databases and to generate better value for policymakers; (iii) to better exploit the knowledge products produced by the IDB TCs and Economic and Sector Work Studies (ESWs), it is essential to support the organization of harmonized databases as a deliverable and in the publication process; and (iv) working with regional partners that already produce information is the most effective way to guarantee the sustainability of data updates. Establishing a collaborative process with periodic meetings, yearly update calendars, and agreed information sharing process and tools is necessary.

VI. Exceptions to Bank Policy

VI.1 This project will not require any exception to the Bank's policy.

VII. Environmental and Social Strategy

VII.1 This TC will not finance feasibility studies or investment projects feasibility with associated environmental and social studies; therefore, it is excluded from the scope of the Bank's Environmental and Social Policy Framework.

Required Annexes:

Results Matrix - RG-T4078

Terms of Reference - RG-T4078

Procurement Plan - RG-T4078