

TC Document

I. Basic Information for TC

▪ Country/Region:	REGIONAL
▪ TC Name:	Strengthening Utilities and Regulation for a Sustainable Energy Transition
▪ TC Number:	RG-T4676
▪ Team Leader/Members:	Bonzi Teixeira, Augusto Cesar (INE/ENE) Team Leader; Escobar Rangel, Lina Patricia (INE/ENE) Alternate Team Leader; Mendoza Benavente, Horacio (LEG/SGO); Pyle Trevlon Alexander (INE/ENE); Yamada, Naoko (INE/ENE); Molina Baldeon, Maria Julia (INE/ENE); Valenzuela Camors, Rodrigo Javier (INE/ENE); Echevarria Barbero, Carlos Jose (INE/ENE); Casas, Daniel (INE/ENE); Irigoyen, Jose Luis (INE/ENE); Martins Carvalho, Martha Rosa (INE/ENE); Mejia Reyes, Edwin Orlando (INE/ENE); Urteaga Dufour, Jose Antonio (INE/ENE); Sepulveda Pulido Andres Leonardo (INE/ENE); Malagon Orjuela, Edwin Antonio (INE/ENE); Baldivieso, Hector (INE/ENE); Paredes, Juan Roberto (INE/ENE); Ampuero Puerta Karl Heinz (INE/ENE); Jacome Montenegro, Carlos Alberto (INE/ENE); Hinestroza Olascuaga Laura Marcela (INE/ENE); Guerra Silva, German Gustavo (INE/ENE); Alvarez Gonzalez Oscar Andres (INE/ENE); Alarcon, Arturo (INE/ENE); Echeverria, Carlos Bladimir (INE/ENE); Ballon Lopez, Sergio Enrique (INE/ENE)
▪ Taxonomy:	Client Support
▪ Operation Supported by the TC:	N/A
▪ Date of TC Abstract authorization:	9 Apr 2025
▪ Beneficiaries:	Ministry of Hydrocarbons and Energies (MHE) from Bolivia; National Agency of Electric Energy (ANEEL) from Brazil; Ministry of Energy and Mines (MEM) from the Dominican Republic; Ministry of Energy and Mines (MME) from Ecuador; General Directorate of Energy, Hydrocarbons and Mines (DGEHM) from El Salvador; National Electric Power Company (ENEE) from Honduras; Ministry of Energy and Mines (MINEM) from Peru; and the Ministry of Natural Resources (MNH) from Suriname
▪ Executing Agency and contact name:	Inter-American Development Bank
▪ Donors providing funding:	OC SDP Window 2 - Infrastructure(W2B)
▪ IDB Funding Requested:	US\$1,430,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (which includes Execution period):	4 years
▪ Required start date:	1st September 2025
▪ Types of consultants:	Firms; Individual
▪ Prepared by Unit:	INE/ENE-Energy
▪ Unit of Disbursement Responsibility:	INE/ENE-Energy
▪ TC included in Country Strategy (y/n):	No
▪ TC included in CPD (y/n):	No
▪ Alignment to the IDB Group Institutional Strategy: Transformation for Scale and Impact (CA-631):	Social protection and human capital development; Sustainable, resilient, and inclusive infrastructure; Productive development and innovation through the private sector; Regional integration; Institutional capacity, rule of law, and citizen security; Public sector policy and management; Fiscal policy and management; Transparency and integrity; Private sector development

II. Objectives and Justification of the TC

- 2.1 **Objective.** The objective of this Technical Cooperation (TC) is to support the modernization of the regulatory framework of the energy sector in selected countries as well as the strengthening of electricity utilities, focusing on critical pillars of the energy transition in the Latin America and Caribbean (LAC) region.
- 2.2 **Public electricity utilities are central to the energy transition.** Electricity utilities are involved in shifting from fossil fuel energy systems to cleaner, more sustainable sources, and so they play an important role in integrating renewable energy and energy storage as part of their decarbonization commitments. Moreover, the utilities play a critical role in grid modernization with smart grids and investment in digital infrastructure. However, the countries of LAC face a complex challenge, as Investments in the electricity sector are still approximately 15% lower than levels from the mid-2010s. Furthermore, investment in electricity distribution and transmission infrastructure was reduced by approximately 40% between 2015 and 2021.¹ The IEA (2022) suggests that this drop in investment is related to many utilities' deteriorating financial situation, high electricity losses, and the limited fiscal capacity of governments.² As such, this TC will help prepare technical studies so that utilities can enhance their governance, financial planning and financial sustainability, operational efficiency, and risk management to ensure high quality service delivery to the population. By aligning with global best practices and local contexts, the project will strengthen utilities' ability to drive economic growth and improve quality of life and not require fiscal transfer from the national budget.
- 2.3 **The modernization of the regulatory frameworks can optimize and promote efficiency, transparency, and eventually lead to competition with higher participation of the private sector.** Improvements in regulations can significantly enhance performance of the electricity sector by aligning utility incentives with public policy goals, increasing efficiency, and fostering innovations. In the LAC region, examples include performance-based regulations to improve reliability, customer satisfaction, grid modernization, and integration of renewable energy. For example, a study of a sample of 143 electricity distributors in LAC estimated that the average duration and frequency of interruption were reduced by 40% and 45% respectively, after the quality regulation of the electricity supply.³ Moreover, modernization of the regulatory frameworks can play an important role in equitable access to energy services, especially for vulnerable populations. The TC will emphasize market and tariff design to provide clear price signals for investment and consumption, fostering private sector participation, managing financial and climate risks, and advancing electrification in new frontiers. This approach ensures that regulatory signals support the adoption of new technologies, smart grids, distributed energy resources (DERs), and the sustainable integration of Variable Renewable Energy (VRE).
- 2.4 The critical pillars of the energy transition in the LAC region include energy subsidy reform, new electricity tariff schemes to support VRE penetration, and the strengthening of utilities and regulatory frameworks. This TC will address regulatory challenges to ensure efficient integration of VRE while maintaining system security

¹ Yopez-Garcia, A., & Jimenez Mori, R. A. (2024). The Economics of Electricity Losses in Latin America and The Caribbean. IDB. <http://dx.doi.org/10.18235/0012971>

² World Energy Investment 2022, IEA. <https://www.iea.org/reports/world-energy-investment-2022>

³ Weiss, M., et al., (2021). Impact of Regulation on the Quality of Electric Power Distribution Services in Latin America and the Caribbean. IDB. <http://dx.doi.org/10.18235/0003762>

and reliability. A key focus will be on designing cost-reflective tariff structures that incentivize VRE adoption and ensure financial sustainability of utilities. The TC will also support energy subsidy reforms.

- 2.5 **Importance of long-term planning and fair transition.** Achieving universal, reliable, affordable, and sustainable electricity service in LAC requires addressing structural challenges such as long-term planning, investment in institutional coordination (within country and at regional level), infrastructure investment, and workforce development to ensure a fair energy transition and leave no one behind. This would ensure that for workers and communities proper retraining, reskilling, and job placement for workers are provided. In addition, the energy transition adds complexity, with the integration of VRE, storage, electric mobility, and digital technologies.
- 2.6 **Problem and justification.** Despite these pressing needs, most of the public electricity utilities, policy makers, planning agencies, and regulators in the LAC region do not have the resources or institutional capacity to conduct this upstream work of detailed technical studies, and therefore would benefit from support and coordination of institutions which can bring expertise and regional and international lessons learned. Another aspect to be considered is the importance of building capacity in these institutions so that they become stronger and more independent. Moreover, in the case of policy makers and regulators, they can operate under clear laws and develop regulations that mobilize investments as well as achieve the policy goals such as affordability, sustainability, and transition of energy systems in their countries. It has been demonstrated that improvements in the quality and the instruments used by the regulator can be translated as concrete benefits to the population. Most countries in LAC actively regulate the electricity sector, but the lack of a well-established legal framework and resources has produced institutions with limited powers.⁴ In an environment without disruptive innovation, the regulator could gain credibility and predictability through well-designed and stable regulatory frameworks, for which some of the functions have usually been outsourced to sector experts.⁵
- 2.7 **Beneficiaries.** The operational activities, products, and knowledge generated by this project will benefit decision-makers and government agencies in the region that work on energy and regulatory policy matters. Specifically, this TC will support the Ministry of Hydrocarbons and Energies (MHE) from Bolivia; the National Agency of Electric Energy (ANEEL) from Brazil; the Ministry of Energy and Mines (MEM) from the Dominican Republic; the Ministry of Energy and Mines (MME) from Ecuador; the General Directorate of Energy, Hydrocarbons and Mines (DGEHM) from El Salvador; the National Electric Power Company (ENEE) from Honduras; the Ministry of Energy and Mines (MINEM) from Peru; and the Ministry of Natural Resources (MNH) from Suriname, by providing them with critical analysis and frameworks to modernize their energy sectors. The TC will offer guidance on strengthening public electricity utilities and updating regulatory frameworks to enhance efficiency, transparency, and private sector participation. The findings and tools developed are expected to support the preparation of new financing operations and evidence-based public policies that promote the sustainable integration of new technologies and ensure a reliable energy transition across the region.

⁴ Rodrigues Pardina and Schiro (2018). Taking Stock of Economic Regulation of Power Utilities in the Developing World.

⁵ IDB (2020). From Structures to Services

- 2.8 **Value added by the Bank.** This is an opportunity for the IDB given its experience in the region, extensive technical knowledge, proximity to clients and governments, and credibility and independence, and the unique position it has as a multilateral to share lessons and experiences. In this context, the IDB can contribute to improving the performance of companies, working together with governments and companies, and providing technical and financial resources. The IDB is uniquely positioned to lead this initiative, especially because it has a regional reach and offers public and private solutions. At the same time, the IDB has experience in diagnosing and evaluating public electricity companies, improving corporate governance, tariff and subsidy reforms, using innovative technologies for quality, improving efficiency, and experience in creating business models.
- 2.9 **Alignment with the Institutional Strategy.** The TC is aligned with the IDB Group's Institutional Strategy: Transformation for Greater Scale and Impact (CA-631) with the objectives of: (i) reducing poverty and inequality by ensuring affordable access to electricity for vulnerable households; (ii) addressing climate change by supporting the transition to more efficient and sustainable energy subsidies schemes, promoting energy efficiency and contributing to the reduction of Greenhouse Gas Emissions (GHG); and (iii) promoting sustainable regional growth by strengthening institutional capacities, improving regulatory frameworks and promoting private participation in the energy sector.
- 2.10 The TC is aligned with the operational focus areas: (i) biodiversity, natural capital, and climate action: by promoting energy efficiency and the transition to cleaner energy sources, the TC contributes to reducing emissions, protecting natural resources, and mitigating the impact of climate change on the energy sector; (ii) institutional capacity, rule of law, and citizen security: through the strengthening of regulatory frameworks and institutional support to electric utilities, the TC promotes a more stable and transparent environment that fosters good governance, strengthens the rule of law, and improves citizen security by ensuring the reliable provision of energy services; (iii) social protection and human capital development: by ensuring access to affordable electricity for vulnerable households, the TC contributes to social protection and supports human capital development by providing a basic service that is essential for improving living conditions and enabling access to opportunities; (iv) sustainable, resilient, and inclusive infrastructure: through support for the modernization and expansion of energy infrastructure, the TC promotes the development of sustainable, resilient, and inclusive infrastructure; (v) productive development and innovation through the private sector: by promoting private sector participation in the energy sector and supporting the adoption of new technologies, the TC fosters productive development and innovation that can drive economic growth and improve the competitiveness of the region; and (vi) regional integration: in addressing the challenges and opportunities of the energy transition and promoting the exchange of knowledge, experiences, best practices, and lessons learned among the countries of the region.
- 2.11 Additionally, the TC is aligned with the strategic priorities of IDB Clima, Amazonia Forever Roadmap, and the *América en el Centro Strategy*. The TC aligns with the objectives of IDB Clima by promoting a shift towards a sustainable and resilient energy sector. The TC's focus on strengthening regulatory frameworks and institutional capacities directly supports the program's objective of incorporating climate considerations into sectoral investments and improving the region's ability to access green and thematic debt markets. The TC aligns with the IDB Group's commitment at

COP30 to climate-resilient and nature-positive investments, driving the region's climate and biodiversity policy transformations, and the public-private role in de-risking investments. The TC's focus on promoting the integration of renewable energies, energy efficiency, and grid modernization supports the objectives of the Amazonia Forever Roadmap of addressing energy access and promoting the development of sustainable infrastructure in the Amazon region. It supports the objectives of the *América en el Centro Strategy* of improving energy connectivity, productivity, and economic integration. The TC contributes to the sustainability, connectivity, and resilient economic development objectives promoted by One Caribbean by improving the energy sector's renewable energy integration and fostering private sector participation. By strengthening regulatory frameworks and institutional capacities, the TC contributes to the objectives of the Amazonia Forever Roadmap, One Caribbean, and the *América en el Centro Strategy* of improving energy governance and creating an enabling environment for sustainable energy investments.

- 2.12 The TC is consistent with the Energy Sector Framework (GN-2830-8) by supporting: (i) strengthening energy policy formulation capacities; and (ii) the targeting of energy subsidies to vulnerable populations; with the Climate Change Sector Framework (GN-2835-13) by supporting the reduction of GHG emissions; and with the Sustainable Infrastructure Strategy for Competitiveness and Inclusive Growth (GN-2710-5), with the strategic principle of planning and maintaining infrastructure to provide quality services that promote sustainable and inclusive growth. The TC aligns with the Ordinary Capital Strategic Development Program (OC SDP), Window 2 Infrastructure (W2B) (GN-2819-14) by promoting energy infrastructure that is more efficient and capable of integrating clean and innovative technologies, and by contributing to more effective, efficient, transparent, and citizen-centered public policies and institutions.
- 2.13 The TC aligns with the IDB Group's country strategies⁶ of the beneficiary countries: (i) Bolivia (GN-3088), supporting the objective of economic reconstruction and boosting productivity by promoting a resilient and diversified energy sector; (ii) Brazil (GN 3243-3), supporting the objective of enabling the green transition and strengthening climate resilience through promoting sustainable energy and modernizing institutions; (iii) Dominican Republic (GN-3084-2), supporting the objective of growth led by the private sector by promoting the sustainability and efficiency of the electricity sector; (iv) Ecuador (GN-3103-1), supporting the objective of development of the productive sector by promoting resilient energy infrastructure and the modernization of energy sector public institutions; (v) El Salvador (GN-3046-3), supporting the objective of revitalizing and restructuring production by promoting resilient, low-emissions infrastructure, and energy sector sustainability; (vi) Honduras (GN-2944-3), supporting the objective of expanding sustainable production opportunities by promoting energy access and climate resilience; (vii) Peru (GN-3110-2), supporting the objective of productive development by promoting digitalization, environmental sustainability and energy sector institutional strengthening; and (viii) Suriname (GN-3065), supporting the objective of restoring macroeconomic stability by promoting the strengthening of energy infrastructure and regulation.

III. Description of activities/components and budgets:

⁶ [IDB | Country Strategies](#)

- 3.1 The budget and outputs of this TC will be organized in the following components.
- 3.2 **Component I – Strengthening public utilities (US\$620,000). This component will fund technical studies to assist utilities in improving their performance, efficiency, corporate governance, transparency, accountability, and effective decision-making.** The areas of these studies include asset management to optimize infrastructure performance and reduce costs, improve operational efficiency to enhance grid reliability and customer satisfaction, financial planning to ensure long-term sustainability, guidance on regulatory compliance and navigating changes in evolving energy policies, technology integration, including smart grids, energy storage, and electric vehicle infrastructure, stakeholder engagement strategies to foster collaboration, performance monitoring systems to drive continuous improvement, and finally, investment projects to modernize the sector, that could be developed in collaboration with the private sector.
- 3.3 **Component II – Modernization of the regulatory framework (US\$610,000). This component will also fund technical studies aimed at proposing flexible tariff schemes adapted to the local context, ensuring that they reflect the efficient costs of service provision while also protecting users from volatility or unexpected shocks.** It will support the adequate design to remove and reduce electricity subsidies while protecting the most vulnerable with mechanisms that promote energy efficiency and ensure financial sustainability. The component will fund studies to support the creation of Provider of Last Resort services, ensuring service continuity in emergencies, bankruptcies, or other contingencies. Furthermore, studies will be conducted to update the regulatory framework encouraging the adoption of new digital technologies, renewable generation, small scale distributed generation, and electric mobility. Lastly, it will fund studies to understand the unbundling of the electricity systems and potential private sector participation.
- 3.4 **Component III – Knowledge products (US\$200,000). This component will fund the development of comparative studies across countries in the region, analyzing progress, barriers, and best practices in the adoption of new frameworks within the electricity sector.** The knowledge products will focus on new approaches to enhance utility performance, and operational efficiency aligning with international standards and global best practices. By identifying key lessons and actionable insights, these knowledge products will support the region's efforts to modernize infrastructure, improve service delivery, and facilitate the integration of emerging technologies. Technical notes will be developed to publish and share the insights, lessons learned, and best practices gained from the TC activities across participating countries.
- 3.5 The main outcomes expected for this TC can be organized in the following parts: firstly, the TC will support public utilities operating efficiently and provide a high quality of service to their customers, with minimal disruption. Moreover, public utilities should not be a fiscal burden to the State, and be financially sustainable, having tariffs that reflect the costs and protect vulnerable populations, and the TC aims to contribute to this objective. Secondly, on the regulatory side, the main outcome is to support a regulatory framework in the LAC region that is modern, attracts the private sector, contemplates the incorporation of new technologies and has the proper incentives for firms to make new investments. Thirdly and lastly, the knowledge products will support the provision of valuable insights in the discussions with the authorities that the Bank currently conducts, facilitating the current activities and a greater scale and impact of the new operations.

- 3.6 Activities in the components will be documented to facilitate the recording of lessons learned and to promote the socialization of the project’s results. To achieve this, the consultants, individuals and firms will be given guidelines to properly document their results. To support the sustainability of the results once the TC concludes, the appropriation of the products by the beneficiaries will be promoted through their active participation in the design and validation of studies. Additionally, the exchange of experiences will be encouraged to maintain continuous learning and the updating of regulatory and operational frameworks. The outputs of this TC can be used as technical inputs for potential future IDB Group operations within the energy sector, thereby streamlining their design, implementation, and long-term sustainability. Specifically, synergies will be pursued with both current and potential prospective investment loans and sectoral reform programs in the beneficiary countries, particularly those focused on energy efficiency, renewable energy integration, and institutional capacity building.
- 3.7 **Indicative budget.** The total cost of the TC will be US\$1,430,000, which will be financed with resources from the Ordinary Capital Strategic Development Program (OC SDP), Window 2, Priority Area 2: Sustainable and Resilient Infrastructure (W2B) (GN-2819-14). No local counterpart contribution is contemplated. It is expected that all eight beneficiaries will take part in all three components. The budget details are provided below.

Indicative Budget

Activity/ Component	Description	IDB (W2B)	Total Funding
Component I: Strengthening public utilities.	Sub-component will fund three (3) technical studies covering asset management, operational efficiency, financial planning, regulatory compliance, technology integration, strategic planning, stakeholder engagement, and performance monitoring.	US\$310,000	US\$310,000
	Sub-component will fund three (3) technical studies to help identify and prioritize investment projects to modernize the sector that can be developed in collaboration with the private sector.	US\$310,000	US\$310,000
Component II: Modernization of the regulatory framework.	Sub-component will fund three (3) diagnostic and assessment to propose flexible tariff schemes adapted to the local context, adequate electricity subsidy design, and support the creation of last-resort service providers.	US\$305,000	US\$305,000
	Sub-component will fund two (2) diagnostic and assessment to update the regulatory framework encouraging the adoption of new digital technologies, renewable generation, electric mobility, understand the unbundling of the electricity systems and potential greater participation of the private sector.	US\$305,000	US\$305,000
Component III: Knowledge products.	Comparative study across countries in the region, analyzing progress, barriers, and best practices in the adoption of new frameworks within the electricity sector.	US\$200,000	US\$200,000
Total		US\$1,430,000	US\$1,430,000

IV. Executing agency and execution structure

- 4.1 In compliance with the Operational Guidelines for Technical Cooperation Products Revised version (GN-2629-1), this TC is classified as Client Support at the request of the participating countries, this TC will be executed by the IDB through the Energy Division (INE/ENE), in accordance with the guidelines and requirements set out in the Technical Cooperation Policy (GN-2470-2) and the Procedures for Processing Technical Cooperation Operations and Related Matters (OP-619-4). The Bank execution is justified due to: (i) its technical capacity and experience in systematization, exchange of experiences, and facilitation of regional policy dialogue on issues related to the energy sector; (ii) its strong track record of supporting sustainable infrastructure studies and projects; (iii) its expertise in organizing events and knowledge dissemination activities; (iv) the regional nature of the project, whose execution requires a specialized technical entity capable of coordinating tasks at the regional level, facilitating dialogue among beneficiary countries, and following up and reporting on the results and products achieved within the framework of the project; and (v) its relationship and experience with relevant regional networks for the dissemination of this TC.
- 4.2 The knowledge products generated within the framework of this TC will be the property of the Bank and may be made available to the public under a creative commons license. However, upon the request of the beneficiaries, the intellectual property of said products may also be licensed and/or transferred to the beneficiaries through specific contractual commitments that will be prepared with the advice of the Bank's Legal area.
- 4.3 The TC will be implemented in coordination with the beneficiary countries and agencies. INE/ENE will act as a Basic Responsibility Unit (UDR) and will be responsible for the procurement processes, which will allow the contracts developed under the TC to be timely and planned at the time of execution. The beneficiary may provide technical inputs to the terms of reference and reports of the consultants, but the Bank will have the autonomy to approve such documents and act as Executing Agency (EA) of the TC. This dynamic will facilitate better articulation between the various actors within the framework of the technical dialogue of this TC.
- 4.4 **Procurement.** All procurement to be executed under this TC have been included in the Procurement Plan (Annex IV) and will be hired in compliance with the applicable Bank policies and regulations as follows: (a) Hiring of individual consultants, as established in the regulation on Complementary Workforce (AM-650) and (b) Contracting of services provided by consulting firms in accordance with the Corporate Procurement Policy (GN-2303-33) and its Guidelines.
- 4.5 **Monitoring.** This TC will be executed in a period of 48 months. The unit responsible for disbursement will be the Energy Division (INE/ENE). The project team at INE/ENE will be responsible for monitoring and facilitating the activities required to achieve the expected results. The TC will be monitored and evaluated in accordance with Bank requirements and through the Results Matrix. Annual and final reports will be prepared in Convergence, as established in OP-1385-4.

- 4.6 The proposal includes the letters of non-objection from the entities that will be part of the project (Annex I). The letters from the countries part of the TC not included as part of the Annex I are currently being processed. Prior to the initiation of activities in each of the beneficiary countries, the Bank will seek the corresponding non-objection letter from the liaison country offices.

V. Major issues

- 5.1 No major risks are anticipated for this TC. The moderate risks identified in this TC include: (i) delays in project execution if INE/ENE is unable to identify and/or hire researchers and consultants at the planned level or with expertise in the target areas. To minimize that risk, the IDB will advertise the positions broadly and engage with stakeholders in the countries to expand the possibilities of experts available; and (ii) a low degree of time available by countries to participate in the technical studies due to workload, leading to the concern that the studies, tools, models, and solutions produced under this TC may not be fully integrated with them. To minimize this risk, the project team will maintain high level engagement with participating entities and ensure technical collaboration reflects the countries' specific needs and regional context and promote workshops to communicate findings.

VI. Exceptions to Bank policy

- 6.1 No exceptions to the Bank's policies are anticipated.

VII. Environmental and Social Aspects

- 7.1 This Technical Cooperation is not intended to finance pre-feasibility or feasibility studies of specific investment projects or environmental and social studies associated with them; therefore, this TC does not have applicable requirements of the Bank's Environmental and Social Policy Framework (ESPF).

Required Annexes:

[Request from the Client_79690.pdf](#)

[Results Matrix_7447.pdf](#)

[Terms of Reference_23199.pdf](#)

[Procurement Plan_92602.pdf](#)