

TC ABSTRACT

I. Basic Project Data

▪ Country/Region:	ARGENTINA/CSC - Southern Cone
▪ TC Name:	Enhancing the contribution of the energy sector to the green and resilient economic recovery
▪ TC Number:	AR-T1267
▪ Team Leader/Members:	MALAGON ORJUELA, EDWIN ANTONIO (INE/ENE) Team Leader; SNYDER, VIRGINIA MARIA (INE/ENE) Alternate Team Leader; ALMEIDA, JULIANA SALLES Alternate Team Leader; MEJIA REYES, EDWIN ORLANDO (INE/ENE); SUBER, STEPHANIE ANNE (INE/ENE); CASALINO FRANCISKOVIC, JUAN MANUEL (LEG/SGO)
▪ Taxonomy:	Client Support
▪ Number and name of operation supported by the TC:	N/A
▪ Date of TC Abstract:	18 February 2022
▪ Beneficiary:	Republic of Argentina through the Secretariat of Energy
▪ Executing Agency:	INTER-AMERICAN DEVELOPMENT BANK
▪ IDB funding requested:	US\$175,000.00
▪ Local counterpart funding:	US\$0.00
▪ Disbursement period:	24 months
▪ Types of consultants:	Individuals; Firms
▪ Prepared by Unit:	INE/ENE - Energy
▪ Unit of Disbursement Responsibility:	CSC/CAR - Country Office Argentina
▪ TC included in Country Strategy (y/n):	Yes
▪ TC included in CPD (y/n):	Yes
▪ Alignment to the Second Update to the Institutional Strategy 2020-2023:	Productivity and innovation; Climate change and environmental sustainability

II. Objective and Justification

- 2.1 The general objective of this Technical Cooperation (TC) is to provide technical support to Argentina's planning, operation, and investments in the power sector and to support short-term economic recovery and enable energy resilience.
- 2.2 The economic recovery post-COVID-19 will need a robust and resilient power system to supply the electricity needed for the productive sectors. Even though electricity demand has stagnated in the last few years due to the country's general economic crisis, currently, the power system presents serious limitations to deliver a proper service, in terms of power transmission capacity, reliability and resiliency.
- 2.3 Power sector resilience can be defined as the ability of the power system and its stakeholders to anticipate, prepare, and adapt to rapid changing conditions, as well as to withstand, respond to, and recover rapidly from disruptions. It entails holistic planning, robust policy development, and the deployment of technical and institutional solutions at multiple levels with the support of many stakeholders (such as planners, operators, regulators, load-serving entities, and generators, among others). A more resilient and reliable power systems is critical for the economic recovery.
- 2.4 A reliable power system is one that performs its functions within acceptable standards. New technologies such Distributed Energy Resources (DERs) —which includes renewable energy (for instance solar and wind energy) and energy storage technologies, can contribute to increase the reliability of the grids through cost

competitive investments. DERs can provide back-up power during outages, serve critical customers and services, and speed up restoration efforts. Also, energy storage can provide ancillary services, such as primary and secondary frequency control, permanently or during sudden shortages, keeping the balance between supply and demand. These solutions complement those based on power network strengthening, such as upgrading power lines and power stations, required to provide enough permanent reliability and efficiency. Furthermore, DERs can contribute with the redundancy to the system and to defer investments in costly transmissions and distribution lines, as well by replacing diesel generators that are working as cold or spinning reserve, and therefore, support the decarbonization of the system.

- 2.5 Although DERs have been tested and used –and their benefits harnessed– in more developed energy markets, in Argentina they have not yet taken off. DERs are essential for the energy transition, and thus achieve the global goal of the Paris Agreement to reach net zero emissions by 2050.
- 2.6 This TC will support a technical and economic analysis to build and strengthen power system resilience and reliability, both at customer level (critical services) and at grid level, considering: (i) risks assessment to facilitate decision making and investments; (ii) the review of regulatory aspects; and (iii) complementary operative procedures. The analysis will focus on innovative solutions based on DERs, such as energy storage systems, distributed renewable generation, and demand-management. Some of the expected benefits include the reduction of: (i) technical losses; (ii) energy not served (ENS); and (iii) greenhouse gases (GHG) emissions. The following activities will be carried out related to the analysis of the most appropriate technical solutions to strengthen the performance of the Argentine power system, in terms of reliability, quality, efficiency and resilience.

III. Description of Activities and Outputs

- 3.1 **Component I: Analysis of impacts, vulnerabilities, and the value of power system resilience.** This component will: (i) analyze climate disaster risks, as well as the vulnerability and adaptation need of the Argentinean power system; (ii) analyze and typify the critical demands and loads (geographic areas, hospitals, communication facilities, among others); (iii) define methodologies for climate events risk modelling and other causes of power shortages; and (iv) estimate the value of resilience for certain critical charges and demands under different power shortage scenarios.
- 3.2 **Component II: Applicability of DERs technological solutions.** This component will study the applicability of DERs to grid projects and the cost of their integration for a more resilient power system, through the development of prefeasibility studies for the utilization of different technologies, such as electrochemical, chemical, and mechanical storage, and their combination with renewable distributed generation for specific projects or applications.
- 3.3 **Component III: Institutional arrangements and legal framework.** This component will analyze the current institutional arrangements of the power sector and make recommendations to incorporate resilience as a key institutional factor. The current legal framework, barriers, gaps will be assessed to build a resilient power system. Based on this analysis, proposals to update the current legislation and regulation to enable the use of storage, as well as the participation of different stakeholders in the sector. The proposed changes must also contribute to close the gender gap in the energy sector. Additionally, business models that consider different ownership alternatives for the new technologies (public, private, community-scale, a combination of stakeholders, peer-to-peer) will be evaluated.
- 3.3 **Component IV: Dissemination workshops and knowledge sharing.** This component will finance the dissemination of successful knowledge outputs resulting

from this project through relevant resources, including webinars and technical notes (the participation of women will be highly encouraged in all the activities). Additionally, the project will promote the creation and establishment of the Argentinean Resilient Energy Platform which would provide expert resources, training, tools to enhance the resilience of the power sector.

IV. Budget

Indicative Budget

Activity/Component	IDB/Fund Funding	Counterpart Funding	Total Funding
Analysis of impacts, vulnerabilities, and the value of power system resilience	US\$60,000.00	US\$0.00	US\$60,000.00
Applicability of DERs technological solutions	US\$65,000.00	US\$0.00	US\$65,000.00
Institutional arrangements and legal framework	US\$40,000.00	US\$0.00	US\$40,000.00
Dissemination workshops and knowledge sharing	US\$10,000	US\$0	US\$10,000
Total	US\$175,000.00	US\$0.00	US\$175,000.00

V. Executing Agency and Execution Structure

- 5.1 Upon the request of the beneficiary and in accordance with the guidelines established in the Operational Guidelines for Technical Cooperation Products (GN-2629-2), the IDB will act as the Executing Agency. The Secretariat of Energy will be in charge of coordinating with the firms and consultants hired, as well as the interaction with other agencies and stakeholders involved.
- 5.2 The Bank's condition as Executing Agency has been established as a special circumstance considering that the beneficiary has a relatively limited operational capacity to adequately execute the activities of this TC in a timely manner. As the Executing Agency, the Bank will allow the procurement processes to be accelerated and more efficient. The Bank will be responsible for the selection and hiring of consulting firms and individual consultants. The activities to be executed under this operation will be included in the Procurement Plan and will be carried out in accordance with the Bank's established procurement methods, namely: (i) Hiring of individual consultants, as established in the regulations AM-650; (ii) Policy for the Selection and Contracting of Consulting Firms for Bank-executed Operational Work according to GN-2765-4 and its associated operational guides (OP-1155-4); and (iii) Contracting of logistics services and other services other than consulting, according to the policy GN-2303-20. The Bank will supervise and manage the consulting services and the beneficiary will provide technical inputs to the consultants' reports.

VI. Project Risks and Issues

- 6.1 The main risk of this TC is the lack of coordination among key national stakeholders. The Bank will convene technical roundtables with key stakeholders under each of the components, under the leadership of the Secretariat of Energy.

VII. Environmental and Social Classification

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