

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PARAGUAY

CONDITIONAL CREDIT LINE FOR INVESTMENT PROJECTS: SUSTAINABLE ENERGY INVESTMENT PROGRAM IN PARAGUAY

(PR-O0004)

EXPANSION OF THE HIGH-VOLTAGE TRANSMISSION SYSTEM AND ENERGY EFFICIENCY ACTIONS

(PR-L1173)

LOAN PROPOSAL

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<p>REQUIRED</p> <ol style="list-style-type: none"> 1. Multiyear execution plan / annual work plan 2. Monitoring and evaluation plan 3. Environmental and social management report 4. Procurement plan <p>OPTIONAL</p> <ol style="list-style-type: none"> 1. Project economic analysis 2. Public Utilities Policy 3. Diagnostic assessment: Yquazú–Valenzuela high-voltage line 4. Diagnostic assessment: Energy efficiency in ANDE government buildings 5. Diagnostic assessment: public lighting 6. Climate change document 7. Project Operating Regulations 8. ANDE financial sustainability analysis 9. Environmental and social impact assessment and environmental and social management plan (part 1, part 2, and part 3) 10. Compensation and resettlement plan 11. CCLIP environmental and social strategic analysis 12. CCLIP environmental and social management framework 13. Consultation report 14. Safeguard Policy Filter and Safeguard Screening Form

ABBREVIATIONS

ANDE	Administración Nacional de Electricidad [National Electricity Administration]
CCLIP	Conditional credit line for investment projects
CORE	Cofinancing for renewable energy and energy efficiency
DGEEC	General Office of Statistics, Surveys, and Censuses
EIRR	Economic internal rate of return
ESMR	Environmental and Social Management Report
FONPLATA	Fondo Financiero para el Desarrollo de la Cuenca del Plata [River Plate Basin Development Fund]
GWh	Gigawatt-hour
JICA	Japan International Cooperation Agency
km	Kilometer
kV	Kilovolt
kWh	Kilowatt-hour
MW	Megawatt
NPV	Net present value
PCU	Project coordination unit
VMME	Office of the Deputy Minister of Energy and Mines

PROJECT SUMMARY

PARAGUAY CONDITIONAL CREDIT LINE FOR INVESTMENT PROJECTS: SUSTAINABLE ENERGY INVESTMENT PROGRAM IN PARAGUAY (PR-O0004) EXPANSION OF THE HIGH-VOLTAGE TRANSMISSION SYSTEM AND ENERGY EFFICIENCY ACTIONS (PR-L1173)

Financial Terms and Conditions					
Guarantor:				Flexible Financing Facility ^(a)	
Republic of Paraguay				Amortization period:	24 years
Borrower:				Disbursement period:	6 years
National Electricity Administration (ANDE)				Grace period:	6.5 years ^(b)
Executing agency:				Interest rate:	LIBOR-based
ANDE				Credit fee:	(c)
Source	CCLIP (US\$)	First operation (US\$)	%	Inspection and supervision fee:	(c)
IDB (Ordinary Capital):	400,000,000	70,000,000	45	Weighted average life:	15.25 years
Counterpart (JICA-CORE cofinancing): ^{(d)(e)}		85,000,000	55	Approval currency:	U.S. dollar
Total:	400,000,000	155,000,000	100		
Project at a Glance					
Objective of the CCLIP: To contribute to economic development in Paraguay through a sustainable, reliable, and efficient supply of electricity.					
Objective of the first operation under the CCLIP: The specific objectives of the first operation are (i) to help make the high-voltage transmission system more reliable and efficient, and (ii) to make ANDE’s commercial buildings and public lighting more energy-efficient.					
Special contractual conditions precedent to the first disbursement for the first operation: (i) approval and entry into force of the project Operating Regulations (paragraph 3.5) under the terms and conditions previously agreed upon with the Bank; (ii) selection or designation, as appropriate, of key complementary project personnel (described in paragraph 3.3); and (iii) entry into force of the loan contract between the Japan International Cooperation Agency (JICA) and the borrower in relation to JICA’s provision of financing for the project (paragraph 3.7). See also the special contractual conditions in Annex B of the Environmental and Social Management Report (ESMR) .					
Special contractual conditions for execution of the first operation: (i) Before beginning the first bidding process for works under Component I, ANDE will submit to the Bank evidence of the selection and contracting of the company or companies that will build the Yguazú substation, including the 500-kV transmission line along the right side of the Itaipú-Yguazú line and complementary works and the Valenzuela substation and its complementary works (the “substations and associated works”); (ii) before commencing the works under Component I, ANDE will submit a progress report on the substations and associated works to the Bank showing that construction of these substations and associated works has begun; and (iii) during construction and execution of works under Component I, and until provisional receipt of the works for construction of the substations and associated works, ANDE will submit to the Bank semiannual progress reports in the form and with the content specified by the Bank on the works that will include the information indicated in paragraphs 3.6 and 3.8. See the special contractual conditions on execution set forth in Annex B of the ESMR .					
Exceptions to Bank policies: A partial exception to the Bank’s policy on guarantees required from the borrower (document GP-104-2) is being requested so that the sovereign guarantee of the Republic of Paraguay will apply only to the borrower’s financial obligations (including payment of principal, interest, and fees), not to the borrower’s obligations to perform (paragraph 3.4).					

Strategic Alignment			
Challenges: ^(f)	SI <input type="checkbox"/>	PI <input checked="" type="checkbox"/>	EI <input type="checkbox"/>
Crosscutting themes: ^(g)	GD <input checked="" type="checkbox"/>	CC <input checked="" type="checkbox"/>	IC <input type="checkbox"/>

- ^(a) Under the terms of the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes to the amortization schedule, as well as currency, interest rate, and commodity conversions. The Bank will take operational and risk management considerations into account when reviewing such requests.
- ^(b) Under the flexible repayment options of the Flexible Financing Facility, changes to the grace period are permitted provided that they do not entail any extension of the original weighted average life of the loan or the last payment date as documented in the loan contract.
- ^(c) The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with applicable policies.
- ^(d) In accordance with the framework agreement between the Japan International Cooperation Agency (JICA) and the Bank for the Cofinancing for Renewable Energy and Energy Efficiency program, dated 16 March 2012 and as amended, the Bank received JICA's letter of conditional acceptance for a cofinancing operation on 6 February 2020. This cofinancing is slated to be approved by JICA's board of directors in the third quarter of 2020. JICA's resources are needed to fulfill the objectives of the first operation.
- ^(e) The cofinancing counterpart will be provided within the framework of each individual operation under the conditional credit line for investment projects.
- ^(f) SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).
- ^(g) GD (Gender Equality and Diversity); CC (Climate Change and Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

I. DESCRIPTION AND RESULTS MONITORING

A. Background, problem addressed, and rationale

- 1.1 Paraguay's electricity generation capacity is 8,782 megawatts (MW), of which 7,000 MW are from Itaipú (binational hydropower plant shared with Brazil); 1,550 MW from Yacyretá (binational hydropower plant shared with Argentina),¹ and 232 MW, from the Acaray Hydroelectric Power Plant owned by the National Electricity Administration (ANDE), and a maximum demand of 3,553 MW (2019).² Practically 100% of the electricity consumed in Paraguay is renewable (hydropower). Gross generation totaled 59,223 gigawatt-hours (GWh), of which 98% came from the binational plants (Itaipú and Yacyretá) and 2% from Acaray (2018).^{3,4} More than 70% of the generated electricity was exported (22% to Argentina, 78% to Brazil).⁵
- 1.2 Demand for electricity has grown steadily, averaging 8.16% annual growth (1985-2018) and reaching 16,557 GWh in 2018.^{6,7,8} ANDE projects that the demand for electricity will reach current available capacity in 2030.⁹ The electrification rate is 99.5%.¹⁰ In rural areas, however, 0.9% of the population still lack access to electricity.¹¹
- 1.3 **Transmission infrastructure.** As of 2018, there were 711 kilometers (km) of 500-kilovolt (kV) transmission lines, 4,783 km of 222-kV transmission lines, and 1,407 km of 66-kV transmission lines. Part of the transmission infrastructure is operating near its technical design limits (paragraph 1.6). About 56% of demand is concentrated in the central and metropolitan areas, which are served by transmission lines from Itaipú¹² and Yacyretá. The only supply of 500-kV electrical power to the metropolitan system is through the Villa Hayes substation, which combines all transformation capacity from 500 to 220 kV; much of the power supply's reliability depends on this substation.
- 1.4 **Energy efficiency** is of current interest considering the rising demand. Improving energy efficiency is a specific objective set forth in Energy Policy 2040 (Decree 6092/2016). The Paraguayan government formed the National Energy Efficiency

¹ Paraguay has 50% of the binational power plants. Itaipú has a total of 14,000 MW; Yacyretá, 3,100 MW.

² ANDE.

³ [National Energy Balance Sheet 2018, Office of the Deputy Minister of Energy and Mines.](#)

⁴ ANDE has some isolated diesel-powered systems, like Bahía Negra (0.2 MW).

⁵ In Argentina, 64% of the supply is thermal ([Cammesa](#)); in Brazil, 14.2% is fossil ([National Energy Balance Sheet 2019](#)).

⁶ ANDE presentation, 2019.

⁷ Demand is concentrated in residential customers (44.2%) and commercial, general, and municipal customers (37.1%). The remainder is distributed among industrial consumers, public lighting, and other sectors. ANDE 2018 annual report.

⁸ ANDE.

⁹ The 2019-2030 market study, using a high-GDP scenario and a power factor of 0.92, projects maximum power demand at 7,869 MW in 2030.

¹⁰ General Office of Statistics, Surveys, and Censuses (DGEEC), 2018.

¹¹ [DGEEC](#), 2018.

¹² This operation will not provide support or be involved in the negotiation of Annex C of Itaipú treaty between Paraguay and Brazil.

Committee (Decree 6377/2011), which consists of entities involved in energy supply and usage, including the Ministry of Public Works and Communications—acting through the Office of the Deputy Minister of Energy and Mines (VMME)—and ANDE, to develop and coordinate a National Energy Efficiency Plan. ANDE identified and initiated demonstration measures in public lighting and diagnostic assessments for energy efficiency in commercial buildings, and it hopes to expand on these actions with this operation.

- 1.5 **Structure of the sector.** ANDE is a decentralized, autonomous entity in the public administration system with legal status and its own assets. Governed by Law 966 of 1964, its founding charter, ANDE is responsible for electricity generation, transmission, distribution, and marketing in Paraguay. ANDE purchases energy from Itaipú and Yacyretá, both binational independent entities.¹³ ANDE also performs the functions of investment planning and programming, while providing public lighting throughout the country. The VMME proposes policies, regulations, and applications for the energy sector. The rate policy for public utilities is set by the National Economic Team, consisting of the ministers of finance, public works and communications, agriculture, and industry and commerce, as well as the president of the Central Bank of Paraguay.¹⁴ Since 2008, energy policy has been discussed at an Energy Roundtable presided over by the president of Paraguay and led by the VMME, with other ministries participating.¹⁵
- 1.6 **Problem addressed.** Transmission capacity is insufficient to generate electricity for the leading consumption hubs over the short and medium terms (paragraph 1.2). The system lacks operational flexibility to ensure the quality of the supply. At peak-demand times, the 500-kV transmission lines and the sole 500/220-kilovolt transformer substation serving the metropolitan system (paragraph 1.1) operate near design capacity. As a result, transformers are likely to be overloaded in the near future, increasing technical losses and risks of unscheduled interruptions, impacting a large number of users.¹⁶ Although Paraguay generates enough electricity to satisfy demand over the short and medium terms, a need for greater generation is projected within 10 years. A persistent challenge is how to achieve universal access to electricity for all population groups in Paraguay.¹⁷
- 1.7 In terms of energy efficiency, electricity losses are at 24.5% (5.36% in transmission and 19.14% in distribution in 2018), which exceeds the average rate in Latin America and the Caribbean (17%).^{18,19} These losses are currently calculated

¹³ Private participation is very limited given the sector's structure. For distribution, there are two smaller areas covered by Compañía de Luz y Fuerza, S.A. (Villarrica) and Cooperativa Eléctrica Menonita (Chaco Central).

¹⁴ ANDE conducts rate studies and proposes adjustments. The government ultimately makes the decision. According to Law 966, rates must cover costs and generate revenue equivalent to 8% of assets.

¹⁵ Creating a Ministry of Energy is currently being discussed.

¹⁶ Unsupplied energy is projected to increase to 51.9 GWh in 2030.

¹⁷ This challenge is expected to be addressed in future operations under the CCLIP.

¹⁸ Latin American Energy Organization. Statistics Report 2016.

¹⁹ The Bank supported actions to reduce electricity losses, which stood at 32.6% when Phase I of the Multiphase Power Transmission Program (loan 1835/OC-PR) began in 2007. Phase II of the program (loan 2891/OC-PR) then reduced losses to their current level.

indirectly due to a lack of direct-metering instruments, thus hindering the ability to carry out corrective measures.²⁰ As for demand, most of the national public lighting system (about 400,000 lamps) uses sodium vapor and other outdated, low-efficiency technologies. An estimated 50% energy savings could be achieved by replacing these old lamps with LED bulbs, and their useful life could be extended from 3 to 10 years.²¹ There is no centralized control system for public lighting, and information is often unavailable on its status (possibly defective, providing insufficient lighting). This hinders the operation and maintenance of the public lighting system; about 10% of public-lighting fixtures are in poor condition and/or out of service. ANDE's commercial/administrative buildings have inefficient or obsolete lighting, as well as inefficient climate control systems with no devices to manage them or ensure optimal operation. The potential for increased energy efficiency in ANDE's commercial/administrative buildings is estimated to be approximately 30%.²²

- 1.8 **ANDE expansion plan.** ANDE is revising its Master Plan for Generation, Transmission, Distribution, and Telematics over the short and medium terms for 2016-2025.^{23,24} The updated Master Plan (2020-2029) will include some US\$900 million in works for transmission, including the Itaipú–Villa Hayes and Ayolas–Valenzuela 500-kV transmission lines and the 500-kV Emboscada substation. Figure 1 illustrates the plan for the National Interconnected System through 2025. The plan will include works in generation, including machinery for automation of the existing Yguazú dam, the expansion of the Acaray hydropower plant, construction of new power plants and small hydropower plants, solar generation plants, and hybrid systems in remote areas. ANDE is promoting a more efficient use of existing infrastructure through a comprehensive energy-efficiency program that incorporates measures²⁵ on both the supply (loss reduction) side and the demand side (public lighting and ANDE buildings). Ensuring quality electricity service is one of ANDE's strategic objectives and is aligned with the “appropriate and sustainable living environment” focus area of the national government's 2030 plan.

²⁰ ANDE has a distribution loss reduction program supported by the Andean Development Corporation.

²¹ Calculated in view of the benefits, quantities, and characteristics associated with current lighting compared to LED lighting (see [optional link 5](#)).

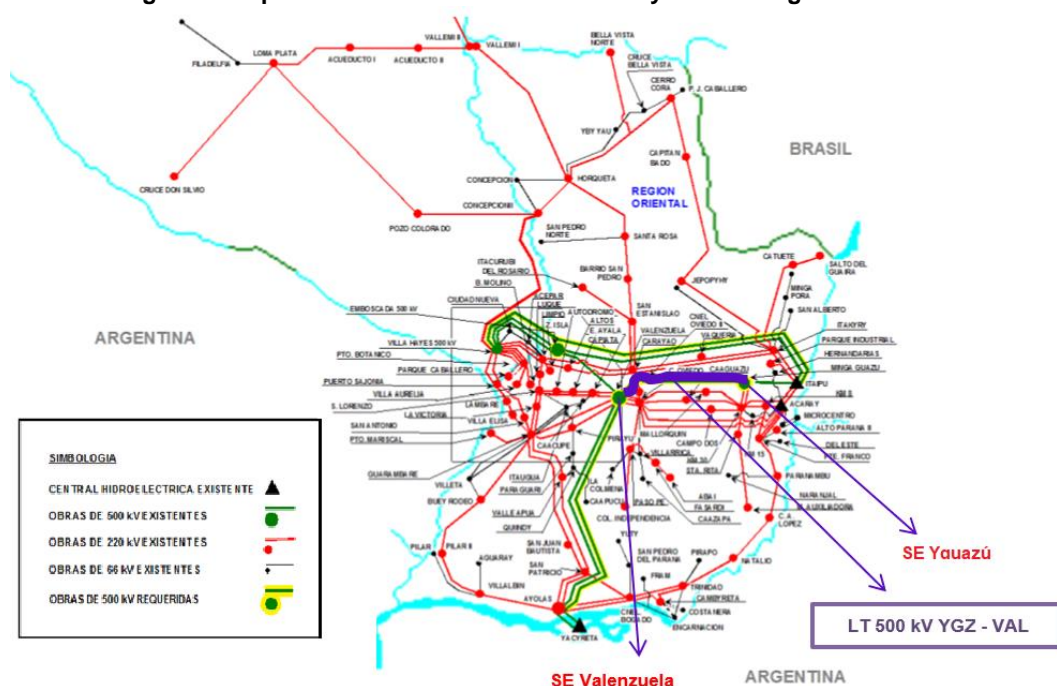
²² Calculated in view of the characteristics of the buildings, as well as the type, quantity, and usage of current equipment, compared to conditions after implementing energy efficiency enhancements (see [optional link 4](#)).

²³ Approved by Decree 7741 of 2017.

²⁴ ANDE is in discussions with other institutions to finance some of these projects, which will be carried out in parallel with this operation on a complementary basis.

²⁵ Measures to reduce energy consumption while maintaining the same end benefits.

Figure 1. Map of the National Interconnected System through 2025



- 1.9 **Rationale.** The first investment project under the CCLIP (the project), including works to expand the 500-kV system and energy efficiency measures in transmission, public lighting, and ANDE buildings, will address problems in the sector over the short and medium terms by making electricity service more reliable and ensuring efficient supply amid rising demand. The 500-kV Yaguazú–Valenzuela transmission line will boost transport capacity to the main consumption hubs, will address rising demand for electricity as a byproduct of vegetative (demographic) growth and rising electricity consumption, and will make service more reliable. The installation of digital boundary meters between the transmission and distribution system will help monitor the supply of power in real time and will aid in the development of loss-reduction measures. Improving public lighting, replacing old equipment with more efficient devices, and enhanced envelopes in ANDE buildings will reduce electricity consumption while improving service. The quality of public lighting is also tied to public safety and improving the urban environment, as it will help reduce crime and improve safety for cars and pedestrians.²⁶
- 1.10 **Evidence.** The use of transmission lines at their technical limit or beyond their transport capacity has an impact on flexibility and safety in any system: technical losses increase, equipment deteriorates at a faster rate, and the useful life of equipment is adversely affected.^{27,28} This increases the likelihood of failures,

²⁶ Crime fell by 20% in Chile as a result of having an additional hour of sunlight ([Crime Time: How Ambient Light Affects Crime](#), BID). In New York City, high-intensity public lighting reduced crime by more than 36% ([Reducing Crime Through Environmental Design](#), Crime Lab).

²⁷ IEEE, 2013.

²⁸ Operating transformers at above nominal capacity usually raises their internal temperature and shortens their useful life. [Cajamarca et. al. \(2010\)](#).

- undermines reliability, and makes the system less efficient.²⁹ Projects for new transmission lines have proven effective in enhancing service quality and meeting increased demand.³⁰
- 1.11 Worldwide enhancements in energy efficiency have helped bring about a 0.7% annual displacement of demand, and primary energy intensity decreased by 10% between 2012 and 2017, while the primary energy supply rose by 5.9% over the same period.³¹ There have been a number of successful public lighting projects in the region. In Buenos Aires, the implementation of LED bulbs in public lighting helped reduce electricity and equipment costs. In Mexico, Colombia, and Chile, replacing conventional public lighting technologies with LED led to savings of more than 40%.^{32,33} In buildings, average global energy intensity per square meter decreased by 1.6% per year between 2000 and 2017, with an 18% reduction related to temperature control.³⁴ A pilot project for energy efficiency in public buildings in El Salvador for replacement of old lights, air conditioning equipment, and electric motors achieved US\$125,000 in annual savings and recovered the investment in 2.65 years.³⁵
- 1.12 **Strategy and rationale for the conditional credit line for investment projects (CCLIP).** ANDE's master plan requires short- and medium-term financing (paragraph 1.2). The CCLIP will provide timely resources to the borrower and will bring continuity to the investment plan with interventions throughout the period it covers. The CCLIP is an effective instrument for the Bank to provide effective medium-term support—one which may include investments in generation, transmission, distribution, storage, and energy efficiency—and to maintain a targeted presence in the sector.
- 1.13 **Innovation and digitalization.** Digitalization is transforming energy systems. It is driven by greater access to and advances in data processing, analysis; and improved connectivity with reduced costs and greater exchange of information. Digital technologies make electricity systems more connected, smart, efficient, reliable, and sustainable. ANDE's substations currently lack digital meters to quantify electricity flows. This equipment will provide information to manage electricity losses more effectively. The use of satellite imagery and advances in information-technology applications to monitor works will help improve project management. The public lighting system would benefit from remote management (operation and control), including detection of failures and regulation of lighting intensity.

²⁹ [Shahidehpour, M.; and Marwali, M. \(2000\). Fu, Weihui. Iowa State University \(2000\).](#)

³⁰ [Project completion report BO-L1072/2654/BL-BO.](#)

³¹ [REN21, Chapter 7.](#)

³² [Technical Note IDB-TN-1574.](#)

³³ [Final report on the Public Lighting Replacement Program](#) and [Final report on the Public Lighting Efficiency Enhancement Program.](#)

³⁴ [REN21, Chapter 7.](#)

³⁵ [Final evaluation on a program of the United Nations Development Programme and the World Environment Facility: Energy Efficiency in Public Buildings, 2014.](#)

- 1.14 **Gender equity, inclusion, and corporate social responsibility.** In 2017, women's labor force participation rate in Paraguay was 57%, compared to an 84% participation rate among men.³⁶ The percentage of women in permanent positions at ANDE is 20%. Most women (63%) are in administrative positions, while 36% are in operational, professional, and technical positions.³⁷ ANDE has a track record of inclusion of people with disabilities in its workforce, which reflects its institutional policy of effective workforce inclusion. In 2019, ANDE hired 70 employees with disabilities for administrative assistant positions. The project's gender equity and diversity actions will promote the inclusion of women and people with disabilities in the sector, providing continuity to implementation of ANDE's action plan for gender equity, inclusion of people with disabilities, and corporate social responsibility, with support from operation 4690/OC-PR,³⁸ and complemented by technical-cooperation operations ATN/OC-16266-RG and ATN/OC-16267-RG. In response to Paraguay's high rate of gender violence,³⁹ the project will take steps in bidding documents to ensure that contractors mitigate and prevent gender violence that could arise under the project.
- 1.15 The project will include: (i) a leadership program for women in ANDE, focused on overcoming internal barriers for women in the workplace (communication, negotiation, myths and realities of gender equity); (ii) monitoring of the execution of the action plan for gender equity and inclusion of persons with disabilities: promotion of women's participation in ANDE's technical and professional areas, support for providers to implement gender equity practices in their hiring efforts and operations, workshops on gender equity and gender violence, codes of conduct for staff and in bidding documents for contractors; and (iii) implementation of the Guide to Inclusive Services.
- 1.16 **Productive local development.** The destruction and final disposal of replaced lamps will be financed by the operation's resources and carried out by local enterprises working in solid waste management for public lighting systems. The operation will support training for better social and environmental practices in these local enterprises.
- 1.17 **Country strategy in the sector.** The project is aligned with the National Development Plan Paraguay 2013-2030, aimed at enhancing people's well-being by enhancing the quality of public utilities, particularly with the strategic focus on inclusive economic growth and the crosscutting area of competitiveness and innovation. The project contributes to Paraguay's commitment to ensuring access to affordable, safe, sustainable, modern energy, within the framework of the Sustainable Development Goals, and it is aligned with the Master Plan for Generation, Transmission, Distribution, and Telematics 2016-2025. It will also contribute to improving the distribution system and customer service, the national government's priority for the 2020 national budget.

³⁶ Measured with respect to the total number of women and men over 15.

³⁷ ANDE.

³⁸ The analysis for the action plan is in preparation.

³⁹ Organisation for Economic Co-operation and Development (2018). [Multi-dimensional Review of Paraguay, vol. 2.](#)

- 1.18 **Sector knowledge and lessons learned.** The Bank has extensive knowledge of the Paraguayan energy sector and has been a strategic partner of ANDE. The Bank has financed more than US\$440 million in loans and technical-cooperation operations in Paraguay, including the Multiphase Power Transmission Program—Phase I (loan 1835/OC-PR; US\$69 million) (2006) and Phase II (loan 2891/OC-PR; US\$50 million) (2012) with good results,⁴⁰ and approved a loan for the Rehabilitation and Modernization Program for the Acaray Hydroelectric Power Plant (loan 4690/OC-PR; US\$125 million) (2018), which complements this new operation by helping ANDE address the main challenges of the sector.⁴¹ The Bank will support the sector through the following nonreimbursable technical-cooperation operations: (i) operation ATN/OC-15910-PR, which includes the modernization of infrastructure, access to energy in remote areas, and energy efficiency in public lighting; (ii) operations ATN/OC-17356-PR and ATN/GN-16821-PR, to provide assistance to the VMME in accordance with the objectives of Energy Policy 2040; and (iii) operation ATN/JF-17929-PR, to help support studies to prepare potential new operations under the CCLIP (paragraph 1.8). The project takes into account lessons learned in previous operations, such as gains in effectiveness and efficiency as a result of involving, from the project design phase, various areas of ANDE; benefits of assistance for preparation of technical bid packages; and support for displacement and compensation plans.
- 1.19 It is important to have an execution unit with experience in technical and socioenvironmental matters, since securing the easement strip typically becomes the critical path for the works. It is advisable to have an experienced external supervisory firm to support the executing agency, anticipate potential problems during performance of the contracts, and recommend actions.
- 1.20 To reduce technical losses, metering equipment should be used at the substations of the transmission system to identify points and segments where losses occur and provide reliable real-time information to help optimize operations. For energy efficiency, including the replacement of public-lighting lamps and interventions in buildings, a reliable baseline is needed to measure the impact of the implemented measures. International experiences have shown the benefits of making the supplier responsible for installation and final disposal of the replaced equipment in accordance with the Bank's environmental requirements, as well as a minimum 10-year warranty.⁴²
- 1.21 **The Bank's country strategy.** The project is aligned with the IDB Group Country Strategy with Paraguay 2019-2023 (document GN-2958), particularly in the priority area of productive and resilient infrastructure, by enhancing the quality of service and electricity coverage. The operation is included in the 2020 Operational Program Report (document GN-2991-1).

⁴⁰ Loan 2891/OC-PR includes two substations that are part of the Ayolas (Yacyretá)–Villa Hayes (Asunción) line and supports the reduction of electricity losses. It is cofinanced with the Andean Development Corporation and the European Investment Bank.

⁴¹ Approved in November 2018 and ratified by Congress under Law 6492 of 6 January 2020.

⁴² [Guía de arreglos institucionales para programas de eficiencia energética](#) (IDB, 2016).

- 1.22 **Strategic alignment.** The project is consistent with the second Update to the Institutional Strategy (document AB-3190-2) and is aligned with the development challenge of productivity and innovation, as it will implement innovative technologies that will enhance the reliability of the service and energy efficiency in the transmission phase, public lighting, and buildings. The project is also aligned with the crosscutting areas of: (i) Gender Equality and Diversity, by promoting a leadership program for women in ANDE; and (ii) Climate Change and Environmental Sustainability, by reducing greenhouse gas emissions through an efficient supply of electricity to help export clean energy and displace more highly polluting generation processes in neighboring countries. One hundred percent of the project's resources are invested in climate-change mitigation activities, in accordance with the [joint methodologies of the multilateral development banks](#), contributing to the IDB Group's target of increasing financing for climate-change projects to 30% of all approvals by 2020, and it will also contribute to the Corporate Results Framework 2020-2023 (document GN-2727-12) through the indicator of emissions avoided by displacing more highly polluting generation processes in Brazil and Argentina.
- 1.23 The project is aligned with the IDB Infrastructure Strategy: Sustainable Infrastructure for Competitiveness and Inclusive Growth (document GN-2710-5), as it modernizes infrastructure to meet the demand for energy in a sustainable manner for both residents and production hubs, and with the Climate Change Sector Framework Document (document GN-2835-8).⁴³ The operation is consistent with the Energy Sector Framework Document (document GN-2830-8), as it will support sustainability and safety in the sector through investments to help reduce energy expenditures and strengthen infrastructure in the National Interconnected System; and with the Gender and Diversity Sector Framework Document (document GN-2800-8). The operation is aligned with the operational guidelines set forth in the framework agreement for cofinancing for renewable energy and energy efficiency (CORE) with the Japan International Cooperation Agency (JICA) (paragraph 1.34).
- 1.24 **COVID-19 health emergency.** Given the essential nature of electricity service during and after the COVID-19 health emergency, ANDE reconfirmed the strategic importance of the project and the priority given to strengthening the reliability of the National Interconnected System and reduce electricity losses.
- 1.25 **Actions in strategic areas.** The project will promote innovative practices by leveraging technological advances in digitalization, including the implementation of: (i) digital platforms, satellite imagery, or drones for dynamic monitoring of works, operation, and maintenance; (ii) modern meters on the boundaries of the transmission/distribution system; and (iii) public lighting with efficient lamps and the ability to remotely control operations and regulate lighting intensity. Cybersecurity will be strengthened to protect the new systems and the data resulting from the project. It will also help reduce inequality by improving the quality of public lighting in low-income neighborhoods like Tacambú and Roberto L. Pettit.

⁴³ The operation will contribute to climate-change mitigation by (i) making the system more reliable and reducing the use of diesel generators during service interruptions; (ii) reducing technical losses in transmission and exporting more renewable energy to neighboring countries; and (iii) providing a more reliable system to encourage the electrification of activities such as cooking and transportation.

- 1.26 **Consistency with the Public Utilities Policy (document GN-2716-6).** The project is consistent with the [Public Utilities Policy](#) as it contributes to the use of renewable energy, enhanced efficiency, and reliability of the power grid. The project satisfies the objectives, principles, and conditions of economic viability and financial sustainability set forth in this policy. Due to abundant hydropower generation at low cost, rates have held steady since 2002, with an increase in 2017 that did not impact residential customers.⁴⁴ Even with limited adjustments, revenues have been sufficient to cover costs, pay down debts, and generate enough surplus revenue to make contributions to the treasury.⁴⁵ In 2017 the government provided an increase to various categories of customers and contracting processes, which helped strengthen ANDE's financial position.
- 1.27 **Cofinancing.** The Bank has coordinated closely with JICA, which is cofinancing this first operation. JICA attended the IDB's preparation missions. JICA's approval process is at an advanced stage (paragraph 2.3).
- 1.28 **Coordination with other projects.** Coordination will be maintained with the institutions that are financing works that are complementary to the operation (paragraph 3.8). CAF is financing the 500-kV transmission line along the right side of the Itaipú-Yguazú line, including the Yguazú substation and complementary works,⁴⁶ whose tender process is in the bid evaluation stage. FONPLATA is financing the Valenzuela substation and its complementary works,⁴⁷ for which ANDE is complete the bidding documents.

B. Objectives, components, and cost

- 1.29 **Objective of the CCLIP.** The general objective of the CCLIP is to contribute to economic development in Paraguay through a sustainable, reliable, and efficient supply of electricity.
- 1.30 **Objectives of the first operation under the CCLIP.** The specific objectives of the first operation are (i) to help make the high-voltage transmission system more reliable and efficient, and (ii) to make ANDE's commercial/administrative buildings and public lighting more energy-efficient. To achieve these objectives, the operation includes two components:

⁴⁴ The residential rate is equivalent to US\$0.082 per kilowatt-hour (kWh) for customers who consume more than 150 kWh per month.

⁴⁵ ANDE receives no subsidies other than reimbursements from the government-ordered discounted rate for low-income customers, which are covered by the national treasury. Low-income customers receive a 75% discount if they consume less than 100 kWh per month; a 50% discount if they consume 100 to 200 kWh per month; and a 25% discount if they consume 200 to 300 kWh per month. ANDE contributes to the government with the "interagency contribution," paying value-added tax and income tax; it is one of the country's largest taxpayers.

⁴⁶ Ratified by Congress under Law 6285 of 2019.

⁴⁷ Ratified by Congress under Law 6493 of 2019.

- 1.31 **Component I. Investments in transmission (US\$135,216,000).** This component will finance (i) construction of a 500-kV transmission line, approximately 210 km long, between the substations and associated works⁴⁸ (Yguazú substation, located 3 kilometers from the town of Yguazú, and the Valenzuela substation, 7 kilometers north of Valenzuela), including work to expand both substations,^{49,50} as well as supervision of works and procurement of environmental service certificates,⁵¹ payments of resettlement indemnifications, procurement of easements for transmission lines, and any other measure of compensation and support to be implemented to fulfill the project's environmental and social commitments to be undertaken pursuant to the plan for resettlement, compensation, and restoration of means of living (PARI), and (ii) procurement and installation of boundary multimeters in the transmission system at the 23-kV bars of ANDE's 90 substations, including reinforcement of the system communications network to measure losses from the transmission system in real time. Over the entire length of the 500-kV transmission line between the future substations and associated works there will be a safety and service zone (the width of the future transmission line easement), of a maximum of 70 meters, that is, 35 meters on either side, measured perpendicular to the geometric axis of the transmission line.
- 1.32 **Component II. Investments in efficiency of demand (US\$14,784,000).** This component will finance actions under ANDE's comprehensive energy efficiency plan, including (i) the first phase of the program for efficient public lighting in Asunción, to replace 28,000 low- and high-pressure sodium lamps with LED lights;⁵² and (ii) energy efficiency actions in four of ANDE's commercial/administrative buildings, including the replacement of existing electrical equipment with more efficient equipment in lamps and air conditioning units (which are heavily used in Paraguay due high temperatures during much of the year). Training of building maintenance teams in energy efficiency will be included. Successful execution of this component will lay the groundwork for continuing the efficient public-lighting program, as well as to promote energy efficiency actions in buildings, which will help develop an energy efficiency market that is currently almost nonexistent in Paraguay.⁵³
- 1.33 **Administration, monitoring, and evaluation (US\$5 million).** This component will finance the costs of project administration, monitoring, and evaluation, which include technical assistance, external audits, and midterm and final evaluations of the project.

⁴⁸ Substations and associated works refers to the Yguazú substation, including the 500-kV transmission line along the right side of the Itaipú-Yguazú line, and its complementary works, and the Valenzuela substation and its complementary works.

⁴⁹ The Yguazú substation is financed by the Andean Development Corporation (CAF) and the Valenzuela substation by the Plata Basin Financial Development Fund (FONPLATA) (paragraph 1.28).

⁵⁰ A 500-kV line-out position will be built, including procurement and installation of switching equipment, as well as protection, control, and metering equipment at each substation. Purchase of land is not included.

⁵¹ Law 3001/06, Article 11, requires including compensation for environmental services through the procurement of environmental service certificates on works and activities defined as having a high environmental impact.

⁵² Replacement efforts will be focused primarily on thoroughfares to and from the city.

⁵³ Due to the low cost of electricity, among other reasons, energy service companies have not yet been developed in Paraguay.

- 1.34 **Cost and financing.** The total cost of the first operation is US\$155 million, of which US\$70 million will be financed by the Bank's Ordinary Capital and US\$85 million by the counterpart (JICA-CORE cofinancing).⁵⁴

Table 1. Indicative project costs (in US\$)

Investment category	IDB	Counterpart (JICA-CORE cofinancing)	Total
Component I. Investments in transmission	58,216,000	77,000,000	135,216,000
Subcomponent I.I. 210-km 500-kV transmission line work and Yguazú and Valenzuela substation expansions	40,011,146	76,000,000	116,011,146
Subcomponent I.II. Works supervision: 210-km 500-kV transmission line work and Yguazú and Valenzuela substation expansions	7,538,703	0	7,538,703
Subcomponent I.III. Procurement of multimeters	1,000,000	1,000,000	2,000,000
Contingencies	9,666,151	0	9,666,151
Component II. Investments in efficiency of demand	6,784,000	8,000,000	14,784,000
Subcomponent II.I. Energy efficiency in public lighting	5,636,400	7,500,000	13,136,400
Subcomponent II.II. Energy efficiency in ANDE's commercial/administrative buildings	630,000	500,000	1,130,000
Contingencies	517,600	0	517,600
Administration, monitoring, and evaluation	5,000,000	0	5,000,000
Total	70,000,000	85,000,000	155,000,000

* The amounts projected in the costs table include local taxes, in accordance with Bank policies.

C. Key result indicators

- 1.35 **Expected outcomes.** The first operation is expected to yield the following outcomes: (i) reduced greenhouse gas emissions; (ii) increased capacity of the National Interconnected System to satisfy demand over the short and medium terms, particularly in the central and metropolitan systems; (iii) more reliable electricity service; (iv) reduced electricity losses in transmission; (v) quantified electricity losses; (vi) reduced consumption in public lighting; and (vii) reduced energy consumption per unit of area served in selected ANDE buildings.

⁵⁴ CORE is a cofinancing mechanism established in March 2012 and amended in March 2014 and April 2016, whereby the Bank and JICA agree to provide highly concessional loans for a target amount of US\$3 billion to Latin America and the Caribbean as a cofinancing resource to support projects and programs in renewable energy and energy efficiency that are aimed at expanding high-quality infrastructure in the region. Approval by JICA is slated for the third quarter of 2020.

- 1.36 **Beneficiaries.** The project will help transmit energy generated by hydroelectric plants, benefiting 7,152,902 residents connected to the National Interconnected System, supporting vegetative growth,⁵⁵ while increasing available power and enhancing the quality of the supply. More than 520,000 residents of Asunción will benefit from energy efficiency projects in public lighting and in ANDE buildings.⁵⁶
- 1.37 **Economic evaluation.** The economic evaluation was based on a cost-benefit analysis performed in scenarios with and without the project.
- 1.38 The economic evaluation of Component I has an economic internal rate of return (EIRR) of 29.1% and a net present value (NPV) of US\$323.3 million at a 9% discount rate.⁵⁷ This evaluation took into consideration (i) investment costs; (ii) economic benefits of decreased electricity losses in transmission; (iii) economic benefits of a decrease in unsupplied energy in the event of a supply failure; and (iv) sale of incremental power. The benefits of unsupplied energy were estimated at an opportunity cost of US\$2,127 per megawatt-hour, which reflects Paraguay's level of social, economic, and industrial development. A sensitivity analysis using a 20% investment cost and one-year delays in works yielded satisfactory results.
- 1.39 The economic evaluation of Component II yielded an EIRR of 13.2% and an NPV of US\$2.43 million. The assumptions included an economic benefit resulting from decreased electricity losses, at average prices for energy purchases. A sensitivity analysis taking into account increased investment costs and reduced benefits yielded satisfactory results.
- 1.40 **Financial sustainability analysis.** A financial sustainability analysis of ANDE was carried out, including projections during the project execution period. As of December 2018, ANDE had annual revenues equivalent to US\$825 million, an amount projected to rise to US\$890 million in 2020. In view of these projections, ANDE has the financial capacity to execute the planned investments, using external financing as well as its own resources, and to meet its associated obligations while maintaining sufficient cash flow.

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instruments

- 2.1 This will be a sovereign-guaranteed CCLIP available for 12 years for US\$400 million. It includes three loan operations. The first—a specific-investment operation—will be for US\$155 million, with US\$70 million to be financed from the Bank's Ordinary Capital and US\$85 million by the counterpart (JICA cofinancing through the CORE mechanism) (paragraph 1.34), and a six-year disbursement period. ANDE will be the borrower and executing agency of the CCLIP and the first operation.

⁵⁵ Population Projection 2000-2025 (DGEEC), 2015. A year-to-year growth rate of 1.2% was used for the 2026-2030 period. Source: ANDE.

⁵⁶ Estimated at 537,621 residents in 2040.

⁵⁷ Benchmark rate used by the Ministry of Finance for projects in Paraguay.

- 2.2 **Eligibility criteria for the CCLIP and the first operation.** The CCLIP satisfies the eligibility criteria set forth in document GN-2246-13 for sector-specific CCLIPs because (a) the activities to be financed are aligned with the priorities in the IDB Group Country Strategy; and (b) ANDE is eligible because (i) it is an integral and sustainable part of the entity that manages the sector; (ii) the institutional analysis found that it is likely to maintain satisfactory performance (paragraph 2.5); (iii) it has experience in Bank loans related to energy infrastructure (paragraph 1.19); and (iv) it has demonstrated its ability to comply with contracts, effectively evaluate projects, and execute projects with a view toward achieving objectives, as well as demonstrating effective operation and maintenance of financed facilities. The first operation is eligible because it falls within the CCLIP's sectors and components and is included in the country programming.
- 2.3 Using the joint-financing approach of CORE, the borrower will sign separate loan contracts with the Bank and JICA for financing for the first operation in proportions to be agreed upon between the parties. The Bank will act as project administrator using a joint-financing structure, providing supervisory services in accordance with the CORE framework agreement and operational guidelines. Procurement of works, goods, and services will be in accordance with the Bank's policies and guidelines and consistent with CORE's guidelines. Disbursements of Bank and JICA resources will be processed by the Bank, according to CORE guidelines. The letter of conditional acceptance from JICA has been received for the first operation, and this will be complemented by the exchange of confirmation between the Bank and JICA pursuant to CORE. On 4 March 2020, JICA completed its analysis mission and JICA is expected to approve the financing in the third quarter of 2020.
- 2.4 The disbursement timetable is shown below.

Table 2. Disbursement timetable (US\$)

Source	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
IDB	9,921,173	19,048,219	29,206,353	9,300,908	1,738,340	785,007	70,000,000
Counterpart (JICA-CORE cofinancing)	15,200,000	24,165,859	38,319,798	6,108,788	1,205,555	0	85,000,000
Total	25,121,173	43,214,078	67,526,151	15,409,696	2,943,895	785,007	155,000,000
	16.2%	27.9%	43.6%	9.9%	1.9%	0.5%	100%

B. Environmental and social risks

- 2.5 The project is classified as a category "B" operation because the construction and operation of the Yguazú–Valenzuela transmission line and the energy efficiency actions are expected to generate moderate environmental and social impacts for which mitigation and compensation measures can be feasibly implemented. During preparation of the environmental and social impact assessment, various alternatives were considered for minimizing impacts, eventually deciding on a route that would require the resettlement of two families, would not cross through indigenous territories or protected areas, and would minimize crossings through critical natural habitats. The main impacts will be the designation of an easement strip through 461 rural properties that will be crossed by the transmission line, and the deforestation of 21.94 hectares of native forestland. The risks and impacts will

be controlled using an environmental and social management plan that includes a plan for resettlement, compensation, and restoration of means of living; a consultation plan; a community relations and participation plan, including a mechanism for complaints and claims; and a biodiversity plan. For the CCLIP, a strategic environmental and social evaluation and an environmental and social management framework with guidelines for identifying and managing potential impacts and risks in future program-financed operations have been prepared. All of these documents are available on the Bank's website.

- 2.6 Two rounds of significant consultations with project stakeholders were held between 21 January and 7 February 2020. Each round included six consultation events held in six locations along the proposed route of the Yguazú–Valenzuela transmission line. The consultations were held in Spanish and Guaraní. A total of 170 people (29% of them women) participated in the first round, and 264 people (18% of them women) participated in the second round. The participants' main concerns were related to how impacts resulting from the easement strip for the transmission line will be compensated, what benefits the project will bring to communities through which the transmission line will cross, provisions for hiring local labor, the effects of electromagnetic radiation on people's health, mechanisms for processing potential claims, and whether the project will entail an increase in electricity rates. The participants asked ANDE to improve service in the area: installation of three-phase connections, increased power, repair and expansion of public lighting, overbilling problems, and access of special rates for low-income customers, etc. The report on the consultation process ([optional link 13](#)) is available on the Bank's website.

Table 3. Socioenvironmental risks

Risks	Risk level	Mitigation measure
Problem with land registries and/or negotiation with owners/holders/occupants of affected properties	Medium-low	Support for ANDE with missions to monitor implementation (including negotiations with owners/holders/occupants) and updating of land registries for affected properties. Identification of properties during the early planning phase.

C. Fiduciary risks

- 2.7 The Bank used the Institutional Capacity Assessment Platform in January 2020. The assessment (i) found that ANDE has the capacity to execute the project; and (ii) identified areas to be strengthened with training in project management and fiduciary matters (new procurement policies, as set forth in documents GN-2349-15 and GN-2350-15), as well as the need for a financial information system that can generate the required reports.

2.8 A risk management analysis identified the risk listed in Table 4.

Table 4. Fiduciary risks

Risks	Risk level	Mitigation measure
Difficulties in implementing the new procurement policies (documents GN-2349-15 and GN-2350-15)	Medium-high	Training in the Bank's new policies and strengthening of the project coordination unit's fiduciary unit with a procurement specialist.

D. Other project risks

2.9 A risk management analysis identified the risks listed in Table 5.

Table 5. Other risks

Risk	Risk category	Risk level	Mitigation measure
Delay in issuing the decree authorizing the negotiation and signature of loan contracts with the Bank and JICA	Public management and governance	Medium-low	Streamline processes with the Ministry of Finance and financing entities for the signing of contracts
Delay in the legislative approval of the loans		Medium-low	Early submittal of legislative proposal to advisory committees in each chamber
Change in the government's policy priorities		Medium-low	Submittal of proposal to the national government
Delays in manufacturing and delivering equipment to be procured	Development	Medium-low	Monitoring of schedule for equipment manufacture and delivery
Delays in works complementing ANDE's expansion plan, which are executed with parallel financing from other entities		High-medium	Ongoing communication and monitoring with financial institutions and ANDE
Full or partial failure of planned cofinancing to materialize		Medium-low	Close monitoring and support during preparation and approval of funds from cofinancing entities
Materialization of cyber-threats in electricity systems and databases		Medium-low	Promotion of cybersecurity tools
Conditions of public lighting posts, cables, and accessories that differ from those survey data (land registry)		Medium-high	Survey/land registration of current state of infrastructure
Significant fluctuations in the exchange rate	Macroeconomic	Medium-low	Constant monitoring of the situation and ongoing dialogue

- 2.10 **Sustainability.** The investments are sustainable over the medium and long terms. The new facilities and equipment will be incorporated into the operation and maintenance programs. For effective operation and maintenance, the capacities of technical personnel will be strengthened during project execution, and new technologies will be incorporated (paragraph 1.13).

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of implementation arrangements

- 3.1 **Execution mechanism and implementation arrangement.** The executing agency and borrower is ANDE.⁵⁸ The Republic of Paraguay is the guarantor of the borrower's financial obligations (including payment of principal, interest, and other financial charges) stemming from the loan contract. ANDE—acting through the Office of Planning and Studies, which will be the project coordination unit (PCU)—will be responsible for project execution, administration, monitoring, and evaluation. The PCU will be in charge of administration and operational management of the project, including (i) coordination of the procurement of works, goods, and services; (ii) loan disbursement requests; (iii) preparation of annual work plans and the procurement plan; (iv) submittal of project management reports; (v) assistance in supervising works and service contracts; and (vi) serving as a liaison with the Bank. Support will be provided by ANDE's Office of Public Procurement, which will be responsible for procurement processes, and ANDE's Financial Department for fund management. Before the start of the project, the Bank will support the strengthening of PCU members' capacities in current procurement policies, procedures, and documents.
- 3.2 The Technical Department will be responsible for implementing Component I, acting through (i) the Generation and Transmission Projects Division for preparation and execution of bidding processes in coordination with the Office of Public Procurement up until contracts are awarded; and (ii) the Contract Management Unit for 500-kilovolt Works,⁵⁹ for technical management of the contracts after they are awarded. For Component II, public lighting will be implemented by the Distribution Office, while energy efficiency in buildings will be implemented by the Office of Administrative Services; both of these will work in coordination with the Office of Public Procurement for bid processes. The Office of Environmental Management will be responsible for implementation and technical supervision of environmental and social considerations.
- 3.3 To ensure compliance with the loan contract in administrative, fiduciary, procurement, financial, accounting and socioenvironmental matters, the relevant areas will be strengthened with key complementary personnel whose selection or designation, as appropriate, is a special contractual condition precedent to the first disbursement for the operation: a financial specialist and a procurement specialist

⁵⁸ ANDE is an autonomous, decentralized entity in the Republic of Paraguay's public administration. It has legal standing and its own assets. ANDE will be the counterpart for the loan contract. For any coordination during contract execution with the Executive Branch of the Republic of Paraguay, the sector liaison agency will be the Vice Ministry of Mines and Energy of the Ministry of Public Works and Communications.

⁵⁹ This contract management unit is currently active and is executing loan 2891/OC-PR.

in the PCU, an electrical engineer in the Distribution Office, an environmental specialist and a social specialist in the Office of Environmental Management. Outside experts will also provide specialized technical support.

- 3.4 **Partial exception to the policy on guarantees required from borrowers.** A partial exception to the policy on guarantees required from the borrower (document GP-104-2) is being requested so that the sovereign guarantee of the Republic of Paraguay will apply only to the borrower's financial obligations (including payment of principal, interest, and fees), not to the borrower's obligations to perform.⁶⁰ This request is justified because the Paraguayan government has stated that it can guarantee only the borrower's obligations related to servicing the loan. ANDE, it should be noted, is a solvent entity with financial and management capacity to meet its obligations to the Bank.⁶¹ This partial waiver for the CCLIP would apply to the first operation and subsequent operations for which ANDE will be the borrower.
- 3.5 **Project Operating Regulations.** Execution of the first operation will be governed by the loan contract and the project Operating Regulations, the latter of which will include (i) procedures for procurement of works, goods, and consulting services; (ii) guidelines for use of resources and project financial management; (iii) disbursement procedures; (iv) a detailed description of project activities, as well as matters related to project monitoring; (v) structure of the PCU, duties of key personnel, and linkages and coordination mechanisms with other ANDE units; (vi) coordination mechanisms between the PCU and other ANDE units related to the project; (vii) strategy for investment sustainability and responsibilities for operation and maintenance of works; and (viii) a section on the environmental and social management plan and the plan for resettlement, compensation, and restoration of means of living. The Operating Regulations will also detail operational aspects of financing from the Bank and JICA in accordance with the CORE framework agreement, as amended, and guidelines, including provisions on financial management of resources, procurement, environmental and social considerations, and project supervision. The Operating Regulations will include the documents mentioned in Annex B of the Environmental and Social Management Report.
- 3.6 **Semiannual progress report on the works.** During construction and execution of works under Component I, and up until provisional receipt of construction work for the substations and associated works, ANDE will submit to the Bank a semiannual progress report on the works, in accordance with the Bank's instructions, including information on (i) progress in building the substations and associated works;

⁶⁰ As a reference, loan 4690/OC-PR received this partial exception.

⁶¹ Source: Abogacía del Tesoro [Treasury Legal Department] within the Ministry of Finance based on Law 1535 on the Financial Administration of the State. The counterparts in Paraguay have stated that the obligations to perform associated with the execution of the loan fall outside the legal mandate of the authorities of the Government of Paraguay. According to Law 966 (expanded by Law 976), Article 2, ANDE is an autonomous, decentralized institution within the public administration system, created for an unlimited period of time, that has legal status and its own assets; therefore, a total guarantee from the Republic of Paraguay (covering ANDE's obligations to perform and local contribution) would be contrary to such autonomy and decentralization. It should be noted that the Bank's Board of Executive Directors has authorized partial exceptions of the same scope to the abovementioned policy in other operations, such as loans 2236/OC-BR (2010), 3866/OC-BR (2017), 3271/OC-ES (2014), 4439/OC-CO (2017), and 4568/GN-PR (2018).

(ii) any delay, suspension, or stoppage in building the substations and associated works; (iii) any judicial, arbitration-related, or administrative claim, lawsuit, or action related to construction of the substations and associated works; and (iv) any other risk, change, or event that generates or may generate negative impacts in the construction, expansion, or operation of the substations and associated works.

- 3.7 **Special contractual conditions precedent to the first disbursement for the first operation.** Prior to the first disbursement of loan proceeds for the first individual operation, ANDE will submit evidence of (i) approval and entry into force of the [project Operating Regulations](#) (paragraph 3.5) under the terms and conditions previously agreed upon with the Bank; this is necessary because the Bank's experience in the region indicates that approval of the project Operating Regulations before the first disbursement contributes to the executing agency's internal organization for implementation of the operation; (ii) **selection or designation, as appropriate, of key complementary personnel for the project (described in paragraph 3.3)**; this is to provide assurance to the Bank that ANDE will have an appropriate team of professionals for project execution; and (iii) **entry into force of the loan contract between JICA and the borrower in relation to JICA's provision of financing for the project**; this is to ensure the availability of funds for financing of works for the first operation.
- 3.8 **Special contractual conditions and obligations for execution of the first operation:** (i) **Before beginning the first bidding process for works under Component I, ANDE will submit to the Bank evidence of the selection and contracting of the company or companies that will build the substations and associated works**; this is to ensure that the process for awarding contracts for the substation works for the transmission line is properly carried out; (ii) **before commencing the works under Component I, ANDE will submit to the Bank a progress report on the substations and associated works showing that construction of thereof has begun**; this is to ensure that the substation works for the transmission line are effectively underway; and (iii) **during construction and execution of works under Component I, and up until provisional receipt of the works for construction of the substations and associated works, ANDE will submit to the Bank semiannual progress reports on the substations and associated works, which will include the information indicated in paragraph 3.6**; this is to prevent any significant distortions in planning for construction of the substations and associated works that may impact the connection to the transmission line.
- 3.9 **Operation and maintenance.** After the project is completed, ANDE will (i) ensure effective maintenance of project works and equipment in accordance with generally accepted technical standards; and (ii) submit to the Bank an annual maintenance report on the status of the project's works and equipment during the first quarter of each calendar year, starting in the year when the first project-financed work is concluded and up until the third year after the end of the disbursement period.
- 3.10 **Procurement policies.** The procurement of goods, works, and services, and the selection of Bank-financed consultants, will be in accordance with the Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank (document GN-2349-15) and the Policies for the Selection and

Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-15), respectively. The use of the electronic reverse auction and competitive bidding subsystems of Paraguay's public procurement system will be used in the operation in the specified terms. The [procurement plan](#) details the project's procurement processes.

B. Summary of arrangements for monitoring results

- 3.11 Monitoring will include administration missions, semiannual reports, and annual external audits. ANDE, acting through the PCU, will monitor the project overall, using the targets in the Results Matrix as well as the annual work plan, which will be updated each year. The multiyear execution plan will include the project's complete physical and financial planning in accordance with the structure of the expected outputs according to the Results Matrix and including the amounts and timeframes available for each project output and activity, and the critical path of milestones or critical actions, to be executed so the loan is disbursed within the original disbursement period. ANDE, acting through the PCU, will prepare the semiannual reports and submit them within 90 days after the last business day of each six-month period, in addition to holding meetings with the Bank to evaluate the project's progress. The Bank, acting through the Energy Division, will supervise project execution. The monitoring and evaluation plan provides further details on the monitoring arrangement.
- 3.12 **Evaluation.** ANDE will submit a midterm evaluation report to the Bank within 60 days after 50% of the loan proceeds have been disbursed, if so required by the Bank, as well as a final evaluation report within 90 days after 90% of the total loan proceeds have been disbursed. Both of these reports will be financed by the loan. The terms of reference for these reports will require the Bank's prior no objection. At a minimum, in addition to what is indicated in the project Operating Regulations, these reports will include the following: (i) progress toward the targets in the Results Matrix; (ii) degree of fulfillment of environmental specifications and requirements for the works, in accordance with the environmental and social management plan and the guidelines of the ESMR; (iii) degree of fulfillment of obligations set forth in the loan contract and the project Operating Regulations; (iv) effectiveness of the monitoring and evaluation system; and (v) lessons learned. At the end of the project, a project completion report will be prepared to evaluate whether the objectives were fulfilled and to glean lessons learned for future projects.
- 3.13 **Ex post evaluation.** ANDE will conduct an ex post cost-benefit analysis using up-to-date information on (i) costs of project-financed infrastructure; (ii) reduction of technical losses in the transmission system; and (iii) reduction of electricity consumption in public lighting and in targeted ANDE buildings. This evaluation will be submitted to the Bank within 90 days after the last disbursement and will be financed by the loan proceeds.

Development Effectiveness Matrix		
Summary		PR-L1173
I. Corporate and Country Priorities		
1. IDB Development Objectives		Yes
Development Challenges & Cross-cutting Themes	-Productivity and Innovation -Gender Equality and Diversity -Climate Change and Environmental Sustainability	
Country Development Results Indicators	-Reduction of emissions with support of IDBG financing (annual million tons CO2 e)* -Government agencies benefited by projects that strengthen technological and managerial tools to improve public service delivery (#)* -Households with new or improved access to electricity supply (#)* -Electricity transmission and distribution lines installed or upgraded (km)* -Companies supported in innovation activities (#)*	
2. Country Development Objectives		Yes
Country Strategy Results Matrix	GN-2958	Improve the coverage and quality of infrastructure
Country Program Results Matrix	GN-2991-1	The intervention is included in the 2020 Operational Program
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		P. 1.18
II. Development Outcomes - Evaluability		Evaluable
3. Evidence-based Assessment & Solution		8.8
3.1 Program Diagnosis		3.0
3.2 Proposed Interventions or Solutions		3.6
3.3 Results Matrix Quality		2.2
4. Ex ante Economic Analysis		10.0
4.1 Program has an ERR/NPV, or key outcomes identified for CEA		3.0
4.2 Identified and Quantified Benefits and Costs		3.0
4.3 Reasonable Assumptions		1.0
4.4 Sensitivity Analysis		2.0
4.5 Consistency with results matrix		1.0
5. Monitoring and Evaluation		8.5
5.1 Monitoring Mechanisms		2.5
5.2 Evaluation Plan		6.0
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood		Medium
Identified risks have been rated for magnitude and likelihood		Yes
Mitigation measures have been identified for major risks		Yes
Mitigation measures have indicators for tracking their implementation		Yes
Environmental & social risk classification		B
IV. IDB's Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury, Accounting and Reporting, External Control, Internal Audit.
Non-Fiduciary	Yes	Monitoring and Evaluation National System.
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project		

Note: (*) Indicates contribution to the corresponding CRF's Country Development Results Indicator.

Evaluability Assessment Note: This is an investment loan of US\$155 million to be financed with US\$ 70 million of IDB's ordinary capital and co-financed with US\$ 85 million of JICA's resources under the JICA-IDB CORE agreement. This is the first operation of a US\$ 400 million CCLIP with the general objective of contributing to the economic development of the country through a sustainable, reliable and efficient electricity supply. The specific objectives of the first operation under the CCLIP are: i) support the improvement of the reliability and efficiency of the high voltage transmission system and ii) improve energy efficiency in ANDE's commercial buildings and in street lighting. According to official projections, Paraguay electricity consumption will match its electricity generation capacity by 2030. To face this challenge, the country is investing in energy efficiency through the reduction of electricity losses and more efficient electricity consumption. Transmission and distribution losses are at 24.5%, higher than LAC's average of 17%. Potential savings in electricity consumption from the use of LED in street lighting are estimated at 50%, while the implementation of energy efficiency programs in ANDE's commercial buildings can lead to savings of 30%. The surveyed literature supports the proposed interventions. The POD provides examples of previous operations with similar interventions in other countries in the region which were successful in reducing transmission losses and in improving energy efficiency in street lighting and in public-owned buildings (internal validity). No evidence of cost-effectiveness of similar interventions in Paraguay is provided (external validity). The results matrix is adequately connected to stated specific objectives in a clear vertical logic. A first set of result indicators aim to gauge the reduction in transmission losses and the reliability of the transmission system to handle higher electricity flows. Another set of indicators will assess the level of efficiency in electricity consumption in the intervened street lighting systems and in ANDE's commercial buildings. An ex-ante economic analysis is performed under reasonable assumptions resulting in a VPN of US\$323.3 million and an IRR of 29.1% for component I (transmission line), a VPN of US\$2.43 million and an IRR of 13.2% for component II (energy efficiency). The combined VPN and IRR for the whole program are US\$ 325.75 million and 28.5%, respectively. The Monitoring and Evaluation Plan foresees an ex-post economic analysis at the operation's closing.

RESULTS MATRIX

Project objective:	<p>Objective of the CCLIP. To contribute to economic development in Paraguay through a sustainable, reliable, and efficient supply of electricity.</p> <p>Objective of the first operation under the CCLIP: The specific objectives of the first operation are (i) to help make the high-voltage transmission system more reliable and efficient, and (ii) to make ANDE's commercial/administrative buildings and public lighting more energy-efficient.</p>
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EXPECTED IMPACTS AND OUTCOMES					
Indicators	Unit of measure	Baseline	Baseline year	End of project	Comments / means of verification / responsible party
Impact 1. Reduced greenhouse gas emissions through the efficient supply of electricity					
CO ₂ equivalent emissions averted	Tons of CO ₂ equivalent	2018	0	250,000	Reduced network losses and reduced electricity consumption as a result of project actions, which will help export cleaner energy and displace more highly polluting generation in neighboring countries.

EXPECTED IMPACTS AND OUTCOMES											
Indicators	Unit of measure	Baseline	Baseline year	Year						End of project	Comments / means of verification / responsible party
				1	2	3	4	5	6		
Outcome 1. Increased reliability of electricity service											
Unsupplied energy expectation differential	MWh/year	0	2018	0	0	0	250	6,530	12,284	12,284	Difference in unsupplied energy as a result of out-of-service transmission lines with and without the project. See Annex I of the Monitoring and Evaluation Plan.

EXPECTED IMPACTS AND OUTCOMES											
Indicators	Unit of measure	Baseline	Baseline year	Year						End of project	Comments / means of verification / responsible party
				1	2	3	4	5	6		
Outcome 2. Increased energy efficiency in transmission in the National Interconnected System											
Electricity losses in transmission	%	5.36	2018	5.36	5.36	5.36	5.36	4.98	4.98	4.98	Losses in the National Interconnected System, measured as the percentage of electricity at the outlet of boundary substations out of all electricity injected into the system.
Outcome 3. Electricity savings in public lighting											
Annual savings in electricity in public lighting	MWh/year	0	2018	0	0	1,545	7,723	13,902	15,447	15,447	ANDE report. A baseline of expected consumption will be established in view of appropriate service levels (lighting intensity), which will serve as input for calculating the savings generated by project interventions. ¹

¹ See Monitoring and Evaluation Plan for more details on the calculation.

EXPECTED IMPACTS AND OUTCOMES											
Indicators	Unit of measure	Baseline	Baseline year	Year						End of project	Comments / means of verification / responsible party
				1	2	3	4	5	6		
Outcome 4. Increased energy efficiency in ANDE buildings											
Annual savings in electricity in ANDE buildings per square meter of targeted space	kWh/m ² of targeted space	0	2018	0	0	16	41	50	50	50	ANDE report. A baseline of expected consumption will be established in view of appropriate service levels (comfort), which will serve as input for calculating the savings generated by project interventions. ²

Outputs	Unit of measure	Baseline	Baseline year	Year						Final target ¹	Comments / means of verification / responsible party
				1	2	3	4	5	6		
Component I. Investments in transmission											
Output 1. 210-km 500-kV Yguazú –Valenzuela transmission line	km	0	2018	0	0	0	210	0	0	210	ANDE works progress reports in accordance with monitoring of the progress on the transmission line
Output 2. Yguazú substation expanded; 500-kV line-out position built	Substation positions	0	2018	0	0	0	1	0	0	1	ANDE works progress reports in accordance with monitoring of the progress on the Yguazú substation
Output 3. Valenzuela substation expanded; 500-kv line-in position built	Substation positions	0	2018	0	0	0	1	0	0	1	ANDE works progress reports in accordance with monitoring of the progress on the Valenzuela substation

² See Monitoring and Evaluation Plan for more details on the calculation.

Output 4. Multimeters procured and installed	Unit	0	2018	0	242	0	0	0	0	242	ANDE works progress reports in accordance with monitoring of the progress on the installation of multimeters
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Outputs	Unit of measure	Baseline	Baseline year	Year						Final target ¹	Comments / means of verification / responsible party
				1	2	3	4	5	6		
Component II. Investments in efficiency of demand											
Output 5. Efficient public lighting	lamps	0	2018	0	2,846	11,384	11,384	2,846	0	28,460	Management progress reports on lamp replacement
Output 6. Area in ANDE buildings with efficient energy services	square meters ³	0	2018	0	0	2,170	10,164	13,720	0	26,054	Management progress reports on buildings
Output 7. Building maintenance personnel trained	people	0	2018	0	0	3	6	3	0	12	Management reports on training
Support for gender equity and people with disabilities											
Output 8. Gender and diversity action plan designed and implemented in ANDE ⁴	% of plan actions implemented	0	2019	0	0	0	20	20	20	60	At least 60% of the actions in the gender action plan will be implemented.
Output 9. Leadership workshop program for women implemented ⁵											

³ The number of square meters targeted in the intervention will be surveyed when establishing the baseline. Values will be adjusted prior to the operation's launch workshop.

⁴ Supported by resources from loan 4690/OC-PR and technical cooperation operations ATN/OC-16266-RG and ATN/OC-16267-RG.

⁵ This will be supported with resources from technical cooperation operations ATN/OC-16266-RG and ATN/OC-16267-RG.

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Country: Paraguay
Name: Expansion of the High-voltage Transmission System and Energy Efficiency Actions
Project Number: PR-L1173 – CCLIP PR-O0004
Executing Agency: National Electricity Administration (ANDE)
Prepared by: Fernando Glasman, Jorge Seigneur, and Jorge Luis González (fiduciary specialists)

I. EXECUTIVE SUMMARY

- 1.1 The institutional assessment for fiduciary management was conducted through meetings with the Bank's fiduciary team and staff from ANDE's administrative/financial and procurement areas. This assessment was complemented by the findings of the January 2020 institutional capacity assessment of ANDE. This resulted in the preparation of these fiduciary agreements.
- 1.2 The project is cofinanced by the Japan International Cooperation Agency (JICA).

II. FIDUCIARY CONTEXT OF THE COUNTRY

- 2.1 In general terms, the country systems for financial management are at a medium level of development. They need to be complemented—for executing Bank-financed projects in terms of specific financial reports and external control—through auxiliary accounting systems and by hiring Bank-eligible private audit firms. Financial control tools, such as the Integrated Financial Management System (SIAF), the accounting system (SICO), and other subsystems, allow executing agencies to transfer payments through the Central Bank to providers of goods and services. In the future, integration of these tools will make the project's audited financial statements readily available through the SIAF. Meanwhile support is being provided by parallel systems.
- 2.2 The country system for public procurement has made great strides in recent years in terms of efficiency and transparency as a result of the creation of its lead agency, the National Public Procurement Office (DNCP), which has made it possible to implement a procurement transaction platform with electronic procedures such as the electronic reverse auction, a system of providers, and the statistics information system. Bank-financed operations have been using the Public Procurement Information System and the country subsystems for electronic reverse auction and competitive bidding for amounts and categories set forth in the usage agreement for these subsystems, signed between Paraguay and the Bank on 17 June 2014.

III. FIDUCIARY CONTEXT OF THE EXECUTING AGENCY

- 3.1 The executing agency will be ANDE. Acting through its Office of Planning and Studies as the project coordination unit (PCU), ANDE will be responsible for overall project coordination. It will be supported by the Office of Public Procurement, which is the operational procurement unit responsible for processes related to procurement; the Financial Department for fund management; and the Technical Department.
- 3.2 During project preparation, the institutional capacity assessment looked at ANDE's capacity to execute scheduled, organized activities, including human resource management, procurement management, and financial management. The assessment found that ANDE generally has technical competencies in fiduciary matters.

IV. FIDUCIARY RISK EVALUATION AND MITIGATION ACTIONS

- 4.1 The evaluations identified opportunities for improvement in:
 - a. Implementation of the Operating Regulations.
 - b. Hiring a financial management specialist and a procurement specialist exclusively dedicated to the project.
 - c. Strengthening of accounting and internal control areas in the Bank's financial management policies through courses and training events on these topics.
 - d. Strengthening of the procurement area in the Bank's procurement policies and in establishing efficient process flows that are applied for project execution in the Operating Regulations.
- 4.2 **Procurement management.** The institutional assessment report (January 2020) found that the executing agency has weaknesses in its historical performance in terms of duration of procurement processes. This will require (i) incorporating personnel with competence and knowledge in the policies of multilateral organizations; (ii) strengthening capacities through specific courses and workshops on the Bank's procurement policies; and (iii) including provisions in the project Operating Regulations on efficient process flows with estimated timelines which can be applied during bidding processes. In addition, "difficulties in implementing the new procurement policies (documents GN-2349-15 and GN-2350-15)" have been identified in the risk matrix as a medium-high fiduciary risk, which will be mitigated with training in the new policies and close assistance for the executing agency's procurement team.
- 4.3 **Financial management.** The Office of Planning and Studies was identified as lacking an accounting and financial system for recording transactions. This will be mitigated by implementing an accounting and financial system.

V. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF CONTRACTS

- 5.1 The following agreements and requirements should be considered in the special provisions of contracts:
- a. For the purposes of Article 4.10 of the General Conditions, the parties agree that the exchange rate will be the rate specified in paragraph (b)(i) of Article 4.10. The agreed exchange rate will be the rate in effect on the date on which the approval currency or the disbursement currency is converted to the local currency of the borrower's country. To determine the equivalence of expenses incurred in local currency as a charge against the local contribution, the agreed exchange rate will be the rate at the time of the payment in which ANDE or any other person or entity authorized to make expenditures makes the applicable payments to the contractor, provider, or beneficiary. To determine the equivalence of the reimbursement of expenditures against the loan, the agreed exchange rate will be the rate in effect as of the date of the disbursement request.
 - b. The project's annual financial statements will be submitted within 120 days after the end of the fiscal period, and the final financial statements will be submitted within 120 days after the date of the last disbursement.

VI. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

- 6.1 The procurement policies set forth in documents GN-2349-15 and GN-2350-15 apply to this loan. In addition, the Bank's Board of Executive Directors approved (document GN-2538-11) the use of the electronic reverse auction and competitive bidding subsystems of Paraguay's public procurement system (Law 2051/03). The use of any other country systems that are approved after project approval will be automatically applied, as will be specified in the procurement plan.

A. Procurement execution

- 6.2 **Procurement of works, goods, and nonconsulting services.** Contracts for works, goods, and nonconsulting services¹ subject to international competitive bidding (ICB) will be carried out using Bank-issued standard bidding documents. Procurement processes subject to national competitive bidding (NCB) will be carried out using national bidding documents agreed upon with the Bank. The project's sector specialist will review the technical specifications for the procurement processes while the selection processes are being prepared. No direct contracting processes are anticipated.
- 6.3 **Selection and contracting of consultants.** Contracts for consulting services will be carried out using the standard request for proposals issued by or agreed upon with the Bank. The project's sector specialist will review the terms of reference for procuring consulting services.

¹ Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank (document GN-2349-15), paragraph 1.1: Nonconsulting services are treated as goods.

- a. **Selection of individual consultants.** The procurement policies set forth in document GN-2350-15 will apply.
 - b. **Training.** Procurement workshops will be held.
 - c. **Use of country systems.** In accordance with document GN-2538-11 of October 2013, the use of the electronic reverse auction and competitive bidding subsystems of Paraguay's public procurement system in Bank-financed operations will be applicable:
 - (i) To all contracts for goods and nonconsulting services subject to the use of electronic reverse auction in accordance with Paraguay's public procurement system, for amounts under the Bank threshold for shopping for off-the-shelf goods (US\$250,000).
 - (ii) To all contracts for works in amounts under the Bank threshold for shopping for uncommon works (US\$250,000), and contracts for goods and nonconsulting services up to the Bank threshold for shopping for specific goods and services (US\$50,000).
 - (iii) Contracts for amounts greater than or equal to the aforementioned amounts will be governed by Bank policies (document GN-2349-15).
- 6.4 Section 1 of the Bank's policies (document GN-2349-15) will remain applicable to all contracts entered into regardless of amount or procurement method. Any system or subsystem that is subsequently approved will apply to the operation. The operation's procurement plan and its updates will specify which procurement items will be undertaken through the approved country systems.²
- 6.5 **Start of selection process.** Once the IDB and JICA loan contract is signed, the executing agency may, pursuant to the Bank's procurement policies, begin the bidding processes for procurement of works pending legislative approval. The contracts may not be awarded or signed until the IDB and JICA loan contracts are approved by the Paraguayan Congress.
- 6.6 **National preference.** National preference is not anticipated for this operation.

Table 1. Thresholds for procurement methods

Procurement type	Threshold (US\$ thousands)	Method
Works	≥ 3,000	ICB
	250 to 3,000	NCB or shopping*
	< 250	Shopping or use of country systems**
Nonconsulting goods and services	≥ 250	ICB
	50 to 250	NCB or shopping* or use of country systems***
	< 50	Shopping or use of country systems****

² If the Bank approves another system or subsystem, it will be applicable to the operation in accordance with the loan contract.

Procurement type	Threshold (US\$ thousands)	Method
Consulting services: consulting firm	≥ 200	Shortlist of six companies with broad geographic representation (international and national advertising)
	< 200	Shortlist of six companies, which may be national (national advertising)
Individual consultant		3 CVs

* Shopping for common works, goods, or services.

** Country systems for works deemed specific when competitive bidding is used.

*** Country systems for goods and nonconsulting services deemed common when electronic reverse auction is used.

**** Country systems for goods and nonconsulting services deemed specific.

Table 2. Procurement by category

Category	IDB financing (US\$)
Total works	130,277,546
Total goods	2,000,000
Total consulting firms	12,250,703
Total individual consultants	288,000
Total procurement plan	144,816,249

- 6.7 **Procurement supervision.** All procurement processes governed by the procurement policies set forth in documents GN-2349-15 and GN-2350-15 will be subject to ex ante review by the Bank, taking into account the position of the Ministry of Finance. The country system will be used to supervise all procurement processes subject to the electronic reverse auction and competitive bidding subsystems of Paraguay's public procurement system (document GN-2538-11).³
- 6.8 **Special provisions.** No special provisions beyond those described in paragraph 5.1 are anticipated.
- 6.9 **Sustainable public procurement.** Sustainability criteria may be included in the procurement requirements and specifications for the project. In particular, the criteria set forth in Technical Note IDB-TN-1542, titled "Green Procurement" may be incorporated.
- 6.10 **Records and files.** The systems, forms, and procedures indicated by or agreed upon with the Bank will be used to prepare and file project reports.

VII. FINANCIAL MANAGEMENT AGREEMENTS AND REQUIREMENTS

A. Financial management

- 7.1 **Programming and budget.** The Office of Planning and Studies, under ANDE's Financial Department and in coordination with other offices, will centralize coordination of execution with the support of ANDE's other offices and departments as needed. ANDE will administer and execute the budget using the zero-based budgeting system.

³ Depending on the extent to which the supervision system is used, it may be complemented by project audits, in which case this will be mentioned in this annex.

- 7.2 **Accounting.** Accounts will be maintained on an accrual basis. However, cash basis will be used to render accounts on partially or fully Bank-financed projects.
- 7.3 **Information systems.** The Office of Planning and Studies will have access to the SIAF through the Financial Department. Country systems do not issue the reports required by the Bank. These reports are prepared by other systems, thus creating additional work for the Office of Planning and Studies.
- 7.4 **Disbursements and cash flow.** Disbursements will be made in the form of advances of funds, which will be corroborated by submitting a financial plan, broken down by month for a period of up to six months, to help determine the project's actual needs on the basis of the multiyear execution plan, the annual work plan, and the procurement plan. The second disbursement, and any subsequent disbursements, will be subject to justification of 80% of the funds advanced during project execution, in accordance with the financial management guidelines set forth in document OP-273-12 and its complementary documents. Direct payments or reimbursements of payments may be made to the provider if requested.
- 7.5 **Internal control and internal audit.** The Institutional Capacity Assessment System (ICAS) found a medium level of internal control. To address the issues identified by the ICAS, (i) procedures will be adopted to identify control activities in each significant process designed for the project; and (ii) a certification procedure will be implemented to ensure that employees acknowledge the code of conduct and whether or not any conflicts of interest exist.
- 7.6 **External control and reports.** The executing agency, acting through the PCU, will submit the project's annual audit reports on activities financed by the Bank loan. These audits will be performed by an independent audit firm acceptable to the Bank, in accordance with the terms of reference previously approved by the Bank. These external audit reports may be released publicly in accordance with the Access to Information Policy. External audits will be financed by the loan proceeds for the years included in the execution period.
- 7.7 **Financial supervision plan.** Financial supervision may be adjusted in view of project execution and the audit reports.

Table 3. Financial supervision plan

Nature/scope	Frequency
Financial audit and submittal of financial statements	Annual
Review of disbursement requests and attached reports	2-3 per year
Inspection visit/analysis of internal controls and the control environment in the executing agency	Annual

- 7.8 **Execution mechanism.** ANDE is the borrower and executing agency and is responsible for project execution, administration, monitoring, and evaluation through the Office of Planning and Studies, which will serve as the PCU. Section II(A) of the loan proposal details the project activities.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/20

Paraguay. Conditional Credit Line for Investment Projects (CCLIP): Sustainable Energy Investment Program in Paraguay (PR-O0004)

The Board of Executive Directors

RESOLVES:

1. To authorize the President of the Bank, or such representative as he shall designate, to enter into such agreement or agreements as may be necessary with the Administración Nacional de Electricidad (ANDE), as borrower, and with the Republic of Paraguay, as guarantor, to establish the Conditional Credit Line for Investment Projects (CCLIP): Sustainable Energy Investment Program in Paraguay (PR-O0004) for an amount of up to US\$400.000.000 chargeable to the resources of the Bank's Ordinary Capital.

2. To determine that the resources allocated to the above-mentioned Conditional Credit Line for Investment Projects (CCLIP): Sustainable Energy Investment Program in Paraguay (PR-O0004), shall be used to finance individual loan operations in accordance with: (a) the objectives and regulations of the Conditional Credit Line for Investment Projects approved by Resolution DE-58/03, as amended by Resolutions DE-10/07, DE-164/07, DE-86/16 and DE-98/19; (b) the provisions set forth in documents GN-2564-3 and GN-2246-13; and (c) the terms and conditions included in the Loan Proposal for the corresponding individual operation.

(Adopted on ____ 2020)

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/20

Paraguay. Loan ____/OC-PR to the Administración Nacional de Electricidad (ANDE). Conditional Credit Line for Investment Projects (CCLIP) (PR-O0004). Expansion of the High-Voltage Transmission System and Energy Efficiency Actions (PR-L1173)

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Administración Nacional de Electricidad (ANDE), as borrower, and with the Republic of Paraguay, as guarantor, for the purpose of granting the former a financing aimed at cooperating in the execution of the Expansion of the High-Voltage Transmission System and Energy Efficiency Actions, which constitutes the first individual operation under the Conditional Credit Line for Investment Projects (CCLIP): Sustainable Energy Investment Program in Paraguay, approved on _____ 2020 by Resolution DE-___/20. Such financing will be in the amount of up to US\$70.000.000, from the resources of the Bank's Ordinary Capital, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on __ _____ 2020)