

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

ECUADOR

PROGRAM TO STRENGTHEN THE NATIONAL ELECTRICITY DISTRIBUTION SYSTEM OF ECUADOR

(EC-L1136)

LOAN PROPOSAL

This document was prepared by the project team consisting of: Jesús Tejeda (ENE/CEC), Project Team Leader; Arnaldo Vieira de Carvalho (INE/ENE), Project Team Co-leader; Fernando Orduz (TSP/CEC); Carlos Hiestrosa (INE/ENE); Liliana López (INE/ENE); Juan Carlos Páez (INE/ESG); Rafael Poveda (CAN/CEC); Gumersindo Velázquez (FMP/CEC); Gustavo Palmerio (FMP/CEC); Kevin McTigue (LEG/SGO); and Javier Cassou (CAN/CEC); under the supervision of Alejandro Melandri, Acting Chief of the Energy Division (INE/ENE) and Morgan Doyle, Representative in Ecuador (CAN/CEC).

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ELECTRONIC LINKS	
REQUIRED	
1.	Annual work plan (AWP) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38699421
2.	Monitoring and evaluation plan (MEP) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38718803
3.	Full procurement plan http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38699407
OPTIONAL	
1.	Economic and financial assessment of the program http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38719856 http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38715581
2.	Technical assessment of program projects http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38699429
3.	Portfolio of program projects by electricity distribution company http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38699437
4.	Program justification under the Operational Policy on Public Utilities (document GN-2716-6) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38699448
5.	Report on results of implementation of the “Carchi Border Plan for Electric-induction Cook Stoves” http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38699214
6.	Background on the use of liquefied petroleum gas (LPG) in Ecuador http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38699465
7.	Electrical design of operation 2882/OC-EC-1, “Quito Metropolitan Urban Transport System” http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38719968
8.	Terms of reference for economic/financial ex post evaluation http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38703608
9.	Master Plan for Electrification of Ecuador 2013-2022. CONELEC http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38272441
10.	“Buen Vivir” [“Good Life”] National Plan 2013-2017 http://www.senplades.gob.ec/
11.	Paul L. Joskow, Patterns of Transmission Investment http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38274468
13.	Proposed Act Establishing the Public Electric Power Service http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38703503

ABBREVIATIONS

AIFk	Frecuencia media de interrupciones por kilovatio-amperio instalado [average interruption frequency per KVA installed]
AWP	Annual work plan
CCF	China Cofinancing Fund for Latin America and the Caribbean
CELEC EP	Empresa Pública Estratégica Corporación Eléctrica del Ecuador [Electricity Corporation of Ecuador, Strategic Public Enterprise]
CENACE	Centro Nacional de Control de Energía National Energy Control Center]
CGE	Contraloría General del Estado [Office of the Comptroller General]
CNEL EP	Empresa Eléctrica Pública Estratégica Corporación Nacional de Electricidad [National Electricity Corporation, Strategic Public Enterprise]
CNEL	Corporación Nacional de Electricidad, S.A.
CO ₂	Carbon dioxide
CONELC	Consejo Nacional de Electricidad [National Electricity Board]
CRI	Cash Recovery Index
DEM	Development Effectiveness Matrix
EDE	Electricity distribution enterprise
ENPV	Economic net present value
EIRR	Economic internal rate of return
ESMP	Environmental and social management plan
ESMR	Environmental and social management report
FNPV	Financial net present value
GCI-9	Ninth General Capital Increase
GWh	Gigawatt-hour
FIRR	Financial internal rate of return
km	Kilometer
kV	Kilovolt
kWh	Kilowatt-hour
LPG	Liquefied petroleum gas
LOEP	Ley Orgánica de Empresas Públicas [Public Enterprises Act]
LRSE	Ley de Régimen del Sector Eléctrico [Law on the Power Sector Regime]
M&E	Monitoring and evaluation
MC-15	Mandato Constituyente [Constituent Assembly Legislative Decree] 15 of 2008
MEER	Ministry of Electricity and Renewable Energy
MEM	Wholesale Electricity Market
MVA	Megavolt-ampere
MW	Megawatt
MWh	Megawatt-hour
OC	Ordinary Capital
PED	Plan de Expansión de la Distribución [Distribution Expansion Plan]
PET	Plan de Expansión de la Transmisión [Transmission Expansion Plan]

PLANREP	Plan de Reducción de Pérdidas Eléctricas [Electricity Loss Reduction Plan]
PME	Plan Maestro de Electrificación de Ecuador 2013-2022 [Master Plan for Electrification of Ecuador 2013-2022]
PMU	Program management unit
PNBV	Plan Nacional del Buen Vivir [“Good Life” National Plan]
PND	Plan Nacional de Desarrollo [National Development Plan]
SDCE	Subsecretaría de Distribución y Comercialización de Energía [Office of the Undersecretary of Power Distribution and Marketing]
SIGDE	Sistema Integrado para Mejorar la Gestión de la Distribución Eléctrica [Integrated System to Improve Electricity Distribution Management]
SND	National Distribution System (Sistema Nacional de Distribución)
SNT	National Transmission System (Sistema Nacional de Transmisión)
TC	Technical Cooperation
TOR	Terms of reference
TITk	Tiempo total de interrupciones por kilovatio-amperio instalado [total interruption time per kVA installed]
V	Volts
WAL	Weighted average life

PROJECT SUMMARY

ECUADOR PROGRAM TO STRENGTHEN THE NATIONAL ELECTRICITY DISTRIBUTION SYSTEM OF ECUADOR (EC-L1136)

Financial Terms and Conditions			
Borrower: Republic of Ecuador		Flexible Financing Facility*	
		Amortization period:	25 years
Executing agency: Ministry of Electricity and Renewable Energy (MEER)		Weighted average life:	15.25 years**
		Disbursement period:	4 years
		Grace period:	13.5 years**
Source	Amount	Inspection and supervision fee:	***
IDB (Ordinary Capital)	US\$170 million	Interest rate:	LIBOR-based
China Cofinancing Fund for Latin America and the Caribbean (CCF)****	US\$50 million	Credit fee:	***
Local contribution	US\$27.4 million	Currency:	U.S. dollars from the Bank's Ordinary Capital
Total	US\$247.4 million		
Project at a Glance			
Program objectives and description: Strengthen the National Distribution System (SND), to support a change in the energy matrix and the delivery of quality electricity service to residential customers. The specific objectives are to: (i) contribute to strengthening the SND, to operate at 220 V on the low-voltage grid; (ii) increase the reliability of the SND; and (iii) contribute to developing a strategy to replace consumption of liquefied petroleum gas (LPG) with electricity for residential customers.			
Special contractual conditions precedent to the first disbursement: (i) Signature and entry into force of a subsidiary agreement between the Ministry of Finance and the executing agency stating the obligation that the resources must be used on the terms and for the purposes agreed upon in the loan contract, subject to the Bank's no objection; and (ii) formation of the program management unit (PMU) by the executing agency for program execution, comprised of a general coordinator, procurement specialist, finance specialist, planning and monitoring specialist, environmental specialist and an electrical engineer, subject to the Bank's no objection (see paragraph 3.1); and (iii) submission of an updated version of the program Operations Manual duly approved by MEER, and its entry into force, subject to the Bank's no objection (see paragraph 3.5).			
Special execution conditions: Prior to the start of the works under Component I, the executing agency will provide evidence of the following, to the Bank's satisfaction: (i) the environmental assessments and environmental and social management plan (ESMP), together with the corresponding budget for its execution; (ii) the environmental license and permits required by Ecuadorian law; (iii) the easement order in the case of new distribution lines; (iv) evidence of legal ownership of all land on which new electrical substations are to be located; (v) inclusion of the relevant environmental technical specifications and the ESMP in the construction and inspection contracts for the planned works; and (vi) evidence that at least one public consultation has been held for each project, including (a) description of the project; (b) description of probable impacts; (c) description of the proposed measures for managing the impacts identified (ESMP); (d) description of the system for receiving and processing complaints and claims; and (e) a channel for receiving suggestions on the proposed project and/or its ESMP (see paragraph 2.5).			
Exceptions to Bank policies: None.			
Project qualifies as:		SEQ []	PTI []
		Sector []	Geographic []
		Headcount []	

^{*} 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 and interest rate conversions. The Bank will take operational and risk management considerations into account when weighing such requests.

^{**} The original maximum WAL of the loan and the grace period may be shorter, depending on the effective signature date of the loan contract.

^{***} 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 the applicable policies.

^{****} This segment of financing will be governed by the provisions of document GN-2686-4. The terms and conditions of this segment of financing will be the same as those of the segment of financing from the Bank's Ordinary Capital resources, including the applicable provisions of the Flexible Financing Facility.

I. DESCRIPTION AND RESULTS MONITORING

A. Background, current situation, and proposal

- 1.1 **Background.** The National Development Plan (PND) is the instrument governing public policies, programs and projects, as well as investments and allocation of resources. The 2008 Constitution positions planning and public policies as instruments for meeting the “Buen Vivir” (“Good Life”) objectives, and identifies planning as the instrument to foster social and territorial equity and collaborative action. These principles put priority on poverty eradication, promotion of sustainable development, and equitable distribution of resources and wealth, thus transforming the PND into the “Buen Vivir” [“Good Life”] National Plan (PNBV).
- 1.2 As part of the proposed strategies for achieving the PNBV objectives, changing the energy matrix is essential, and encompasses the following components: (i) increasing the share of renewable energies in the generation matrix, principally through hydroelectric projects; (ii) reducing petroleum derivatives imports through construction of the Pacific Refinery; and (iii) encouraging efficient energy use by reducing the consumption of petroleum derivatives by residential customers.
- 1.3 In order to execute these components, the new Master Plan for Electrification of Ecuador 2013-2022 (PME) was formulated, making energy independence a cornerstone of sector policy. The PME seeks to modernize and expand the electricity system, given the availability of sufficient energy reserves to ensure the natural growth of domestic demand, the addition of new loads entailed in changing the country’s energy matrix, the opportunity to optimize operating costs offered by the current international connections, and the opportunity to increase the transfer volumes enabling the country to participate proactively in the regional electricity market.
- 1.4 The PME states that projected demand is a key factor in planning the expansion of the electricity system. In projecting demand, the PME considers a base-case scenario that correlates macroeconomic,¹ demographic, energy, and customer-related variables to determine the expected development up to 2022. Thus, annual average growth is estimated at 5% between 2012 and 2022, reaching 26,542 GWh of power by the end of that period. This corresponds to additional power at the generation terminals² of 4,723 MWh in 2022. A more optimistic scenario that reflects fully

¹ The PME makes reference to a decline in the growth rate of the national economy, which impacts demand projections in the industrial, residential and commercial categories, where GDP was employed as an explanatory variable. As a result, the projected average growth is 3.7% (2012-2022), lower than the historically recorded average growth figure of 4.7% (2000-2012).

² The point where power is measured as it leaves the generator.

- completing strategic projects³ in the coming years entails growth above 8%, equivalent to 6,864 MWh of power by the end of the same period.
- 1.5 The expectation is that transitioning to an energy matrix based on renewable energy sources for generating electricity can yield macroeconomic benefits for the country in the medium and long term. The addition of new hydroelectric generation projects would reduce thermal power generation using petroleum derivatives, most of which are imported. Likewise, shifting from liquefied petroleum gas (LPG) consumption to electricity for residential customers would contribute to gradual elimination of the current subsidy for its consumption. Reduced demand for LPG in the residential sector would have a positive effect on the balance of trade by significantly reducing imports; currently, over 80% of this hydrocarbon is imported.
- 1.6 **Electricity infrastructure.** As of 2013, Ecuador's electricity network has installed power generation capacity of 5,100 MW (46% from renewable energies,⁴ 54% thermal). In order to meet much of the projected demand, new hydroelectric projects are under construction for additional capacity of 4,165 MW; of these, eight are considered flagship projects, equivalent to 2,362 MW. These projects, located on the Amazon and Pacific sides of the divide, are expected to enter operation in the last quarter of 2014, adding more capacity in 2016 and 2017.⁵
- 1.7 Responding to the growing demand under the base case scenario and several of the strategic projects (see paragraph 1.4) will impact the National Transmission System (SNT), as well as the National Distribution System (SND). In particular, changing the energy matrix, which includes shifting from LPG to electricity, will have a direct impact on demand in the residential sector, requiring average annual power of 5,457 GWh for cooking food and 5.9 GWh for heating water by the end of 2022.⁶
- 1.8 Under either of the two scenarios (see paragraph 1.4), a robust, modern SNT and SND will be needed. At present, the SNT has 1,841 km of 230 kV transmission line,⁷ and 1,718 km of 138 kV line.⁸ It also has 212 km of 230 kV international transmission line with Colombia, and 107 km of 230 kV line with Peru. Under the Transmission Expansion Plan (PET), new SNT works and others expected to become operational in 2015 are being built, with local financing and Bank resources

³ Mining projects, the Pacific Refinery, the National Efficient Cooking Program, the Petroamazonas Program to Optimize Electricity Generation and Energy Efficiency, the National Program to change the productive matrix, electricity-based transportation (the Quito Metro and the Cuenca light rail system), and the energy integration initiative.

⁴ Forty-three percent of renewable energy generation is based on hydroelectric power.

⁵ The public and private investments necessary for the plan to expand generation are US\$6,011,662,000 and US\$1,071,837,000, respectively. Master Plan for Electrification of Ecuador 2013-2022.

⁶ This is the result of consumption of approximately 100 kWh/month per client using the electric-induction cook stove technology to replace the use of LPG for cooking. It is anticipated that a total of approximately 4.55 million EI units could be incorporated by 2022 among residential customers. (Source: Master Plan for Electrification of Ecuador 2013-2022).

⁷ 1,285 km of double circuit lines and 556 km of single circuit lines.

⁸ 625 km of double circuit lines and 1,093 km of single circuit lines.

(loan 2608/OC-EC⁹ and EC-L1117¹⁰). The Piura agreement signed in 2013 between the governments of Ecuador and Peru calls for construction of an extra high voltage transmission line for greater continuous power exchange between the two countries.

- 1.9 The current SND infrastructure has total installed power of distribution transformers on the order of 8,113 megavolt-amperes (MVA), which, according to the PME, is sufficient to meet current demand but insufficient for projected power needs. Major changes in the SND will involve works for: (i) connections, meters and secondary distribution networks; (ii) distribution transformers; (iii) primary feeders; (iv) expansion of electrical substations; and (v) subtransmission lines. The investment required to strengthen the SND over the next three years will be US\$485 million.
- 1.10 The PME emphasizes the increasing need to develop reliable, high-quality service with energy efficiency through the adoption of recent technological advances in power generation using renewable energies on a small and medium scale; focus on the use of flexible alternating-current systems for transmission, modern systems for protection, metering and communications; automation of electricity distribution networks; and subtransmission systems based on the smart grids principle. As part of this effort, the Ministry of Electricity and Renewable Energy (MEER) has been promoting the Integrated System to Improve Electricity Distribution Management (SIGDE), which seeks to strengthen the management of electricity distribution enterprises by implementing world-class systems that incorporate integrated management practices, good corporate governance, economically, socially and environmentally sound business criteria, and corporate social responsibility. The SIGDE promotes improved management in operations and planning among electricity distribution enterprises (EDEs)¹¹ through operational planning for expansion, asset management, harmonization of processes, information systems, and standardization and interoperability among different systems, equipment and devices.
- 1.11 **Legal framework of the electricity sector.** Electricity sector legislation is based on the 2008 Constitution of the Republic of Ecuador; Constituent Assembly Legislative Decree 15 of 2008 (MC-15); the Law on the Power Sector Regime (LRSE)¹² and

⁹ Support for the Transmission Program (US\$60 million). Closing date, February 2015.

¹⁰ National Transmission System Strengthening Program (US\$150 million). Approval date, April 2014.

¹¹ The country has 11 electricity distribution enterprises (EDEs).

¹² The LRSE and MC-15 govern the sector. Other instruments include: Resolution 173, whereby the Ministry of Environment accredited CONELEC to act as the lead environmental enforcement authority; and CONELEC Regulation 003/06 establishing a typology of electric power transmission lines that require environmental impact studies.

amendments 2006-55¹³ thereto; the 2009 Public Enterprises Act (LOEP);¹⁴ and Executive Decree 220 of 2010 establishing Empresa Pública Estratégica Corporación Eléctrica del Ecuador [Electricity Corporation of Ecuador, Strategic Public Enterprise] (CELEC EP). The structure of EDEs has evolved under the Public Enterprises Act. In 2009, Ecuador had 20 distribution enterprises. With the implementation of MC-15, and with the restructuring of the electricity sector, the current eleven EDEs, including Empresa Eléctrica Pública Estratégica Corporación Nacional de Electricidad [National Electricity Corporation, Strategic Public Enterprise] (CNEL EP), were formed. Under the new MC-15 guidelines, sector investment plans began to be financed out of the General Budget. The decision to transfer responsibility to MEER for the capitalization of electricity enterprises through the Solidarity Fund, and the authority to merge, dissolve or restructure EDEs to improve technical and administrative aspects of their operations gave rise to the CNEL EP, which brought together ten electricity enterprises with low management performance.

- 1.12 **Institutional framework of the electricity sector.** The apex agency for electricity sector policy is the Ministry of Electricity and Renewable Energy (MEER). Responsibility for regulation and control of the electricity supply, as well as sector planning, resides with the National Electricity Board (CONELEC), subject to the PNBV and MEER policies. Through the Office of the Undersecretary of Power Distribution and Marketing (SDCE), MEER is tasked with supervising and evaluating the technical, commercial, administrative and financial management of the EDEs. The transmission role is performed by Transelectric, a business unit of CELEC EP, with the objective of transporting electric power and guaranteeing free access to the transmission networks of agents of the Wholesale Electricity Market (MEM).¹⁵ Power distribution and marketing is handled through the EDEs.¹⁶ The MEM technical and financial transactions are administered by the National Energy Control Center (CENACE).

¹³ In the first half of 2014, the President of the Republic of Ecuador sent the proposed Act Establishing the Public Electric Power Service to the National Assembly. The bill, to be enacted in 2014, will replace the current LRSE. The new law endorses the same principles of efficiency, quality and sustainability in the delivery of electricity service, and maintains the sector structure of separation of responsibilities, centering on the roles of MEER, CONELEC and CENACE. These last two will become the Agencia de Regulación y Control de Electricidad [Electricity Regulation and Control Agency] (ARCONEL) and the Operador Nacional de Energía [National Power Operator] (ONE), respectively.

¹⁴ LRSE sets the objectives for electricity generation, transmission and distribution. The Public Enterprises Act contains elements related to the establishment and management of public enterprises, including those in strategic sectors.

¹⁵ The MEM is made up of generators, distributors and large consumers.

¹⁶ CNEL is composed of 10 business units and provides electricity distribution service to a total of 1.3 million subscribers (36% of the national total). Other enterprises responsible for providing service to 1.7 million subscribers (46% of the national total) are: Empresa Eléctrica de Quito, S.A.; Unidad Eléctrica de Guayaquil; Empresa Eléctrica Regional Centro Sur, S.A.; Empresa Eléctrica. Azogues, S.A.; and Empresa Eléctrica Riobamba S.A.

- 1.13 MC-15 directs CONELEC to set a flat rate¹⁷ to be applied by the EDEs for each type of consumers. The transmission rate approved in 2008¹⁸ reflects the costs of operation and maintenance, service quality, and socioenvironmental management determined by CONELEC, taking into account that the planned investment amounts are to be covered as established in MC-15.¹⁹ This rate²⁰ is applied to distributors and large consumers, in view of their use of the transmission lines, electrical substations and other elements of the SNT. Since 2001, all EDEs have been signatories to trusts administered by specialized units of local banks—the private banks Banco de Guayaquil and Banco del Pichincha and the public bank Banco del Pacífico—that collected revenues for electricity service delivery, including the contribution for the “tarifa dignidad” low-income subsidy of the Government of Ecuador. The revenue collected for each EDE, including subsidy contributions, was placed in the respective trust accounts to ensure the payments associated with service delivery in the order of priority established by MEER. Beginning in April 2014, once MEER had verified that the trusts were operating soundly, a new scheme was announced for electricity service revenue collection and payments that did not involve the use of trusts, but instead the Central Bank. A Technical Supervision and Control Committee was created, consisting of MEER, two representatives of the EDEs, two representatives of the energy generation and transmission market, and one representative of CENACE and CONELEC. The order of priority of payments for services is as follows: (i) transmission; (ii) energy import; (iii) nonconventional generation; (iv) variable costs of private generation; (v) fixed costs of private generation; (vi) operation and maintenance costs; (vii) variable costs of State-run hydroelectric generation; (viii) variable costs of State-run thermal generation; and (ix) private generation on the spot market.
- 1.14 **Sector knowledge.** As part of the strategy to address the investments envisaged in the PME, the Government of Ecuador is making investments to strengthen the SNT and SND with IDB support. In transmission, it currently is executing the final stage of the loan to support the Transmission Program (loan 2457/OC-EC), which has made it possible to expand the SNT, build and rehabilitate electrical substations, improve voltage profiles and reduce chargeability, pursuant to CONELEC Regulation 004/02.²¹ Part of the new investments envisaged in the Transmission Expansion Plan (PET) will be financed through the new loan, “National

¹⁷ According to the MC-15, the flat rate to be applied to EDEs reflects the costs of operation and maintenance.

¹⁸ Through CONELEC Resolution No. 0107/08 of August 12, 2008.

¹⁹ Since 2008, with the MC-15, the Government of Ecuador reserves the right to administer, regulate, control and manage the sector, establishing that investments in generation, transmission and distribution will be financed from the Ecuadorian government’s General Budget, eliminating the investment component from the rate structure.

²⁰ The transmission rate in effect in 2013 was US\$1.77 per kW for maximum demand month (CONELEC Resolution 008/2013).

²¹ Reactive Power Transactions on the MEM, which establishes the permissible band of variation on the buses for the SNT’s 138 kV lines at 0.93 p.u. and 1.05 p.u.

Transmission System Strengthening Program” (loan 3167/OC-EC),²² which seeks to strengthen the SNT (see paragraph 1.8), so as to ensure the effective transmission of electricity from the new hydroelectric projects to the SND delivery points, including: (i) ensuring flexibility to operate efficiently over binational interconnections during hours of minimum demand; (ii) increasing the capacity of electrical substations in operation more than 30 years; (iii) expanding the 138-kV subtransmission system to mitigate saturation at points of high consumption; (iv) raising transmission capacity to 230 kV; and (v) building new power delivery points in the SNT to improve service quality and offer sufficient capacity. Since 2010, the PET investments have had financing from Ecuador’s General Budget and the IDB.

- 1.15 To meet the investment needs of the Distribution Expansion Plan (PED), which seeks to improve SND operation, the Government of Ecuador has designed: the Electrification Plan for Rural and Marginal Urban Areas (FERUM), the Electricity Loss Reduction Plan (PLANREP), and the Distribution Network Improvement Plan (PMD). Together, these have contributed to:²³ (i) expanding the distribution network for greater electricity coverage (95.4%); (ii) reducing total electricity losses from a national average of approximately 23% to 12.7% in seven years; and (iii) improving the measurements of service quality within the system: average interruption frequency per kVA installed (AIFk) from 17.8 to 13.7, and total interruption time per kVA installed (TITk) from 19.5 to 15.2).²⁴ In recent years, PED works have been financed with resources from Ecuador’s General Budget and the IDB.^{25 26}
- 1.16 **Current situation, electricity supply.** In 2012, annual power demand was 6.1%, up from 2011. Reserve margins are high, but not available at all times, due to the large hydrological variations between the rainy and dry seasons, limitations in fuel storage capacity, and the periodic maintenance requirements of generating units. In order to address these requirements, the Government of Ecuador has several hydroelectric projects under construction (see paragraph 1.6), which will gradually add a total of nearly 2,362 MW to the system from 2014 onward. The new hydroelectric projects are being constructed taking advantage of complementary watersheds located on the country’s Pacific and eastern sides of the divide, so as to mitigate drought risks.
- 1.17 **Electricity transmission.** CELEC EP is building works envisaged in the PET (see paragraph 1.14) that should contribute to strengthening the SNT, including the construction of approximately 400 km of Ecuador’s first 500 kV extra high voltage

²² This program was approved by the IDB Board of Executive Directors on 23 April 2014.

²³ Estimated outcomes as of December 2013.

²⁴ AIFk: average interruption frequency per kVA installed; TITk: Total interruption time per kVA installed.

²⁵ “Electrification Program for Rural and Marginal Urban Areas of Ecuador” (loans 2608/OC-EC and 3087/OC-EC). These two operations, identified as FERUM I and FERUM II, have IDB financing of US\$40 million and US\$30 million, respectively.

²⁶ In the second half of 2014, the Government of Ecuador will discuss possible financing for a second stage of the SND Strengthening Program with the European Investment Bank (EIB).

transmission system (“System 500”), which is needed to move power from the Coca-Codo Sinclair hydroelectric plant to the SNT.²⁷

- 1.18 **Electricity distribution.** The SND²⁸ requires additional investments to ensure the supply of high-quality electrical power from the SNT delivery points to the end customers, under the PME’s projected demand scenarios. The planned investments to strengthen the SND in the next three years include changes in: (i) connections, meters and secondary distribution networks; (ii) distribution transformers; (iii) primary feeders; (iv) expansion of electrical substations; and (v) subtransmission lines.
- 1.19 **Proposal.** Based on this scenario, the Government of Ecuador considers IDB support advisable, to continue meeting the challenges of the SND and contribute to the change in the energy matrix described in the PNBV, with sustainability as a priority (see paragraph 1.18). The IDB support in the sector has been key to financing and executing PET and PED strategic projects, which have contributed to improving sector indicators and generating knowledge for better management and planning.
- 1.20 **The country’s strategy.** Ecuador’s sector strategy is defined by its governing documents, the PNBV 2013-2017 and the PME. In line with Operational Policy OP-708 on Public Utilities (document GN-2716-6), the sector observes the basic principles of support to address basic needs, transparency, financial sustainability, and sound institutional structure by clearly defining: (i) separation of the respective roles of MEER, as the governing body, CONELEC, as the regulatory entity, and the transmission and distribution enterprises; (ii) the sector structure, which allows for private participation in energy generation²⁹ and distribution; and (iii) reform of public enterprises to improve their management and sustainability scheme, based on user charges that cover operation and maintenance of the transmission and distribution service, and on contributions from the Government of Ecuador to ensure expansion. The transfers from the government to the sector by targeted subsidy are made transparent through the rate collection mechanism (see paragraph 1.13). The program is consistent with the Operational Policy on Public Utilities and supports the Government of Ecuador in following its principles and meeting its long-term

²⁷ System 500 will cover a large portion of the country, and will become operational in two stages, one in 2015, the other in 2016.

²⁸ PME 2013-2022 provides for installed power in distribution transformers on the order of 8,113 MVA. This power is sufficient to meet current electricity demand.

²⁹ Private participation is allowed when the public enterprises are unable to meet demand, or as necessary and effective in the public, collective or general interest. In this case, the generation of electricity using nonconventional renewable energy sources is deemed necessary (CONELEC Regulation 002/11). This principle is maintained in the proposed Act Establishing the Public Electric Power Service sent to the National Assembly in 2014.

objectives and conditions for financial sustainability and economic assessment (see paragraphs 2.2 and 2.9).³⁰

- 1.21 **Alignment with the Bank's country strategy.** The update of the Bank's country strategy with Ecuador 2012-2017 (document GN-2680-2) includes support for the sector's efforts to create a sustainable energy strategy that facilitates adequate energy supply, contributes to diversification of the country's generating capacity, improves system reliability, promotes energy efficiency and expands coverage of electricity service. The program is aligned with the objectives of the country strategy with Ecuador, inasmuch as it promotes: (i) energy diversification through better transportation of power from renewable sources; (ii) energy efficiency at the distribution stage, also contributing to improved service reliability; and (iii) reducing electricity losses.³¹ The program is aligned with the priority areas of the IDB Infrastructure Strategy, "Sustainable Infrastructure for Competitiveness and Inclusive Growth" (document GN-2710-5), inasmuch as it (i) promotes access to infrastructure services through the financing of works in the SND system that will help to meet projected demand (see paragraph 1.4); and (ii) improves the quality of life of the population by providing a robust electric power system to ensure, in the medium term, a shift in the energy matrix toward renewable energy sources. In addition to financing projects under the PET and PED, the Bank is also supporting sector initiatives relating to energy diversification through the use of nonconventional renewable energies, energy efficiency, regional electrical integration, reduction of electricity losses in distribution, operation of smart grids and sustainable electrification in remote rural areas through a number of technical cooperation projects: EC-T1181, EC-G1001, EC-T1235, EC-M1063, RG-T2056³² and EC-T1279.³³
- 1.22 The strong level of execution of IDB-financed projects in the sector has yielded good practices that are reflected in this operation: (i) financing and execution instruments to be designed in close collaboration with the executing agencies; (ii) selection of projects for financing that are priorities in the sector governing documents; (iii) ongoing strengthening of the executing institutions in line with the Ecuadorian government's objectives; (iv) continual interaction with the executing agencies, to facilitate understanding of IDB procurement and monitoring procedures; (v) notable technical expertise of sector institution staff at all levels; and (vi) continual monitoring of sector outcomes by the Ecuadorian government authorities.

³⁰ See the detailed analysis of the program according to the Operational Policy on Public Utilities (document GN-2716-4), in the electronic links.

³¹ As of December 2013, SND electricity losses were 12.7%. By 2022, this figure is projected to be 7.5%. (PME 2013-2022).

³² Support for the Andean Electric Interconnection Studies.

³³ "Analysis and recommendations for the successful implementation of the Smart Grid Program in Ecuador."

- 1.23 **Consistency with the Ninth General Capital Increase (GCI-9).** This operation is aligned with the lending program priorities established in the GCI-9 report (document AB-2764) for: (i) lending to small, vulnerable countries; and (ii) support for climate change initiatives, sustainable energy (including renewable energy) and environmental sustainability. The expected outcomes of the program will contribute to the regional development targets: (i) infrastructure for competitiveness and social welfare, and (ii) protect the environment, respond to climate change, promote renewable energy, and ensure food security, through the effective supply of energy from renewable sources and promoting reductions in the use of fossil fuels by residential customers.

B. Objectives, components and costs

- 1.24 The general objective is to strengthen the National Distribution System (SND), to support a change in the energy matrix and the delivery of quality electricity service to residential customers. The specific objectives are to: (i) contribute to strengthening the SND, to operate at 220 V on the low-voltage grid; (ii) increase the reliability of the SND; and (iii) contribute to developing a strategy to replace consumption of liquefied petroleum gas (LPG) with electricity for residential customers.
- 1.25 **Component I: Strengthening of the National Distribution System (US\$236.88 million, 95.75%).** This component will finance works in the SND, to address the projected electricity demand, including strengthening approximately 627 km of subtransmission lines and 4,000 km of the distribution network through the construction and rehabilitation of electrical substations and electrical transformers, strengthening of primary feeders, and changing existing connections and meters. Component I includes inspection services and activities to explain and publicize the program works for each EDE.
- 1.26 The execution design for Component I has been developed under the multiple-works modality, since the works are physically similar but independent of each other. Thus, 190 projects have been evaluated, equivalent to a representative sample of 35% of the IDB loan proceeds. These evaluated projects have final designs for construction and bidding documents following IDB procurement policies ready for publication (see “Procurement plan”). The selection criteria (see paragraph 2.9) for projects give priority to strengthening the low- and medium-voltage system, beginning with subtransmission projects, based on a top-down approach of strengthening the system. The next group of projects, identified from PMD and PLANREP projects, are currently being evaluated.
- 1.27 **Component II: Design for implementation of the strategy to migrate from LPG to electricity in the residential sector (US\$1.1 million, 0.45%).** This component will finance: (i) a comprehensive analysis of the LPG market; (ii) an analysis of energy consumption habits in the residential sector, taking gender issues into account; (iii) definition of the management model for the Efficient Cooking Program; (iv) definition of the logistics system for mass distribution of high-

efficiency electric-induction cooking kits; and (v) monitoring of energy, social, economic and environmental indicators.

- 1.28 **Component III: Institution-strengthening (US\$8.4 million, 3.4%).** This component will finance: (i) implementation of a program to train EDE personnel involved in program execution; and (ii) support for the EDEs in works execution. The training program includes 17 instructional courses focused on operation and maintenance of electrical grids. The contracting of local consulting services, procurement of metering equipment, transportation and maintenance equipment, and computer hardware and software will be part of the execution support at the EDEs.
- 1.29 **Cost and financing.** The estimated cost of the program will be US\$247.4 million. Of that amount, US\$170 million will be financed from Ordinary Capital (OC) resources, US\$50 million from the China Cofinancing Fund for Latin America and the Caribbean (CCF), and US\$27.4 million will be recognized as counterpart resources.

Table 1. Program Costs (US\$000s)

COMPONENTS	FINANCING			TOTAL
	IDB		COUNTERPART**	
	OC	CCF		
Component I	161,500	50,000	25,380	236,880
Strengthening of the subtransmission network	68,037	50,000	14,164	132,202
Strengthening of the distribution network	86,916	0	10,430	97,346
Inspection services for the financed works	5,046	0	605	5,651
Awareness campaign to accompany the works	1,500	0	180	1,680
Component II	1,000	0	120	1,120
Component III	7,500	0	900	8,400
EDE training program	1,500	0	180	1,680
Support for program execution*	6,000	0	720	6,720
Program administration	0	0	1,000	1,000
Program monitoring and supervision	0	0	150	150
Program management unit (PMU)	0	0	600	600
Midterm and final evaluation (including ex post financial and economic evaluation)	0	0	100	100
External audits	0	0	150	150
TOTAL	170,000	50,000	27,400	247,400

* Consulting services, equipment for metering, transportation and maintenance, and computer hardware and software.

** The counterpart resources for Components I, II and III correspond to the amount equivalent to the value-added tax on the Bank-financed investments. These resources, including the counterpart resources for program administration, will be contributed by the executing agency. In the event that the executing agency fails to contribute these resources, the borrower agrees to contribute the counterpart.

C. Results Matrix

- 1.30 The selected overall results indicators are: (i) average interruption frequency per kVA installed (AIFk); (ii) total interruption time per kVA installed (TITk); (iii) strategy for replacing LPG with electricity, including the rate proposal;

(iv) number of SND projects executed; and (v) number of employees trained in operation and maintenance of the SND. Additionally, the levels of CO₂ avoided through the program and electricity losses reduced will be measured. The results and targets have been formulated and projected out to four years (see Annex II, Results Matrix).³⁴

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instruments

- 2.1 The program is structured as a multiple-works program loan (see paragraphs 1.26 and 2.9). The loan proceeds will be disbursed over a period of four years, running from the effective date of the loan contract:

Table 2 Disbursement Schedule (US\$ millions)

Source	Year 1	Year 2	Year 3	Year 4	Total
IDB	10.832	67.784	39.540	51.844	170.000
CCF	30.000	20.000	0.0	0.0	50.000
Counterpart	5.150	10.784	4.995	6.471	27.400
Cumulative	45.982	98.568	44.535	58.315	247.400

- 2.2 **Economic and financial analysis.** An analysis period of 35 years was used (thru 2051), equal to the estimated useful life of the sample projects in the program (see paragraph 1.26). The economic analysis was done at both market prices and efficiency prices. The first case yields an economic internal rate of return (EIRR) of 37.7% and an economic net present value (ENPV) of US\$257.2 million. At efficiency prices, the economic return is 15.5%, and ENPV is US\$25.7 million. The financial analysis, with predicted expenditures and revenues evaluated for each project in the sample, yielded a financial internal rate of return (IFRR) of 21.6%. The revenues and expenditures identified were used to calculate the financial net present value (FNPV) of the individual subprograms, as well as the total, using a benchmark discount rate of 12%, yielding a value of US\$87.3 million.
- 2.3 Additionally, taking into account that the strengthening of the SND will facilitate the interconnection of new loads projected in the PME, including the deployment of electric-induction cook stoves to replace LPG consumption with electricity in the residential sector, an evaluation of the program projects was also done at efficiency prices, under the hypothesis that induction stoves would be introduced in 80% of households in the target areas (520,000 stoves in the sample area). This scenario uses the strengthened networks with higher initial demand, such that the EIRR increases to 31.6%, and the ENVP to US\$127.6 million.

³⁴ The indicators, and their baselines and target values, have been analyzed and agreed upon with MEER. These indicators will be used to monitor and evaluate the program, with support from the EDEs.

B. Environmental and social risks, and measures to manage them

- 2.4 The program will produce positive impacts by improving the reliability and quality of the electricity supply in Ecuador, reducing electricity losses, and addressing projected demand in the coming years. The program will not result in involuntary resettlement of people or their economic displacement. The potential adverse socioenvironmental impacts will be mainly during the rehabilitation and construction phase³⁵ for the subtransmission and distribution network and, to a lesser degree, during their operation.³⁶ These impacts will be low to moderate, and can be managed through standard procedures.³⁷ In light of the foregoing, the program has been classified as category “B” under the Environment and Safeguards Compliance Policy (Operational Policy OP-703). Due to its characteristics, the operation also triggers policies OP-102, OP-704 scenario I, OP-761 and OP-765,³⁸ which will be reflected in the environmental and social management plan (ESMP) of each project.
- 2.5 To mitigate the socioenvironmental risks, in addition to the operational conditions to be established for such purpose, prior to the start of the rehabilitation works for each project under Component I, the executing agency will provide evidence of the following, to the Bank’s satisfaction: (i) the environmental assessments and environmental and social management plan (ESMP), together with the corresponding budget for its execution; (ii) the environmental license and permits required by Ecuadorian law; (iii) the easement order in the case of new distribution lines; (iv) evidence of legal ownership of all land on which new electrical substations are to be located; (v) inclusion of the relevant environmental technical specifications and the ESMP in the construction and inspection contracts for the planned works; and (vi) evidence that at least one public consultation has been held for each project, including (a) description of the project; (b) description of probable impacts; (c) description of the proposed measures for managing the impacts identified (ESMP); (d) description of the system for receiving and processing complaints and claims; and (e) a channel for receiving suggestions on the proposed project and/or its ESMP. The IDB will supervise the environmental and social development of the works financed under this operation on a six-monthly basis, including visits at the start and upon acceptance of the works.

³⁵ These include: (i) noise generation in the vicinity of the worksite, due to rehabilitation activities; (ii) generation of liquid, solid and gaseous waste; (iii) increased risk of accidents from managing existing electricity infrastructure; (iv) changes in vehicular traffic; and (v) temporary interruptions in the continuity of electricity service, due to work in establishing connections and reconnections in the systems.

³⁶ Including emissions of nonionizing radiation in the service areas of the electric power subtransmission networks.

³⁷ The environmental and social management report (ESMR) analyzes the main potential impacts, as well as measures to manage them.

³⁸ Operational Policies OP-102 Access to Information, OP-704 Disaster Risk Management, OP-761 Gender Equality in Development, and OP-765 Indigenous Peoples.

C. Fiduciary risk

- 2.6 The fiduciary capacity assessment of MEER revealed that the executing agency has sufficient capacity to conduct the program planning, financial management and procurement activities. The following were identified as risks: (i) weaknesses in the accountability process, which could cause delays in the delivery of financial reports; and (ii) weaknesses in the implementation of IDB procurement policies, which could cause execution delays and lost opportunity costs. Annex III describes factors likely to occur and the suggested mitigation measures.

D. Execution risks

- 2.7 **Program management risks.** The identified risks that could lead to execution delays are: (i) timely transfer of program resources from the Ministry of Finance to the executing agency; (ii) changes within the program management unit (PMU) and in its full-time dedication to the program; (iii) the capacity of the EDEs to inspect technical and environmental works; and (iv) the capacity of the executing agency to supervise the works built by the EDEs. To mitigate these risks, as a condition precedent to the first disbursement (see paragraph 3.1), an effective mechanism will be agreed upon for transfer of the program resources from the Ministry of Finance to the executing agency's general treasury account, specifying that these funds are to be used under the terms and for the agreed purposes of the loan contract. As part of the process of forming the PMU, the executing agency will confirm that the specialized team assigned to execution of the program will be devoted full time to the task, and the profile of the team will be agreed upon, in order to mitigate risks in monitoring the financed works. To mitigate the risk associated with the inspection capabilities of the EDEs, program resources are included for contracting external inspections.
- 2.8 **Institutional risk.** There is a risk associated with the EDEs' capacity to prepare project designs capable of meeting the program objectives. This risk is mitigated by review and early validation for construction of 40% of the program's designs. To prepare the remaining projects for the bidding process, the EDEs will receive support from external consultants, financed under Component III of the program.

E. Other special considerations and risks

- 2.9 **Technical and economic viability.** Designs for the program's projects will be prepared in accordance with the technical, regulatory and socioenvironmental specifications in force for the sector. This process will help mitigate risks associated with potential social disagreements in the service areas of the projects to be financed. Development of these projects is an integral part of the PED, and a priority as described in the PME. For the selection of projects, a rigorous economic and technical viability analysis was done to determine their sustainability, as well as a sensitivity analysis based on variations of $\pm 15\%$ in the main parameters, namely: (i) investment costs; (ii) operation and maintenance costs; (iii) cost of electric power; (iv) median user charge to the end consumer; (v) price elasticity of demand; (vi) benefits of improved reliability; and (vii) benefits of savings from reduced

electricity losses. The results demonstrated the robustness of the projected economic and financial viability of the program, with EIRR values above 12%. Improvement in the financial sustainability of the EDEs involved in the program is confirmed by the change in the cash recovery index (CRI),³⁹ which correlates the level of electricity losses with the revenue collected from billings, yielding a figure of 0.87 as of 2013.

- 2.10 The executing agency already has a specific budget line item for program execution. The replenishment of assets and operation and maintenance will be financed with the user charges approved by CONELEC for the regulated distribution services. The expected economic and financial benefits of the projects derive principally from: (i) reduced electricity losses in the SND; (ii) meeting of unmet demand or projected natural growth in demand; and (iii) improvements in the quality and reliability of the electricity supply.
- 2.11 In the medium and long term, the program will facilitate the interconnection of new loads to the SND related to the Quito Metro entering operation, which will require construction of a step-down substation and strengthening of three more that are part of the SND.⁴⁰ The interconnection of this project to the SND is included in the PME as one of the projected new demand loads between now and 2022 (see paragraph 1.4).
- 2.12 **Retroactive financing and recognition of expenditures.** In accordance with Operational Policy OP-507 and its related rules, retroactive financing of up to 20% of the IDB loan proceeds,⁴¹ as well as recognition of program-related expenditures as part of the local counterpart, are envisaged (paragraph 1.29). Retroactive recognition will apply to payments made for advance procurement associated with the bidding process for the group of 190 projects evaluated, as an advance on the amount awarded for construction (see paragraph 1.25). From this first group of projects that have the necessary technical, environmental and financial

³⁹ Average operational equilibrium CRI value is estimated at 80%.

⁴⁰ EDE-Quito's electrical substations Eugenio Espejo, Chilibulo and Vicentina will be strengthened to supply 22,800 V to the Quitumbe, La Magdalena and Universidad Central traction substations. The new Bicentenario electrical substation will supply power to the El Labrador traction substation and will be part of the new, strengthened SND infrastructure.

⁴¹ With the Bank's concurrence, up to US\$44 million equivalent of the loan proceeds may be used for retroactive financing of payments made for program-related advance procurement processes conducted by the executing agency. Local counterpart expenditures equivalent to the value-added tax on the advance procurement processes will also be recognized. Such procurements must have been conducted prior to the date on which the loan program was approved by the IDB's Board of Executive Directors, and after 19 March 2014 (the date on which the Bank approved the project profile), provided that the procurement procedures employed are substantially analogous to IDB policies and procedures, and are consistent with the program objectives. The loan proceeds may also be used to reimburse expenditures incurred, or to finance program expenditures, after the date on which the loan program is approved by the Bank's Board of Executive Directors and up to the date established for the entry into force of the loan contract, provided that the procurement processes followed procedures substantially similar to those of IDB policies and procedures.

documentation, the executing agency will begin the bidding process for procurement during April of the current year. The bidding documents developed were prepared by the executing agency at a Bank procurement workshop that yielded 111 bidding documents for works and goods, and 54 works inspection processes.

III. SUMMARY OF IMPLEMENTATION MEASURES

A. Execution period and mechanism

- 3.1 The program execution period is four years. The executing agency will be the Ministry of Electricity and Renewable Energy (MEER), with technical support from the National Electricity Board (CONELEC) and the electricity distribution enterprises (EDEs). **The following activities will be part of the special contractual conditions precedent to the first disbursement:**⁴² (i) signature and entry into force of a subsidiary agreement between the Ministry of Finance and the executing agency stating the obligation to use the resources must be used on the terms and for the purposes agreed upon in the loan contract, subject to the Bank's no objection; and (ii) formation of the program management unit (PMU) by the executing agency for program execution, comprised of a general coordinator, procurement specialist, finance specialist, planning and monitoring specialist, environmental specialist and an electrical engineer, subject to the Bank's no objection.
- 3.2 **Procurement plan.** The IDB team and the executing agency have agreed on a procurement plan for the first 12 months of execution. The executing agency will update the procurement plan annually, to coincide with the planned annual evaluations and before the end of each calendar year, or whenever substantial changes occur for the remaining months of the program's execution period.
- 3.3 **Disbursements and advance of funds.** Loan disbursements will be made via the advance of funds mechanism, according to the program's estimated liquidity needs, based on the annual work plan and procurement plan. The scheduling of cash needs will have a moving horizon of 12 months, and advances will cover the requirements for five months of execution.
- 3.4 **Audits.** External audit services will be provided by a firm of external auditors acceptable to the IDB, to be engaged on terms of reference agreed upon with the executing agency. External audits will be commissioned with counterpart resources (see Annex III).
- 3.5 **Program Operations Manual.** The program will have an updated program Operations Manual based on the procedures clearly established for the execution of loan 2608/OC-EC, which includes an extensive system for monitoring, supervision

⁴² Program execution will be based on the documents included in the initial report, pursuant to Article 4.01(d) of the General Conditions of the loan contract. The PMU will review and update these documents as established in the General Conditions and submit them to the IDB for its no objection.

and evaluation of program activities and outcomes, which will be performed with support from CONELEC and external auditors. **Submission of an updated version of the program Operations Manual duly approved by MEER, and its entry into force, subject to the Bank's no objection, will be a special contractual condition precedent to the first disbursement.**

- 3.6 **Special execution conditions.** Prior to the start of the works included in Component I, the executing agency will provide evidence, to the Bank's satisfaction, that the conditions described above have been met (see paragraph 2.5).

B. Summary of measures for monitoring and evaluating results

- 3.7 **Monitoring arrangements.** The IDB will conduct six-monthly technical visits to the executing agency to review program progress and to make any adjustments. Fiduciary supervision visits will be conducted once a year, as well as external accounting and operational audits, to validate the use of the loan proceeds and the internal operational controls and procedures to be implemented at the executing agency.
- 3.8 **Evaluation arrangements.** A midterm and a final evaluation will be conducted, to be financed with counterpart resources. The midterm evaluation will be commissioned by the executing agency within two months after 50% of the IDB loan proceeds have been committed. The final evaluation will be commissioned by the executing agency within two months after 95% of the counterpart resources have been disbursed.⁴³ The six-monthly and annual status reports will be delivered by the executing agency as described in the program monitoring and evaluation plan.⁴⁴ The IDB team will conduct six-monthly site visits to the works and provide ongoing collaboration through the Bank's Energy Division (INE/ENE) and Country Office in Ecuador (CAN/CEC).

⁴³ As part of the program final evaluation and to evaluate the program's impact, an ex post cost-benefit evaluation will be conducted to verify the assumptions and determine the impacts of the operation.

⁴⁴ See required electronic link 2, "[Monitoring and evaluation plan](#)."

Development Effectiveness Matrix				
Summary				
I. Strategic Alignment				
1. IDB Strategic Development Objectives		Aligned		
Lending Program	i) Lending to small and vulnerable countries; and ii) Lending to support climate change initiatives, renewable energy and environmental sustainability			
Regional Development Goals				
Bank Output Contribution (as defined in Results Framework of IDB-9)	i) Km of electricity transmission and distribution lines installed or upgraded; and ii) Percentage of power generation capacity from low-carbon sources over total generation capacity funded by IDB			
2. Country Strategy Development Objectives		Aligned		
Country Strategy Results Matrix	GN-2680	i) Diversified national energy matrix; ii) Increased energy efficiency		
Country Program Results Matrix	GN-2756	The intervention is not included in the 2014 Country Program Document.		
Relevance of this project to country development challenges (If not aligned to country strategy or country program)				
II. Development Outcomes - Evaluability		Highly Evaluable	Weight	Maximum Score
		9.2		10
3. Evidence-based Assessment & Solution		10.0	33.33%	10
3.1 Program Diagnosis		3.0		
3.2 Proposed Interventions or Solutions		4.0		
3.3 Results Matrix Quality		3.0		
4. Ex ante Economic Analysis		10.0	33.33%	10
4.1 The program has an ERR/NPV, a Cost-Effectiveness Analysis or a General Economic Analysis		4.0		
4.2 Identified and Quantified Benefits		1.5		
4.3 Identified and Quantified Costs		1.5		
4.4 Reasonable Assumptions		1.5		
4.5 Sensitivity Analysis		1.5		
5. Monitoring and Evaluation		7.5	33.33%	10
5.1 Monitoring Mechanisms		2.5		
5.2 Evaluation Plan		5.0		
III. Risks & Mitigation Monitoring Matrix				
Overall risks rate = magnitude of risks*likelihood		Low		
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/PDP Criteria)	Yes	Financial Management: i) Budget, ii) Treasury, and iii) External Control Procurement: i) Information Systems		
Non-Fiduciary				
The IDB's involvement promotes improvements of the intended beneficiaries and/or public sector entity in the following dimensions:				
Gender Equality				
Labor				
Environment				
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	Yes	Training Workshop on IADB procurement to Executing Unit personnel.		
The ex-post impact evaluation of the project will produce evidence to close knowledge gaps in the sector that were identified in the project document and/or in the evaluation plan				

The Project is highly evaluable.

Changing the energy matrix is a key objective of the Plan Nacional del Buen Vivir, the development plan of the Government of Ecuador. The promotion of renewable energy and energy efficiency is one of the central elements in this objective. In order to implement this objective an Electrification Master Plan (PME for its acronym in Spanish) was developed for the period 2013-2022, which includes the modernization and expansion of the electricity system. The PME states that future projected demand is the cornerstone upon which the expansion of the system is planned. Under any of the projected demand scenarios modern and robust distribution and transmission systems will be required. The PME also emphasizes the growing need for an efficient, reliable and high quality service, through the incorporation of the latest technological advances in small and medium scale renewable energy generation, the use of flexible alternating current transmission system and of modern protection and metering systems, the automation of the electric distribution and sub-transmission networks under the principle of Intelligent Networks.

The proposed project is clearly linked with the detailed diagnosis of the energy situation presented in the document and seeks to strengthen the national distribution system, favoring the change in the energy matrix and the supply of quality energy service with three components: (i) Strengthening of the national distribution system, (ii) Strategy design for the migration from GLP to electricity in the residential sector, and (iii) institutional strengthening.

The proposed intervention has clear vertical logic and the final impacts are associated to the project's contribution to climate change mitigation and loss reduction in the distribution system. These impacts will be achieved primarily by reducing distribution system failures and system wide interruption times.

A complete economic analysis is included and the Monitoring and Evaluation plan proposes an ex post financial economic analysis that would replicate the excellent ex ante analysis.

PROGRAM TO STRENGTHEN THE NATIONAL ELECTRICITY DISTRIBUTION SYSTEM OF ECUADOR

RESULTS FRAMEWORK / MATRIX OF INDICATORS

Objectives	Strengthen the National Distribution System (SND), to support a change in the energy matrix and the delivery of quality electricity service to residential customers. The specific objectives are to: (i) contribute to strengthening the SND, to operate at 220 V on the low-voltage grid; (ii) increase the reliability of the SND; and (iii) contribute to developing a strategy to replace consumption of liquefied petroleum gas (LPG) with electricity for residential customers.
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Output indicators		Baseline (2013)	Year 1	Year 2	Year 3	Year 4	Final target	Means of verification
Component I: Strengthening of the National Distribution System (SND)								
Electricity distribution enterprises (EDEs)								
<i>Subtransmission projects executed</i>	<i>Number of km</i>	0.0	114	254	111	148	628	Program status report
	<i>Execution cost (US\$000s)</i>	0.0	21,493	47,830	20,878	27,837	118,038	
<i>Distribution projects executed</i>	<i>Number of km</i>	0.0	728	1,621	707	943	4,000	
	<i>Execution cost (US\$000s)</i>	0,0	15,826	35,219	15,373	20,498	86,916	
<i>Supervision and inspection contracted</i>	<i>Number of contracts</i>	0.0	22	49	18	23	112	
	<i>Execution cost (US\$000s)</i>	0,0	846.7	1,900	676.2	901.6	4,325	
<i>Awareness campaign to accompany the rehabilitation works</i>	<i>Number of consultants</i>	0.0	20	0.0	0.0	0.0	20	
	<i>Execution cost (US\$000s)</i>	0.0	375	375	375	375	1,500	

Component II: Design for implementation of the strategy to migrate from LPG to electricity in the residential sector								
Comprehensive analysis of the LPG market, approved (US\$000s)		0.0	168	0.0	0.0	0.0	168	Program status report
Analysis of energy consumption habits in the residential sector, approved (US\$000s)		0.0	168	0.0	0.0	0.0	168	
Management model for the Efficient Cooking Program, approved (US\$000s)		0.0	168	168	0.0	0.0	336	
Logistics system for the mass distribution of high-efficiency electric-induction cooking kits, approved (US\$000s)		0.0	224	0.0	0.0	0.0	224	
Plan for monitoring energy, social, economic and environmental indicators, approved (US\$000s)		0.0	224	0.0	0.0	0.0	224	
Component III: Institution-strengthening								
Training courses on operation and maintenance at EDEs, implemented	Number of courses	0.0	2	4	6	5	17	Program status report
	Execution cost (US\$000s)	0.0	134	466	583.6	495.8	1,680	
Execution support for EDEs ¹	Number of EDEs	0.0	20	0,0	0,0	0,0	20	
	Cost of execution support (US\$000s)	0.0	1,680	1,680	1,680	1,680	6,720	

¹ Execution support for works includes: equipment for metering, transportation and maintenance, and computer hardware and software, and office supplies and furniture.

Outcome indicators	Baseline (2013)	Final target 2018	Means of verification	Remarks
Component I: Expansion and strengthening to improve the transmission capacity and quality of the National Transmission System (SNT)				
AIFk_Grid: Average interruption frequency in the National Distribution System (SND). ² (Number of SND failures per kVA)	13.72	9.6	Program final evaluation	Baseline and target validated by MEER
TITk_Grid: Total interruption time in the National Distribution System (SND). ³ (Hours)	15.23	10.5	Program final evaluation	Baseline and target validated by MEER
Component II: Design for implementation of the strategy to migrate from LPG to electricity in the residential sector				
Strategy for replacing LPG with electricity, prepared (number)	0.0	1	Program final evaluation	Prepared by MEER’s Office of the Undersecretary for Renewable Energy and Energy Efficiency
Electricity rate scheme for replacing LPG with electricity, prepared (number)	0.0	1		
Component III: Institution-strengthening				
Number of SND strengthening projects executed	0.0	190	Program final evaluation	N/A
Number of EDE employees trained in SND operation and maintenance	0.0	1200	Program final evaluation	N/A
Percentage of women trained	18%	40%	Program final evaluation	N/A
Number of women contracted on EDEs consulting engagements	0.0	10	Program final evaluation	N/A

² Values measured at the end of the primary distribution feeder line.

³ Values measured at the end of the primary distribution feeder line.

Impact indicators	Baseline (2013)	Final target 2018	Means of verification
Climate change mitigation CO ₂ avoided through the Program (tons CO ₂ eq/year)	0.0	TBD	Program final evaluation
Efficiency in distribution Average level of electricity losses in the SND (%)	12.7	11.4	Program final evaluation

FIDUCIARY AGREEMENTS AND REQUIREMENTS

País	Ecuador
Project number:	EC-L1136
Name:	Program to Strengthen the National Electricity Distribution System of Ecuador
Executing agency:	Ministry of Electricity and Renewable Energy (MEER)
Prepared by:	Gumersindo Velázquez and Gustavo Palmerio (FMP/CEC)

I. SUMMARY

- 1.1 The institutional assessment for fiduciary management of the project was based on: (1) the fiduciary context of the country; (2) the results of the fiduciary risk assessment; and (3) the analysis done in August 2013 on execution processes for program 2608/OC-EC (FERUM I and II) and workshops with the project team and personnel of the various MEER units, and with entities involved in project execution (CONELEC, Ministry of Finance, etc.). As a result of this assessment and the workshops, fiduciary agreements for procurement and financial management have been prepared for project execution.

II. FIDUCIARY CONTEXT OF THE COUNTRY

- 2.1 **Procurement system.** In February 2013, the Bank's Board of Executive Directors approved the use of the National Public Contracting System (SNCP) for procurements below the threshold for international competitive bidding (ICB). Work is being done with the National Public Contracting Service (SERCOP) to adapt the bidding documents applicable to the different procurement methods for goods, services, works, and consulting services, as well as the portal platform. The agreement was signed on 13 May 2014, and implementation of the system is set to begin on seven selected pilot projects.
- 2.2 **Financial management system.** Government entities use the e-SIGEF Financial Management System, which integrates the budget, accounting, treasury and electronic payment processes and a centralized information technology structure. Central government entities are also subject to control and inspection by a supreme audit institution, the Office of the Comptroller General (CGE). In general terms, the national financial management systems have an adequate level of development, but need to be supplemented for the time being for the execution of Bank-financed projects in the areas of specific financial reports and external audits.

III. FIDUCIARY CONTEXT OF THE EXECUTING AGENCY

- 3.1 The Ministry of Electricity and Renewable Energy (MEER) will be the program executing agency, with technical support from the National Electricity Board (CONELEC), and the participation of the electricity distribution enterprises (EDEs). MEER is the apex agency for renewable energy sector policy in Ecuador, whereas CONELEC performs the functions of regulation and control of the electric power supply, as well as sector planning, subject to the National Development Plan and MEER policies. MEER utilizes the country systems for procurement and financial management. Internal control at MEER is exercised through the CGE Internal Audit Unit.
- 3.2 This program will use the same execution structure as operation 2608/OC-EC, “Electrification Program for Rural and Marginal Urban Areas of Ecuador” (FERUM I), which involves the financing of 915 projects for a total of US\$40 million in IDB funding, and is 99% disbursed as of December 2013, a year and a half after eligibility.
- 3.3 In August 2013, a diagnostic assessment was done of the administrative/financial procedures used during execution of the above-mentioned program, with the aim of proposing improvements for two new operations (EC-L1128 and EC-L1136). As a result of that analysis, changes were proposed in activities regulating the interaction among contractors, EDEs, CONELEC and MEER with regard to budget, accounting, treasury and reporting processes, designs for which will be described in the program Operations Manual.

IV. FIDUCIARY RISK ASSESSMENT AND MITIGATION MEASURES

- 4.1 Based on the assessments, fiduciary risks were identified and included in the respective risk matrix:
 - a. **Weaknesses in the accountability process.** Factors: (i) Lack of uniformity in the procedures used by the EDEs to report the results of the projects executed; (ii) geographically decentralized records at the EDEs; and (iii) the need to generate specific financial information on the use of resources funded by IDB Ordinary Capital and by the China Cofinancing Fund for Latin America and the Caribbean (CCF). Impact: Delays in monitoring and proper delivery of reports and financial statements. Mitigation measures: (i) Build awareness regarding best practices identified from the execution of program 2608/OC-EC; (ii) develop rules, procedures and standardized, simplified instructions to facilitate the management and consolidation of administrative/financial information on execution; (iii) conduct training and awareness workshops regarding processes for key EDE personnel; (iv) conduct activities included in program Component III to strengthen the EDEs in program execution and sustainability; and (v) provide support, training and assistance for program execution.

- b. **Weaknesses in the implementation of IDB procurement policies.** Factors: Unfamiliarity with IDB procurement policies among program management unit (PMU) and EDE staff. Weakness in the executing agency's capacity for supervision during the procurement process. Impact: Execution delays and lost opportunity costs. Mitigation measures: (i) Training in procurement management for the executing agency and EDEs; (ii) implementing the procurement plan Execution System (SEPA); (iii) definition of unified and shared model bidding documents for procurements.
- c. **Insufficient market capacity to respond to bid solicitations.** Factors: The local and international markets do not have the capacity to provide the materials, equipment and labor called for in the bid solicitations for construction of the projects. Impact: Execution delays and lost opportunity costs. Mitigation measures: (i) Solicitations will take into account materials, equipment and labor that meet national and international standards; and (ii) efforts will be made to announce solicitations in the necessary media outlets to ensure broad dissemination.

V. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF CONTRACTS

For consideration: Approval of the program Operations Manual.

VI. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

6.1 Procurement execution

- a. Procurement of goods, works and nonconsulting services (Procurement Policy, document GN-2349-9): Contracts for goods, works and nonconsulting services¹ generated under the program will be included in the Initial Procurement Plan, and those subject to international competitive bidding (ICB) will be executed using the standard bidding documents (SBDs) issued by the Bank. The program sector specialist will be responsible for reviewing the technical specifications of procurements during the preparation of selection processes. Planning of procurement-related activities is expected to use the online SEPA system. The Procurement Plan will cover the first 18 months and will be updated annually, or as necessary, using the SEPA system. In ICB processes, moreover, the deadline specified in the Policies for the submission of bids may be reduced to four weeks, in the case of noncomplex procurements, and the time limit set by local regulations for national competitive bidding (NCB) will be accepted. This applies particularly to ICB processes involving amounts slightly above the country's lower ICB threshold, in which no international involvement is anticipated. An extension of that deadline will be agreed upon, if a potential bidder so requests. In addition, the shopping method may be used to procure

¹ "Policies for the procurement of goods and works financed by the Inter-American Development Bank" (document GN-2349-9), paragraph 1.1: Nonconsulting services will be treated as goods.

noncomplex works and off-the-shelf goods valued below the ICB threshold, as published on the IDB portal (threshold amounts).

- b. Selection and contracting of consultants (Procurement Policy, document GN-2350-3): Contracts for consulting services will be included in the Initial Procurement Plan and will be executed using the SBDs issued by the Bank. Their planning and administration will be through the SEPA system. For consulting services with an estimated budget of up to US\$200,000, the executing agency will promote the use of the method of selection based on the consultants' qualifications (CQS), pursuant to paragraph 3.7 of the policies.
- c. Selection of individual consultants: The contracting of individual consultants may be solicited through local or international notices to create a shortlist of qualified candidates, as set out in document GN-2350-9, Section V, paragraphs 5.1 to 5.4.
- d. Training: The procurement plan lists the procurements applicable to project components that involve training and are to be contracted as consulting and nonconsulting services.
- e. Retroactive financing and recognition of expenditures: In accordance with Operational Policy OP-507 and its related rules, retroactive financing of up to 20% of the IDB loan proceeds,² as well as recognition of program-related expenditures as part of the local counterpart, are envisaged (see paragraph 1.29). Retroactive recognition will apply to payments made for advance procurement associated with the bidding process for the group of 190 projects evaluated, as an advance on the amount awarded for construction (see paragraph 1.25). From this first group of projects that have the necessary technical, environmental and financial documentation, the executing agency will begin the bidding process for procurement during April of the current year. The bidding documents developed were prepared by the executing agency at a Bank procurement workshop that yielded 111 bidding documents for works and goods, and 54 works inspection processes.

² With the Bank's concurrence, up to US\$44 million equivalent of the loan proceeds may be used for retroactive financing of payments made for program-related advance procurement processes conducted by the executing agency. Local counterpart expenditures equivalent to the value-added tax on the advance procurement processes will also be recognized. Such procurements must have been conducted prior to the date on which the loan program was approved by the IDB's Board of Executive Directors, and after 19 March 2014 (the date on which the Bank approved the project profile), provided that the procurement procedures employed are substantially analogous to IDB policies and procedures, and are consistent with the program objectives. The loan proceeds may also be used to reimburse expenditures incurred, or to finance program expenditures, after the date on which the loan program is approved by the Bank's Board of Executive Directors and up to the date established for the entry into force of the loan contract, provided that the procurement processes followed procedures substantially similar to those of IDB policies and procedures.

Table of Threshold Amounts (US\$000s)

Works			Goods ³			Consulting Services	
ICB	NCB	Shopping	ICB	NCB	Shopping	International publicity Consulting Services	Short list 100% national
≥ 3,000,000	< 3,000,000 ≥ 250,000	< 250,000	> 250,000	< 250,000 ≥ 50,000	< 50,000	> 200,000	< 200,000

Main Procurements

Activity	Type of bidding	Estimated date	Estimated amount (US\$000s)
1. Works			
Civil works: Strengthening, repowering and remodeling of grids, construction of substations, replacement of transformers, expansion of feeders, procurement, installation and operation of power transformers and transmission lines. This plan involves 43 processes.	NCB	H2 2014	47,200
Civil works: Strengthening, repowering and remodeling of grids, construction of substations, replacement of transformers, expansion of feeders, procurement, installation and operation of power transformers and distribution lines. This plan involves 67 processes classified as noncomplex works.	S	H2 2015	36,700
2. Goods			
Mobile substations	ICB	H2 2014	4,000
3. Consulting services, firms			
Preinvestment studies for strengthening of distribution	QCBS	H1 2015	1,300
Preinvestment studies for strengthening of subtransmission	QCBS	H1 2015	1,700
Inspection of civil works. Involves 13 procedures. See list in expanded procurement plan.	QCBS	H2 2014	878
4. Consulting services, individual			
Inspection of civil works. Involves 20 procedures. See list in expanded procurement plan.	NICQ	H2 2014	517

- 6.2 **Procurement supervision.** The contracts listed in the following table will be subject to ex post review by the Bank. Contracts for amounts at or above the threshold amounts cited in the table will be subject to ex ante review. Likewise, cases involving ex post review may include contracting and selection processes in accordance Appendix 1, numeral 4, of the procurement policies. Ex post review inspection visits by the Bank will be conducted at least once every 12 months. Ex post review reports will include a least one physical inspection visit, where appropriate.

Works	Goods	Consulting services	Individual consultants
< 3,000,000	< 250,000	< 200,000	< 50,000

Note: The threshold amounts for ex post review are based on the fiduciary capacity of the executing agency. In the event of changes in such capacity, they may be modified by the Bank.

- 6.3 **Special provisions.** Measures to reduce the likelihood of corruption: Adherence to the provisions of documents GN-2349-9 and GN-2350-9 regarding prohibited practices (lists of ineligible firms and individuals of multilateral agencies).

- 6.4 **Records and files.** The executing agency will maintain updated records, and files well organized with procurement-related documentation in a single file or folder, such that the information can be clearly differentiated from processes financed with local counterpart resources or financed with nonprogram resources.

VII. AGREEMENTS AND REQUIREMENTS FOR FINANCIAL MANAGEMENT

- 7.1 **Programming and budget.** The legal instrument establishing the general rules governing budget programming, formulation, approval, execution, monitoring, evaluation and performance is the Planning and Public Finance Code. These general rules apply to the execution of Bank-financed programs in the country. The integrated e-SIGEF system implements and standardizes the application of these general rules throughout the national public management apparatus. The program budget will be calculated on the basis of the annual work plan agreed upon between the Bank and the executing agency, and will serve as the basis for its formal inclusion in MEER's general budget, which is included in the budget proposal submitted to the legislature for approval. MEER will manage disbursements and budgetary allocations for the project, and will monitor budget execution through its internal systems.
- 7.2 **Accounting and information systems.** The e-SIGEF system is used for government accounting with parameters following the government accounting chart of accounts issued by the Ministry of Finance. Official accounting for projects receiving external financing is conducted through the e-SIGEF system, pursuant to the government accounting chart of accounts and the budget classifier. Although the e-SIGEF currently allows reports to be prepared on the resources provided by the IDB and the CCF, they do not provide the required level of detail and openness, so separate reports are necessary to show the status of the projects. As a result, the executing agency has agreed to implement an additional tool for the loan operation that allows technical and financial monitoring of the execution activities, as well as the production of detailed financial reports and project reports.
- 7.3 **Disbursements and cash flow.** The Government of Ecuador has a General Treasury Account mechanism that unifies treasury management for all central government entities. The implementation of this mechanism does not eliminate the system of special accounts, or of specific-purpose accounts, which are kept at the Central Bank of Ecuador (BCE) to receive financing from multilateral loans, including those of the IDB. Thus, to receive the loan proceeds, MEER will open two BCE accounts for the program, one for the IDB loan proceeds, and the other for the CCF. All program payments will be made through the e-SIGEF system by debiting the General Treasury Account. Program disbursements will be based on the project's actual liquidity requirements, taking the financing sources into account separately, using the advance of funds modality, according to an itemized financial plan that reflects the project's actual funding needs for a period of six months. The financial plans are to be prepared at project start, and updated as

execution proceeds. The executing agency will submit each disbursement request to the IDB, along with the project's financial plan and cash flow for the following 180 days, as well as a reconciled accounting of program funds available for each source of financing. Advances of funds will be justified as established in document OP-273, "Financial management policy for IDB-financed projects." Supporting documentation for expenditures or payments made for each source will be subject to ex post review after the resources are disbursed by the Bank. Reports will be issued with the results on each ex post review visit. The ex post review of disbursements will be performed by Bank staff and/or consultants and the external auditors. For expenditures deemed ineligible by the Bank, the Bank and the executing agency will reach agreement on whether they should be reimbursed to the Bank, replaced by other eligible program expenditures, or whether the amounts involved should be cancelled.

- 7.4 **Internal control and internal audit.** With regard to the internal control systems, the Constitution of the Republic of Ecuador establishes that the Office of the Comptroller General (CGE) is responsible for directing the public sector control system. As a public sector agency, MEER has an internal audit unit reporting directly to the CGE; however, the Bank will not use its services, since that unit did not include review of the project in its audit plans. The program Operations Manual will include the main internal control processes necessary to ensure that the controls are functioning effectively. During execution, the fiduciary team will assess compliance with those processes, and their quality.
- 7.5 **External controls and reports.** Given that the CGE does not, at present, possess sufficient capacity to exercise external control of projects financed with external borrowing resources, external audits of the project will be conducted by tier I independent auditors acceptable to the Bank. During execution, MEER will deliver, on an annual basis within 120 days after the closing date of each fiscal year, audited financial statements for the project and reports on the eligibility of project expenditures, in accordance with the Bank's guidelines and pursuant to the terms of reference previously approved by the IDB. The audited financial statements will present consolidated information on the project, with sufficient openness for revenues and expenditures to be identified according to the source of financing. The costs of the audits will be covered by the local counterpart resources. Ecuador has no national policy regarding public disclosure of audit reports; however, pursuant to the Bank's current policy on information access and dissemination, the audited reports for the project must be published in the Bank's systems.

Supervision activity	Supervision plan			
	Nature and scope	Frequency	Responsible party	
			IDB	Third party
OPERATIONAL	Review of status report	Six-monthly	Fiduciary and sector team	
	Portfolio review with executing agency and Ministry of Finance	According to Ministry of Finance requirements	Fiduciary and sector team	
FINANCIAL	Inspection visits	Six-monthly	Fiduciary specialist	
	Financial audit	Annual	Fiduciary specialist	MEER
	Ex post review of disbursements	Annual	Fiduciary specialist, independent audit firm	
	Review of disbursement requests	Periodic	Fiduciary team	
PROCUREMENT	Ex ante review of procurements	Initially the first year	PTL with support from procurement specialist	MEER
	Updated procurement plan	Annual	PTL with support from procurement specialist	MEER
COMPLIANCE	Fulfillment of conditions precedent	Once	Fiduciary team	
	Budget allocation	Annual	Fiduciary specialist	MEER
	Delivery of project audited financial statements	Annual	Fiduciary specialist	

- 7.6 **Execution mechanism.** The executing agency will be responsible for program financial management and internal control, with technical assistance from the CONELEC team and from the EDEs, with regard to the contracting of works in their concession area. The tasks of CONELEC will focus on technical issues, and specifically two units: the Office of Planning and Policy and the Office of Supervision and Control. These two offices and their various bodies will report the movements involved to MEER on a monthly basis for recording in its financial/accounting system. At MEER, program execution will be led by the Office of the Undersecretary for Energy Distribution and Marketing, with support from the Office of the Undersecretary for Renewable Energy and Energy Efficiency. All administrative activities (budget, accounting, payments, etc.) will be handled by MEER, through its Finance Office and Office of the Undersecretary for Sector Control and Management. A program management unit (PMU) will be formed for such purpose, dedicated full-time to program execution and comprised of a general coordinator, finance specialist, procurement specialist, and planning and monitoring specialist. The PMU will prepare its cash flow projections, the respective requests and supporting documentation for the use of funds, submitting the relevant documents to the Bank in the requested formats.
- 7.7 Given that there will be external financing from two different sources (IDB and CCF funds), the financial and management information referenced in the preceding paragraph must provide openness for each funding source, such that

each source can be planned, monitored and accounted for separately, as well as in a consolidated form.

7.8 Procurement table: [IDBDOCS-#38699407](#).

ELECTRICITY DISTRIBUTION NETWORK REHABILITATION

PROGRAM IN ECUADOR

EC-L1136

CERTIFICATION

The Grants and Co-financing Management Unit (ORP/GCM) certifies receipt of the non-objection from Ying Zhang, People's Bank of China dated March 28, 2014 for project Electricity Distribution Network Rehabilitation Program in Ecuador for US\$50,000,000, chargeable against the China Co-financing Fund for LAC.

(Original signed)

Sonia M. Rivera
Chief

Grants and Cofinancing Management Unit
ORP/GCM

May 15th, 2014

Date