Board of Executive Directors

For consideration

On or after 24 June 2015

PR-4292
9 June 2015
Original: Spanish
Public
Simultaneous Disclosure

To: The Executive Directors

From: The Secretary

Subject: Ecuador. Proposal for a loan for the "Program to Strengthen the National Electricity Distribution System in Ecuador II"

Basic Information:

Loan type ..... Global Multiple Works Operation (GOM)

Borrower..... Republic of Ecuador

Loan

Amount ..... up to US$50,000,000

Source ..... Ordinary Capital

Co-loan

Amount ..... up to US$30,000,000

Source ..... China Cofinancing Fund for Latin America and the Caribbean

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Remarks: This operation is included in Annex III of document GN-2805, "2015 Operational Program Report", approved by the Board of Executive Directors on 15 April 2015. However, the loan amount exceeds the ceiling established for Group D countries. Therefore, the operation does not qualify for approval by Simplified Procedure.

Reference: GN-1838-1(7/94), DR-398-17(1/15), GN-2805(4/15), GN-2686-4(1/13), DE-246/12, PR-4153(5/14), DE-50/14, DE-51/14

PUBLIC
SIMULTANEOUS DISCLOSURE

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

ECUADOR

PROGRAM TO STRENGTHEN THE NATIONAL ELECTRICITY DISTRIBUTION SYSTEM OF ECUADOR II

(EC-L1147)

LOAN PROPOSAL

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ELECTRONIC LINKS

Required

1. Multiyear execution plan (MEP)
   http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38699421
2. Monitoring and evaluation plan (M&E)
   http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39515611
3. Full procurement plan
   http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39528841
4. Environmental and social management report (ESMR)
   http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39519970

Optional

1. Economic and financial assessment of the program
   http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39515624
   http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39515628
2. Report on evaluation and selection of projects for financing
   http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39529573
3. Safeguard policy filter report and safeguard screening form
   http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39531236
4. List of projects proposed for financing
   http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39529657
5. Program justification under the Operational Policy on Public Utilities (document GN-2716-6)
   http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39530340
6. Midterm evaluation report on operation EC-L1136
   http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39593365
7. Report on results of implementation of the "Carchi Border Plan for Electric-induction Cook Stoves"
   http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38699214
8. Background on the use of liquefied petroleum gas (LPG) in Ecuador
   http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38699465
9. Terms of reference for economic/financial ex post evaluation
   http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39530702
10. Master Plan for Electrification of Ecuador 2013-2022. CONELEC
    http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38272441
11. "Buen Vivir" ["Good Life"] National Plan 2013-2017
    http://www.senplades.gob.ec/
12. Paul L. Joskow, Patterns of Transmission Investment
    http://economics.mit.edu/files/1174
13. Proposed Act Establishing the Public Electric Power Service
    http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38703503

ABBREVIATIONS

AFD	Agence française de développement [French Agency for Development]
AIFk	Average interruption frequency per KVA installed
ARCONEL	Agencia de Regulación y Control de Electricidad [Agency for Regulation and Control of Electricity]
BDC	China Development Bank
CAF	Development Bank of Latin America
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]
CHC	China Cofinancing Fund for Latin America and the Caribbean
CME	Cambio de la Matriz Energética [Transition of the Energy Matrix]
CNEL EP	Empresa Eléctrica Pública Estratégica Corporación Nacional de Electricidad [National Electricity Corporation, Strategic Public Enterprise]
CONELEC	Consejo Nacional de Electricidad [National Electricity Board]
CRI	Cash recovery index
DEM	Development Effectiveness Matrix
EDE	Electricity Distribution Enterprise
EIRR	Economic internal rate of return
ESMP	Environmental and social management plan
ESMR	Environmental and social management report
FIRR	Financial internal rate of return
GCI-9	Ninth General Capital Increase
GWh	Gigawatt-hour
INEC	Instituto Nacional de Estadísticas y Censos [National Institute of Statistics and Census]
kV	Kilovolt
kVA	Kilovolt-ampere
kWh	Kilowatt-hour
LOEP	Ley Orgánica de Empresas Públicas [Public Enterprises Act]
LOSPEE	Ley Orgánica del Servicio Público de Energía Eléctrica [Act Establishing the Public Electric Power Service]
LPG	Liquefied petroleum gas
M&E	Monitoring and evaluation
MEER	Ministry of Electricity and Renewable Energy
MVA	Megavolt-ampere
MW	Megawatt
MWh	Megawatt-hour
ONE	Operador Nacional de Energía [National Power Operator]
PED	Plan de Expansión de la Distribución [Distribution Expansion Plan]
PET	Plan de Expansión de la Transmisión [Transmission Expansion 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]
PNCE	Programa Nacional de Cocción Eficiente [National Efficient Cooking Program]
PRSND	Programa de Reforzamiento del Sistema Nacional de Distribución [Program to Strengthen the National Distribution System]
SCADA	Supervisory Control and Data Acquisition
SENPLADES	Secretaría Nacional de Planificación y Desarrollo [National Planning and Development Department]
SGEH	Sistema de Generación Eléctrico Hidrocaburífero [Hydrocarbon Electrical Generation System]
SIGPRO	Sistema de Gestión de Proyectos [Project Management System]
SND	Sistema Nacional de Distribución [National Distribution System]
SNI	Sistema Nacional Interconectado [National Interconnected System]
SNT	Sistema Nacional de Transmisión [National Transmission System]
TITk	Total interruption time per kVA installed

PROJECT SUMMARY
ECUADOR
PROGRAM TO STRENGTHEN THE NATIONAL ELECTRICITY DISTRIBUTION SYSTEM OF ECUADOR II
(EC-L1147)

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:**	14.95 years
			Disbursement period:	4 years
Source	**Amount (US$)**	**%**	Grace period:	6 years
IDB (Ordinary Capital):	50,000,000	55	Inspection and supervision fee:	***
China Cofinancing Fund for Latin America and the Caribbean (CHC):****	30,000,000	33	Interest rate:	LIBOR-based
Local contribution:	10,600,000	12	Credit fee:	***
Total	90,600,000	100	Currency:	U.S. dollars

Project at a Glance
Program objectives and description: Continue the strengthening of the National Distribution System (SND) begun with operation EC-L1136, facilitating transformation of the energy matrix and the delivery of quality electricity service. Specific objectives: (i) to help strengthen the medium voltage and low voltage electrical infrastructure; (ii) to contribute to modernization and efficiency in the management of demand in the SND; and (iii) to improve the reliability levels of electricity service.
Special contractual conditions precedent to the first disbursement: Subject to the Bank's no objection: (i) signature and entry into force of a subsidiary agreement between the Ministry of Finance and the executing agency stating the obligation that resources must be used on the terms and for the purposes agreed upon in the loan contract; (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; (iii) submission of an updated version of the program Operations Manual duly approved by MEER, and its entry into force; (iv) evidence that a framework for the environmental and social management of projects has been included in the program Operations Manual with tracking logs; and (v) demonstration by the executing agency to the Bank that sufficient resources have been allocated to execute the program for at least the first calendar year (see paragraph 3.1).
Special contractual execution conditions: Prior to the start of works for each Component I project, as established in the program's environmental and social management report (ESMR), the executing agency will provide the following, to the Bank's satisfaction: (i) evidence that at least one public consultation has been held, including: (a) description of the project; (b) description of probable impacts; (c) description of 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; (ii) the environmental evaluation and its ESMP, together with the corresponding budget for its execution, in accordance with the scope defined in the environmental category designated by the country's environmental authority; (iii) the breakdown of the environmental technical specifications; (iv) evidence that the bidding specifications include mandatory compliance of the environmental technical specifications with the ESMP; (v) the environmental license and permits required by Ecuadorian law; (vi) the easement order in the case of new distribution lines; (vii) evidence of legal ownership of land for new electrical substations; and (viii) inclusion of the relevant environmental technical specifications and the ESMP in the construction and inspection contracts for the planned works (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 maximum original WAL 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 Bank 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.** Ecuador's "Good Life" National Plan 2013-2017 (PNBV)[1] includes a Transition of the Production Matrix (CMP) and a Transition of the Energy Matrix (CME) to improve the population's quality of life. The transition to the widespread use of electricity to replace fossil fuels is the mechanism proposed by Ecuador's government to promote reduced dependency on such fuels.

1.2 The CME involves a transition to a matrix based primarily on hydroelectricity in order to ensure the supply of electricity. On the demand side, initiatives are being developed to encourage the efficient use of electricity, with medium- and long-term macroeconomic benefits for the country due to reductions in imported and subsidized fuels in other sectors of the economy.[2]

1.3 To carry out the CME, the Government of Ecuador relies on the Master Plan for Electrification of Ecuador 2013-2022 (PME)[3] as the governing document for actions in the electricity sector. The PME identifies the need to increase the electricity supply and to strengthen and expand the National Transmission System (SNT) and the National Distribution System (SND), with the latter operating at 220 volts. It also anticipates the need to automate the electrical grid through the use of modern systems for protection, metering, and communications.

1.4 In projecting demand for electricity, the PME considers a base-case scenario that correlates macroeconomic, demographic, energy, and customer-related variables to determine the expected development up to 2022. Annual average growth of 3.7%[4] is anticipated between 2012 and 2022, reaching 26,542 GWh of power by the end of that period. This demand reflects the incorporation of loads resulting from the CME. It would mean adding an additional 4,723 MW of generating capacity by 2022 to the current capacity of 5,063 MW.

1.5 **Advances in CME: Electricity supply.** Construction of the first flagship hydroelectric projects began in 2010 with investments from the Ecuadorian government and external financing[5] totaling US$4.455 billion. These projects located on the Amazon and Pacific sides of the divide are expected to begin

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1 Plan Nacional del "Buen Vivir" ["Good Life" National Plan] (PNBV) 2013-2017 of Ecuador.

2 Loan EC-L1140, "Support for the Transition of the Energy Matrix of Ecuador," describes the scope of these actions. The amount associated with imported fuel subsidies declined in 2014 due to falling oil prices, facilitating the monitoring of strategies for their elimination.

3 Plan Maestro de Electrificación de Ecuador [Master Plan for Electrification of Ecuador] 2013-2022. CONELEC.

4 Lower than the historical annual average growth rate of 4.7% (2000-2012). 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.

5 Financing from the Eximbank of China, EximBank of Russia, the China Development Bank (CDB), the Ecuadorian Social Security Institute (BIESS), and the contractors.

operating in 2016, contributing new generating capacity with 2,827 MW of power and 17,222 GWh[6] of energy.

1.6 **Electricity demand.** There is expected to be a short-term increase in demand of approximately 2,133 MW due to: (i) implementation of the National Efficient Cooking Program (PNCE); (ii) public electrical transportation (Quito Metro and Cuenca Light Rail); (iii) the Initiative to Optimize Electricity Generation and Energy Efficiency in the hydrocarbons sector; and (iv) the regional electrical interconnection initiative. Some of these loads will be connected to the SND as described in the following paragraphs. Higher demand goes hand in hand with the implementation of initiatives involving energy efficiency in the consumption of electricity.[7]

1.7 The objective of the **National Efficient Cooking Program (PNCE)** is to shift from liquefied petroleum gas (LPG) consumption to electricity for cooking and heating water in the residential sector through the use of more efficient technologies.[8] Expected electricity demand is 5,445 GWh for cooking food and 5,970 MWh for heating water.[9] This is equal to a power requirement of 982 MW. The PNCE began in 2014 with strengthening of the SND to operate at 220 volts and to improve the reliability of the subtransmission system.

1.8 **Electricity transmission.** The Quito Metro project is in the second phase of execution.[10] The metro is expected to start operating in 2017, requiring the equivalent of 79 MW of power and 117 GWh of energy. In addition, the "Cuenca Light Rail System" is expected to start operating in 2018, requiring the equivalent of 4 MW of power and 16 GWh of energy. Both loads will be connected to the SND.

1.9 The **Initiative to Optimize Electricity Generation and Energy Efficiency** seeks to reduce the amount of diesel used in electrical generation related to the petroleum sector. This initiative conducted by the public enterprise, Petroamazonas EP, with the concurrence of the Ministry of Nonrenewable Natural Resources, has two phases. The first phase involves the reutilization of associated gas from the extraction of crude in oil wells in the eastern part of the country, to replace diesel used in electrical generation. The second phase calls for a new 230 kilovolt (kV)

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6 A 187 MW combined cycle plant with natural gas is also being built and is expected to begin operating in November 2016. Physical progress is currently 24%. Source: MEER, 2015.

7 In addition to the energy efficiency measures traditionally implemented in the country, the Ministry of Electricity and Renewable Energy (MEER) is working on development of the National Energy Efficiency Plan, in response to the CME strategy.

8 The PNCE involves the use of induction cookstoves to replace gas stoves, which are about 40% efficiency versus 80% for induction cookstoves.

9 This results from approximate consumption of 100 kWh/month for each customer using electricity for cooking on efficient stoves. Source: PME 2013-2022.

10 Financing of US$1.5 billion from the Inter-American Development Bank (IDB), European Investment Bank (EIB), the World Bank, and local public resources.

transmission line to link the Hydrocarbon Electrical Generation System (SGEH) to the National Interconnected System (SNI)[11] and consume electricity from hydroelectric projects at times of low demand for the SNI.

1.10 **Regional electrical integration.** Progress is being made with the Ecuador-Peru electrical interconnection[12] with improvements in the existing 230 kV connection and increased exchange capacity at 500 kV. During 2014, both countries moved ahead with the regulatory process, which will make it possible to strengthen the existing connection, and the international bidding process for the 500 kV interconnection studies.[13] Energy exchange between the two countries will require the availability of between 500 and 1,000 MW of power on the Ecuadorian side, depending on electrical and energy conditions.

1.11 **Current situation. Legal, regulatory, and institutional framework.** Electricity sector legislation is based on the 2008 Constitution of the Republic of Ecuador; the Act Establishing the Public Electric Power Service (LOSPEE);[14] the Public Enterprises Act of 2009;[15] and Executive Decree 220 of 2010 establishing the Electricity Corporation of Ecuador, Strategic Public Enterprise (CELEC EP).

1.12 The LOSPEE repeals Constituent Assembly Legislative Decree 15 (MC-15) and the Law on the Power Sector Regime (LRSE) of 1996, ratifying the principles of efficiency, quality, and sustainability of electricity service. It maintains the structure of responsibilities, targeting the roles of the Ministry of Electricity and Renewable Energy (MEER), the National Electricity Board (CONELEC) and the National Energy Control Center (CENACE), according to their mandate. CONELEC becomes the Agency for Regulation and Control of Electricity (ARCONEL).

1.13 The role of regulation and control of the electric power supply resides with ARCONEL. Transmission is assigned to CELEC EP Transelectric. Distribution is the responsibility of eleven, majority-public electricity distribution enterprises (EDEs).[16] Municipios, provincial governments, and production boards have shareholder stakes in ten of these enterprises. MEER is the majority shareholder. The National Electricity Corporation, Strategic Public Enterprise (CNEL EP)

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[11] At year-end 2014, the project to Optimize Electricity Generation and Energy Efficiency reported a reduction of 1.2 million barrels of oil equivalent (BOE) of diesel through the results-based government system. Connection of the SGEH to SNI is expected to occur in 2017, entailing demand equivalent to 76.9 MW.

[12] Piura Agreement of 2013. Construction of the 500 kV high-voltage line between Peru and Ecuador. http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38280643

[13] The studies on the Ecuadorian side are financed with operation 3167/OC/EC, and on the Peruvian side with operation ATN/CN-13202-PE.

[14] Published in Official Register 418-SIII in January 2015.

[15] The Public Enterprises Act (LOEP) addresses the establishment and operations of public enterprises, including strategic sectors.

[16] MEER may delegate participation in sector activities to private enterprises, as well as to companies in the popular and solidarity economy, as needed to satisfy the public and collective interest.

combines ten business units. Upon approval of the LOSPEE, the process will begin for the ten EDEs operating as corporations to become public.

1.14 **Electricity rates.** According to the LOSPEE, rates must be approved each year based on costs. ARCONEL will be able to set rates promoting the development of basic industries utilizing renewable energies. Rate collection, including the "tarifa dignidad" low-income subsidy,[17] is carried out through a mechanism that includes the Central Bank and a Technical Supervision and Control Committee consisting of MEER, two representatives of the EDEs, two representatives of the generation and transmission market, one representative of ONE and ARCONEL. The current residential rate for consumption between 151 and 200 kWh is 0.090 US$/kWh, and the low voltage commercial rate between 0 and 150 kWh is 0.081 US$/kWh.[18]

1.15 **Electricity infrastructure.** The CME means a robust and modern SNT and SND. The National Generation System currently has total installed capacity of 5,063 MW.[19] The SNT has 1,841 km of 230 kV transmission lines[20] and 1,718 km of 138 kV transmission lines.[21] It also has 212 km of 230 kV international transmission lines with Colombia and 107 km of 230 kV international transmission lines with Peru. Under the Plan to Expand Transmission, new SNT projects are being built with support from the IDB (loans 2608/OC-EC[22] and 3167/OC-EC).[23]

1.16 The SND has total installed power of 8,113 megavolt-amperes (MVA) in distribution transformers, which according to the description in the PME is sufficient to meet current demand but insufficient for projected demand (see paragraph 1.6). To operate at 220 volts, works are needed for: (i) connections,[24] meters, and secondary distribution networks; (ii) distribution transformers; (iii) primary feeders; (iv) expansion of electrical substations; and (v) subtransmission lines.

1.17 The key indicators of electricity service quality have improved substantially in the past five years: (i) total interruption time per kVA installed (TITk) fell from 19.13 hours to 12.45 hours; (ii) average interruption frequency per kVA installed (AIFk) went from 16.9 times to 12.7 times; (iii) the electricity loss rate fell from 22.3% to 12.3%; and (iv) the cash recovery index (CRI)[25] increased from 0.71 to

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17 The "tarifa dignidad" low-income subsidy is calculated as 50% of the residential rate in effect in the rate schedule of each EDE. Its beneficiaries are residential users who consume up to 110 kWh per month in the highlands and up to 130 kWh per month along the coast, in the east, and the island region.

18 Increases were approved in mid-2014 of US$0.01 for residential customers and US$0.02 for commercial and industrial customers.

19 National effective power: hydraulic 44%; thermal 55.9%; and nonconventional renewable 0.1%.

20 1,285 km of double circuit lines and 556 km of single circuit lines.

21 625 km of double circuit lines and 1,093 km of single circuit lines.

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

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

24 Refers to electrical cable connecting homes to the SND.

25 Average operational equilibrium CRI value is estimated at 80%. The CRI correlates to the level of electricity losses and the level of revenue collection from billings.

0.87. However, the incorporation of new loads (see paragraph 1.4) represents a new challenge in the process of strengthening the SND given the demand for power and energy at peak hours. In addition, only a few EDEs have made progress in installing modern systems to manage and operate the SND's demand on a timely basis and prevent voltage dips. These systems include monitoring of the distribution transformer utilization factor, monitoring of electricity losses, and management of demand in order to take coordinated action.

1.18 **Advances in strengthening the SND.** MEER has been implementing the Program to Strengthen the National Distribution System (PRSND), with multiple strengthening projects under independent contracts with different financing without affecting program execution. Thus, three multilateral organizations have financed the PRSND since 2014: US$220 million[26] in funds from the IDB (loan EC-L1136);[27] US$200 million in funds from the Development Bank of Latin America (CAF), approved in December 2014; and US$100 million in funds from the French Agency for Development (AFD) now in the process of approval.[28]

1.19 The objective of the loan under the Program to Strengthen the National Electricity Distribution System of Ecuador (loan EC-L1136) (approved in June 2014 and declared eligible for disbursements in August 2014) is to begin strengthening the SND to operate at 220 volts, increase its reliability, and contribute to developing a strategy to replace consumption of LPG with electricity. As of March 2015, 599 contracts had been awarded for strengthening projects amounting to US$197.5 million, US$93 million of which has been paid for work progress and advances. Physical progress of the projects averages 25%, which includes progress of 47% on some projects.[29] During this period, 65 km of subtransmission lines and 1,644 km of distribution lines have been strengthened, and there are 137 contracts for works supervision.

1.20 **Proposal.** MEER's immediate objective is to improve the quality of electricity service through comprehensive strengthening of the 200 volt SND, with the

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[26] Two sources: Ordinary Capital amount of US$170 million (loan 3187/OC-EC) and CHC amount of US$50 million (loan 3188/CH-EC).

[27] As of December 2014, 70% of the funds under operation EC-L1136 have been disbursed. The midterm evaluation, now in preparation, emphasizes two important considerations reflected in the design of the proposed program: (i) improvement in the effectiveness of execution through corporate purchase of materials in the case of infrastructure procurements, resulting in better prices, standardization of technical specifications for equipment, availability of spare parts, and standardized contracting and payment methods; and (ii) management of identified risks. To achieve this, use of the SIGPRO project management system is recommended as a priority; this system facilitates the capture of information by the EDEs, the technical, financial, and environmental monitoring of each project contracted, reduced response time for decision-making, and the availability of historical and updated information on projects.

[28] Each multilateral agency finances specific SND projects according to the strengthening strategy established by MEER. Projects are approved by each organization according to their lending policies.

[29] As of December 2014, physical progress is related primarily to the purchase of materials, transformer installations, and replacement of medium- and low-voltage circuits.

following targets: (i) manage demand at distribution transformer points to facilitate the introduction of new loads and system operability; (ii) continuously monitor the SND, improving response time in the event of power failures and minimizing the social and economic impact; (iii) achieve electricity loss levels below 10% with accurate monitoring of consumption and timely detection of informal users; (iv) reduce SND operating and maintenance costs; (v) carry out preventive actions through continuous monitoring of transformation centers; (vi) improve billing by reducing reading errors in service delivery; (vii) plan the expansion of the SND through reliable production of data; and (viii) implement national and local control centers for monitoring the SND using smart devices.

1.21 To supplement the PRSND and meet the established targets, the Government of Ecuador considers it advisable to continue IDB support to finance the modernization of the SND and thus fulfill the CME commitments (see paragraphs 1.2 and 1.3). The IDB's support in the sector has been key in executing strategic projects and reforms in the sector, and has helped to improve the sector's indicators, increase its sustainability, and generate knowledge. Progress on execution of the initial IDB financing of the PRSND has facilitated fresh funding from the CAF and AFD for new SND projects.

1.22 **The country's strategy.** Ecuador's sector strategy is framed by its governing documents, the Ecuador's "Good Life" National Plan 2013-2017 (PNBV) and the Master Plan for Electrification of Ecuador 2013-2022 (PME). The Transition of the Energy Matrix (CME) is one of the pillars of the Ecuadorian government's policy, and its implementation is a priority.

1.23 **Public utilities policy.** In line with the Public Utilities Policy (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 apex agency, ARCONEL as the regulatory agency, and the generation, transmission, and distribution enterprises; (ii) private participation in generation; (iii) reform of public enterprises to improve their operations; and (iv) adequate rates to ensure the operation and maintenance of the system and contributions from the Government of Ecuador to ensure expansion of the sector.[30] The program meets the conditions for financial sustainability and economic assessment (see Economic and financial assessment of the program, paragraph 1.35) by contributing to: (i) the reduction of electricity losses in the SND; (ii) meeting unmet demand or anticipated demand due to natural growth; and (iii) improvements in the quality and reliability of the electricity supply.

1.24 **Alignment with the Bank's country strategy.** The Bank's country strategy with Ecuador for 2012-2017 (documents GN-2680, GN-2680-2) includes IDB support

[30] See electronic link 4: Program justification under the Operational Policy on Public Utilities (document GN-2716-6).

for the energy sector's efforts to create a sustainable energy strategy that facilitates an adequate energy supply, contributes to diversification of the country's generating capacity, improves system reliability, promotes energy efficiency, and expands coverage[31] of electricity service. Specifically, the program supports the objectives of the country strategy with Ecuador inasmuch as it promotes: (i) energy diversification through better transmission and distribution of power from renewable sources; (ii) energy efficiency in distribution contributing to improve service reliability; and (iii) reduction of electricity losses.[32] The program is also aligned with the priority areas of the IDB Infrastructure Strategy, "Sustainable Infrastructure for Competitiveness and Inclusive Growth" (document GN-2710-5) in that it: (i) promotes access to infrastructure services through the financing of works in the SND to help to meet projected demand (see paragraph 1.6); and (ii) improves the quality of life of the population with a robust electrical power system to ensure the CME in the medium term.

1.25 **Consistency with the Ninth General Capital Increase (GCI-9).** The program will contribute to the lending program priority targets of the Report on the Ninth General Increase in the Resources of the Inter-American Development Bank (document AB-2764) for: (i) lending to small and vulnerable countries; and (ii) lending to support climate change initiatives, renewable energy, and environmental sustainability. The expected outcomes of the program contribute to the regional development goals for: (i) infrastructure for competitiveness and social welfare; and (ii) protecting the environment, responding to climate change, promoting renewable energy, and enhancing food security through the effective supply of energy from renewable sources as well as the promotion of reduced consumption of fossil fuels by residential customers.

1.26 In addition to financing projects under the Transmission Expansion Plan and the Distribution Expansion Plan, the IDB monitors the process of reforms under the CME through the programmatic operation, Support for the Transition of the Energy Matrix of Ecuador, loan EC-L1140. It is also supporting sector initiatives related to energy diversification through the use of nonconventional renewable energies, energy efficiency, regional electrical integration, reduction of electricity losses, operation of smart grids, and electrification in remote rural areas through technical cooperation operations EC-T1181, EC-G1001, EC-T1235, EC-M1063, RG-T2056,[33] and EC-T1279.[34]

1.27 Loan EC-L1140 is a programmatic policy-based loan (PBP) to support the CME (approved in February 2015). Reform commitments include the Statement of Priorities of Ecuador's National Planning and Development Department

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[31] According to the Census (2010), 12 of the country's 24 provinces have coverage levels below 90%.

[32] Total electricity losses 12.3% (December 2014). Projected to be 7.5% by 2022. (PME 2013-2022).

[33] Support for the Andean Electric Interconnection Studies.

[34] Analysis and recommendations for the successful implementation of the Smart Grid Program in Ecuador.

(SENPLADES) for execution of the PRSND, to facilitate implementation of the CME.

1.28 The IDB's support for the sector has helped to generate good practices, resulting in an adequate level of execution in financed operations, notably: (i) preparation of financing 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 agencies; (iv) ongoing interaction with the executing agencies to facilitate understanding of the IDB procurement and monitoring procedures; and (v) continual monitoring of outcomes by the Ecuadorian government authorities.

1.29 As a result, performance indicator time frames were shortened for energy projects as referenced in the portfolio of IDB projects in the country, as follows: (i) time from loan approval by the IDB until signing of the agreement by the Government of Ecuador shortened from 141 to 49 days; and (ii) time from signing of the agreement until eligibility for the first disbursement shortened from 130 to 11 days. This was achieved with operations 3087/OC-EC, 3187/OC-EC, and 3188/CH-EC executed by MEER, which currently have disbursement levels above 50%. MEER also reinstated the use of the SIGPRO project management system for management and technical, financial, procurement monitoring of projects related to the SND, which includes the monitoring variables recommended by the IDB.

B. Objectives, components, and costs

1.30 The objective of the program is to continue the strengthening of the National Distribution System (SND) begun with operation EC-L1136, facilitating transformation of the energy matrix and the delivery of quality electricity service. The specific objectives are: (i) to help strengthen the medium voltage and low voltage electrical infrastructure; (ii) to contribute to modernization and efficiency in the management of demand in the SND; and (iii) to improve the reliability levels of electricity service.

1.31 **Component I. Projects to strengthen the SND (US$62.7 million).** This component will finance investments in the SND to improve the quality and continuity of electricity service through the execution of subtransmission and distribution projects, including: (i) interconnection between lines and feeders; (ii) construction and rehabilitation of substations; (iii) strengthening of feeder trunk lines; and (iv) incorporation of operational and safety equipment into the medium voltage grid. An estimated 90 projects will be financed.[35]

1.32 **Component II. Improvement of electricity system efficiency and reliability (US$24.6 million).** In line with the sector priorities of improving SND efficiency and taking as a reference the standards of the International Electrotechnical

[35] See optional electronic links: (i) Report on evaluation and selection of projects for financing; and (ii) Basis of projects proposed for financing.

Commission (IEC), this component will support gains in the real-time management of distribution transformers, minimizing failures in the supply of electricity and reducing electricity losses. This component will finance: (i) enabling of remote activation, measurement, and control in SND operational/safety equipment,[36] complementing the Supervisory Control and Data Acquisition (SCADA); (ii) monitoring of demand and the energy balance in the SND, by enabling smart metering in distribution transformers and medium-voltage feeders;[37] (iii) introduction of remote metering for large consumers (industrial and commercial), thus strengthening the business management system; and (iv) installation of monitoring and management centers, giving priority to EDEs with electricity losses exceeding 10%. An estimated 24 projects will be financed.[38]

1.33 **Component III. Institution-strengthening (US$2.09 million).** This component will finance: (i) the development and implementation of a training strategy for EDE personnel, in two phases, according to Component II activities; and (ii) the purchase of measuring instruments for programming and testing of training-related equipment. The first phase of the strategy involves specialized training courses in the operation and management of the SND. The second phase includes training in the use of measuring instruments for automatic and remote activation of the SND from the new management centers.

1.34 **Cost and financing.** The estimated cost of the program will be US$90.6 million. Of that amount, US$50 million will be financed by the IDB from Ordinary Capital (OC) resources, US$30 million from the China Cofinancing Fund for Latin America and the Caribbean (CHC),[39] and US$10.6 million will be recognized as counterpart resources.[40]

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[36] Involves projects to install smart devices on primary feeders (reconnectors and regulators) and projects to automate and upgrade substations.

[37] Giving priority to EDEs with energy losses of more than 10%.

[38] See optional electronic links: (i) Report on evaluation and selection of projects for financing; and (ii) basis of projects proposed for financing.

[39] Cofinancing funds from the People's Bank of China will supplement the IDB's own funds to finance Component I, for a total of US$30 million. The IDB and the People's Bank of China approved a China Cofinancing Fund for Latin America and the Caribbean to support public- and private-sector projects promoting sustainable economic growth in the region.

[40] With prior agreement between the European Union (EU) and the Government of Ecuador, the EU is expected to contribute 57 million euros to finance new projects facilitating progress in the PNCE. Part of these funds will come from the Latin American Investment Facility (LAIF). Under the IDB's framework agreement with the European Commission, nonreimbursable funds from the EU can be approved through project specific grants (PSGs). Approval of the financing agreement between the Government of Ecuador and the EU does not affect the current technical and economic viability of the program.

Table I-1. Program costs (US$000s)

Components	Financing			Total
	OC	CHC	Counterpart	
Component I. Strengthening of the SND	**26,000**	**30,000**	**6,720**	**62,720**
Component II. Improvement of electricity system efficiency and reliability	**22,000**	**0**	**2,640**	**24,640**
Component III. Institution-strengthening	**1,850**	**0**	**240**	**2,090**
Program administration	**150**	**0**	**1,000**	**1,150**
Total	**50,000**	**30,000**	**10,600**	**90,600**

* Includes consulting services, measurement equipment, computer hardware and software.

1.35 **Economic and financial analysis.** The economic and financial analysis adopted an analysis period of 32 years, equal to the estimated useful life of the sample projects in the program. The economic analysis was done both at market prices and at efficiency prices (economic prices). The first case yields an economic internal rate of return (EIRR) of 25.3% and an economic net present value (ENPV) of US$189.3 million. At efficiency prices, the economic return is 32.06%, with an ENPV of US$244.6 million. With forecasted outflows and inflows evaluated for each one of the projects, their average financial return (FIRR) was calculated at 66.8%. The outflows and inflows identified were likewise used to calculate the financial net present value (FNPV) of the individual subprograms, using a benchmark discount rate of 12%, yielding a total value of US$586.3 million (see Economic and financial assessment of the program).

C. Results matrix

1.36 The program has a Results Matrix with outcome indicators and targets associated with its objectives and components. The indicators selected for overall outcomes are: (i) average interruption frequency per kVA installed (AIFk); (ii) total interruption time per kVA installed (TITk); (iii) kilometers of subtransmission and distribution network strengthened; and (iv) number of employees trained in managing demand in the SND, with a breakdown of the percentage of women trained. Measurements are included for carbon dioxide (CO_2) avoided, the reduction of electricity losses, the volume of LPG reduced, and the number of customers benefiting from the program who are of Afro-Ecuadorian and indigenous origin. The outcomes and targets have been formulated and projected out to four years (see Annex II: Results Matrix).[41]

[41] The indicators, baseline, and target values have been agreed upon with MEER.

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instruments

2.1 The program is structured as a multiple-works program loan. This is justified by the fact that the projects in the program are physically similar but independent of each other, for which 63 projects were evaluated, equivalent to a representative sample of 64% of the IDB loan proceeds. To be eligible, the projects must: (i) be a priority for the National Planning and Development Department (SENPLADES); (ii) contribute to strengthening the National Distribution System (SND) to operate at 220 volts; (iii) contribute to improving the quality of electricity service; (iv) have complete technical, social, and environmental information;[42] and (v) meet the economic/financial evaluation criteria (see Economic and financial assessment of the program), including an economic internal rate of return (EIRR) of 12% or more. Eligible projects have final designs for construction and their procurement methods are described in the Procurement Plan.

2.2 The loan proceeds will be disbursed over a period of four years, running from the effective date of the loan contract:

Table II-1. Disbursement schedule (US$000s)

Source	Year 1	Year 2	Year 3	Year 4	Total
IDB	18,300	14,800	10,300	6,600	50,000
CHC	17,100	9,900	3,000	0,000	30,000
Counterpart	4,500	3,200	1,800	1,100	10,600
Total	**39,900**	**27,900**	**15,100**	**7,700**	**90,600**

B. Environmental and social safeguard risks and management measures

2.3 The program was classified as category "B" under the Environment and Safeguards Compliance Policy (Operational Policy OP-703). Most of the program's projects will be implemented in areas that have already been disturbed, utilizing existing transmission line corridors or urban and rural roads in service, streets, enclosures, or other linear structures. Clearing of vegetation will be minimal and only in specific cases to prevent interference with the conductor cables. There are no plans for involuntary resettlement of people or their displacement. The program will produce positive impacts by improving the reliability and quality of the national electricity supply, reducing electricity losses, and meeting projected demand in the years ahead. The potential adverse socioenvironmental impacts will be mainly

[42] Environmental and social management report (ESMR).

during the rehabilitation and construction phase[43] for the subtransmission and distribution network and, to a lesser degree, during their operation.[44] These impacts will be low to moderate and can be managed through standard procedures.[45] The operation also triggers policies OP-102, OP-704 scenario I, and OP-765,[46] the provisions of which will be reflected in the environmental and social management plan (ESMP).

2.4 To mitigate socioenvironmental impacts and risks, in addition to any operating conditions that may be established, the executing agency will provide, to the Bank's satisfaction and as part of the program Operations Manual, a framework for the environmental and social management of the projects with tracking logs.

2.5 **Special contractual execution conditions.** Prior to the start of works for each Component I project, as established in the program's environmental and social management report (ESMR), the executing agency will provide the following, to the Bank's satisfaction: (i) evidence that at least one public consultation has been held for the Component I projects, as established in the program's ESMR, including: (a) description of the project; (b) description of probable impacts; (c) description of 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; (ii) the environmental evaluation and its ESMP, together with the corresponding budget for its execution, in accordance with the scope defined in the environmental category designated by the country's environmental authority; (iii) the breakdown of the environmental technical specifications; (iv) evidence that the bidding specifications include mandatory compliance of the environmental technical specifications with the ESMP; (v) the environmental license and permits required by Ecuadorian law; (vi) the easement order in the case of new distribution lines; (vii) evidence of legal ownership of land for new electrical substations; and (viii) inclusion of the relevant environmental technical specifications and the ESMP in the construction and inspection contracts for the planned works. Every six months the IDB will supervise the environmental and social development of the projects, including visits to the works.

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[43] These include: (i) the impact on air quality through the uncontrolled emission of particulate matter into the atmosphere as a result of the stone materials used for construction work and equipment installation; (ii) noise generated in the vicinity of works through the operation of construction machinery and equipment; (iii) generation of liquid, solid, and gaseous wastes; (iv) increased risk of accidents due to the presence of machinery, faulty disposal of debris or materials, or lack of work signage; (v) interruptions in electricity service; and (vi) changes in vehicular traffic.

[44] Including emissions of nonionizing radiation in the service areas of substransmission networks.

[45] The environmental and social management report (ESMR) analyzes the main potential impacts and measures for managing them.

[46] 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 the Ministry of Electricity and Renewable Energy (MEER) revealed that the executing agency maintains sufficient capacity for planning, financial management, and procurement activities. Opportunities for improvement were identified in the process of accountability through financial and procurement reports. Improvements will be implemented through the adoption of best practices that include: (i) using the SIGPRO project management system, which is the main communications and monitoring platform for financing programs executed by MEER; (ii) conducting training and awareness workshops on processes for electricity distribution enterprise (EDE) staff; and (iii) training and ongoing monitoring of the executing agency by the IDB (see Annex III, "Fiduciary Agreements and Requirements").

D. Execution risks

2.7 **Program management risks.** The identified risks are considered low and are associated with: (i) changes in staff at the program management unit (PMU) and their time commitment to the program; (ii) the capacity of the EDEs to inspect technical and environmental works; and (iii) the capacity of the executing agency to supervise works built by the EDEs. As a condition precedent to the first disbursement (see paragraph 3.1) and in view of experiences in executing loan EC-L1136, the core team devoted full-time to execution of the program will be formed, and the profile of the team agreed upon, in order to mitigate risks in the monitoring of works. The program also includes resources for the engagement of inspection services to support the EDEs and use of the SIGPRO project management system.

2.8 **Procurement risk.** Given the number of current investments in the sector, there is a risk that the market will not respond in a timely manner to the demand for project construction. This risk is considered average. Early publication of the General Procurement Notice, with information on business opportunities throughout the year and use of the corporate procurement model in the bidding procedures for equipment and materials, in line with experience gained in executing operation EC-L1136, are some of the proposed mitigation measures.

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 social issues in the projects' service areas. These projects are an integral part of the Distribution Expansion Plan and their priority is described in the Master Plan for Electrification of Ecuador 2013-2022 (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 considering variations in: (i) investment costs; (ii) operation and maintenance costs; and (iii) benefits of

savings from reduced electricity losses, which confirmed the economic and financial soundness of the program, with EIRR values above 12%.

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 the Agency for Regulation and Control of Electricity (ARCONEL) for the regulated distribution services. The expected economic and financial benefits of the projects derive principally from: (i) the reduction of electricity losses in the SND; (ii) meeting unmet demand or anticipated demand due to natural growth; and (iii) improvements in the quality and reliability of the electricity supply.

III. SUMMARY OF IMPLEMENTATION MEASURES

A. Execution period and mechanism

3.1 The executing agency is the Ministry of Electricity and Renewable Energy (MEER) with technical support from the Agency for Regulation and Control of Electricity (ARCONEL) and the electricity distribution enterprises (EDEs) following the same arrangement as implemented in operations 2608/OC-EC, 3087/OC-EC, 3187/OC-EC, and 3188/CH-EC. Based on this experience, the proposed execution period is four years (see paragraph 2.2). ARCONEL supports MEER in supervision and evaluates the projects for financing prior to approval by MEER. The communication and monitoring process is handled through the SIGPRO project management system. **Execution of the following activities will be part of the special contractual conditions precedent to the first disbursement[47] and must have the Bank's no objection: (i) signature and entry into force of a subsidiary agreement between the Ministry of Finance and the executing agency stating the obligation that resources must be used on the terms and for the purposes agreed upon in the loan contract; (ii) formation of the program management unit (PMU) by the executing agency for program execution, comprised of at least a general coordinator, procurement specialist, finance specialist, planning and monitoring specialist, environmental specialist, and an electrical engineer; (iii) submission of an updated version of the program Operations Manual duly approved by MEER, and its entry into force; (iv) evidence that a framework for the environmental and social management of projects has been included in the program Operations Manual with tracking logs; and (v) demonstration by the executing agency to the Bank that sufficient resources have been allocated to execute the program for at least the first calendar year.**

3.2 **Procurement plan and procurement policies.** A procurement plan has been agreed upon for the first 12 months of execution. The executing agency will update

[47] 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.

the procurement plan annually to coincide with annual evaluations and before the end of each calendar year, or whenever substantial changes occur. The Procurement Plan Execution System (SEPA) will be used for updating the procurement plan. The different types of procurements of goods, works, and consulting services will be conducted in accordance with policy documents GN-2349-9 and GN-2350-9, respectively.

3.3 **Disbursements and advances 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 nine months of execution.

3.4 **Retroactive financing and recognition of expenditures.** The Bank may retroactively finance up to US$16 million (20% of the loan), chargeable against the loan proceeds, and recognize up to US$2.12 million (20% of the local contribution) as part of the local contribution, in eligible expenditures incurred by the executing agency prior to the loan approval date, for payments made for advance procurement and to advance work on projects, provided that they satisfied requirements substantially analogous to those established in the loan contract. Such expenditures must have been made on or after 17 March 2015 (project profile approval date), but in no case may they include expenditures made more than 18 months prior to the loan approval date.

3.5 **Audits.** External audit services for the program will be provided by a firm of external auditors acceptable to the Bank, who will be engaged on terms of reference agreed upon with the executing agency.

3.6 **Program Operations Manual.** The program has procedures clearly established in the program Operations Manual agreed upon for the execution of operation EC-L1136, including an extensive system for monitoring, supervision, and evaluation of program actions and outcomes, which will be performed with support from ARCONEL 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 condition precedent to the first disbursement.

B. Summary of measures for monitoring and evaluating results

3.7 **Monitoring arrangements.** The IDB team will conduct technical visits to review program progress and make adjustments by consensus based on execution. Fiduciary supervision visits will be conducted at least once a year. External audits of the program's annual financial reports are planned, to validate the use of the loan proceeds and local contribution for the operational processes and internal controls to be implemented at the executing agency. The information compiled will be analyzed regularly, and the monitoring and status report will be prepared once a year (see: monitoring and evaluation plan).

3.8 **Arrangements for program evaluation.** Program evaluation includes a midterm and final evaluation, financed by the executing agency with counterpart resources. The midterm evaluation includes and ex post cost-benefit analysis to verify the program design assumptions. It will be commissioned by the executing agency within two months after 50% of the loan proceeds have been committed. The final evaluation will be commissioned by the executing agency within two months after 95% of the loan proceeds have been disbursed. The final evaluation will determine the extent to which the goals set in the Results Matrix have been met, which means analyzing the situation before and after implementation of the program. The six-monthly and annual status reports will be delivered by the executing agency in accordance with the program's monitoring and evaluation plan.

Development Effectiveness Matrix			
Summary			
I. Strategic Alignment			
1. IDB Strategic Development Objectives	Aligned		
Lending Program	-Lending to small and vulnerable countries -Lending to support climate change initiatives, renewable energy and environmental sustainability		
Regional Development Goals	-CO2 emissions (kilograms) per $1 GDP (PPP)		
Bank Output Contribution (as defined in Results Framework of IDB-9)	-Km of electricity transmission and distribution lines installed or upgraded		
2. Country Strategy Development Objectives	Aligned		
Country Strategy Results Matrix	GN-2680	(i) Diversified national energy matrix, and (ii) Increased energy efficiency.	
Country Program Results Matrix	GN-2805	The intervention is included in the 2015 Operational Program.	
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/FMP Criteria)	Yes	Financial Management: Budget, Treasury, Accounting and Reporting. Procurement: Information System.	
Non-Fiduciary			
The IDB's involvement promotes additional 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	Procurement and financial analysis workshops. This last one on SIGPRO system targeted at Executing Agency and Energy Distribution companies 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

In 2014, a first operation (EC-L1136) was approved by the Bank to strengthen the National Distribution System (SND) of Ecuador "favoring the change of the energy matrix and the provision of quality energy services to residential customers". The continuity of Bank´s support to the SND was embedded in the context of support to the Electrification Master Plan (PME) which included these proposed investments. As in the previous operation, the diagnosis is complete. The PME states that under any of the projected future scenarios, robust and modern demand distribution and transmission systems will be required. The PME also emphasizes the need to develop a reliable service which is energy efficient.

The proposed project is linked with the diagnosis and seeks to continue the strengthening of the national distribution system favoring the change of the energy matrix and the provision of high quality energy service to customers, through three components: (i) supporting 90 projects to strengthen the SND, (ii) supporting 24 projects aimed at improving the efficiency and reliability of the electricity system, and (iii) supporting institutional strengthening to develop and implement a training strategy for the EED staff.

An intervention with clear vertical logic is proposed, whose ultimate impacts are associated with the project's contribution to mitigating climate change and reducing the level of electrical losses in the SND. The package contains a complete economic analysis based on reducing electrical losses in the SND, meeting unmet demand and improving quality.

RESULTS FRAMEWORK

MATRIX OF INDICATORS

Objectives	Continue the strengthening of the National Distribution System (SND) begun with operation EC-L1136, facilitating transformation of the energy matrix and the delivery of quality electricity service. Specific objectives: (i) to help strengthen the medium voltage and low voltage electrical infrastructure; (ii) to contribute to modernization and efficiency in the management of demand in the SND; and (iii) to improve the reliability levels of electricity service.

Output indicators		Baseline (2014)	Year 1	Year 2	Year 3	Year 4	Final target	Means of verification
Component I – Projects to expand and strengthen the National Distribution System (SND)								
Subtransmission projects executed	Number of projects executed	0	0	18	15	8	**41**	Project status report
	Execution cost (US$000)	0	19,146	10,068	8,390	4,475	**42,078**	
Distribution projects executed	Number of projects executed	0	5	20	15	9	**49**	
	Execution cost (US$000)	0	8,079	4,937	2,962	1,777	**17,756**	
Inspection projects contracted	Number of contracts	0	15	31	30	0	**76**	
	Execution cost (US$000)	0	569	1,177	1,139	0	**2,885**	
Component II – Improvement of electricity system efficiency and reliability								
Projects to install smart devices on primary feeders (reconnectors and regulators)	Number of projects executed	0	3	3	1	1	**8**	Project status report
	Execution cost (US$000)	0	2,008	1,804	301	301	**4,414**	
Substation automation and upgrade projects	Number of projects executed	0	6	4	0	0	**10**	
	Execution cost (US$000)	0	1,570	1,881	0	0	**3,450**	

Output indicators		Baseline (2014)	Year 1	Year 2	Year 3	Year 4	Final target	Means of verification
Smart metering enabled on distribution transformers, feeders, and major consumers	Smart meters installed	0	2,565	10,258	3,450	824	**17,097**	
	Execution cost (US$000)	0	6,967	6,259	1,684	402	**15,312**	
Projects to upgrade and implement data and control centers	Number of projects executed	0	2	3	0	0	**5**	Project status report
	Execution cost (US$000)	0	535	641	0	0	**1,176**	
Supervision and inspection projects contracted	Number of projects contracted	0	8	8	0	0	**16**	
	Execution cost (US$000)	0	130	156	0	0	**285**	
Component III – Institution-strengthening								
Training strategy	Number of courses	0	8	8	2	2	**20**	Project status report
	Execution cost (US$000)	0	358	358	90	90	**896**	
Support for implementation of the training strategy[1]	Number of EDEs benefited	0	5	7	5	3	**20**	
	Execution cost (US$000)	0	300	420	300	175	**1,194**	

[1] Includes: Measurement instruments, computer hardware and software, office supplies, and furniture.

Outcome indicators	Baseline (2014)	Final target 2019	Means of verification
Component I – Expansion and strengthening to improve the transmission capacity and quality of the SNT			
Installed power in SND substations (MVA)	5,785[2]	5,939	MEER Report
Installed power in distribution transformers (MVA)	9,326[3]	9,351	MEER Report
Component II – Design for implementation of the strategy to shift from LPG to electricity in the residential sector			
AIFk_Grid: Average interruption frequency in the SND[4] (number of SND failures per kVA)	12.77[5]	10.28[6]	MEER Report
TITk_Grid: Total interruption time in the SND[7] (hours)	12.45[8]	11.28[9]	MEER Report
Component III – Institution-strengthening			
EDE employees trained in operation and maintenance (number)	0	300	MEER Report
Women trained with the program (%)	0	10%	

2 PME 2013-2022 baseline (plus projected growth of 2%).
3 PME 2013-2022 baseline (plus projected growth of 3.5%).
4 Values measured at the end of the primary distribution feeder line.
5 Reference: ARCONEL as of December 2014.
6 Target values correspond to national level outcomes.
7 Values measured at the end of the primary distribution feeder line.
8 Baseline calculated by CONELEC as of December 2014.
9 Target values correspond to national level outcomes.

Impact indicators	Baselines (2014)	Final target 2019	Means of verification
Climate change mitigation Annual CO_2 emissions reduced due to replacement of LPG by electricity (k/t/CO_2eq/year)[10]	3,055	444	National Energy Balance MICSE
Efficiency in distribution Average level of electricity losses in the SND (%)	12.37	11.6	MEER Report
Afro-Ecuadorian and indigenous customers benefited by the program (number)	0	75,000	MEER Report
Volume of LPG reduced in the residential sector (t)	0	693,000[11]	MEER Report

[10] Based on the National Efficient Cooking Program, August 2013, MEER.

[11] The study on energy subsidies of the Ministry for the Coordination of Production, Employment, and Competitiveness (MCPEC) and the End Uses Study done in 2012 by the Empresa Eléctrica Quito show that the average consumption of cylinders of LPG for an Ecuadorian family is 1.1 cylinders per month, equivalent to 15 kg of LPG. (Empresa Eléctrica Quito, 2012) (MCPEC, 2010). The estimated savings is for 3.5 million households.

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Country	Ecuador
Project number:	EC-L1147
Name:	Program to Strengthen the National Electricity Distribution System of Ecuador II
Executing agency:	Ministry of Electricity and Renewable Energy (MEER)
Prepared by:	Gumersindo Velázquez (FMP/CEC) and Gustavo Palmerio (FMP/CEC)

I. SUMMARY

1.1 The institutional assessment for fiduciary management of the project was based on: (i) the fiduciary context of the country; (ii) the results of the fiduciary risk assessment; (iii) the analysis done in August 2013; and (iv) the ex post evaluation done in December 2014 on execution processes for program 2608/OC-EC to identify areas for improvement in execution by MEER. Consideration was also given to input from workshops with the MEER Program Management Unit (PMU) and entities involved in project execution. As a result, the following fiduciary agreements for procurement and financial management have been prepared for program execution.

II. FIDUCIARY CONTEXT OF THE COUNTRY

2.1 **Procurement system:** The Bank has worked with the National Public Contracting Service (SERCOP) to prepare and adapt the bidding documents applicable to the different procurement methods for goods, works, services, and consulting services financed with Bank loans. The respective agreement was signed on 13 May 2014. The amendatory contracts to the seven loan contracts are effective as of 15 September 2014, implementation of the use of country systems was launched on 24 September 2014, and Resolution RE-SERCOP-2014-0000014 was published on 4 November 2014.

2.2 **Financial management system:** Since January 2008 government entities have been using the e-SIGEF Financial Management System, which integrates the budget, accounting, treasury, and electronic payments processes and a centralized information technology structure and the use of Web technology. In addition, central government entities are subject to control and inspection by the supreme audit institution, the Office of the Comptroller General. 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 audit (to be performed by a Bank-eligible firm).

III. FIDUCIARY CONTEXT OF THE EXECUTING AGENCY

3.1 The executing agency is the Ministry of Electricity and Renewable Energy (MEER) with technical support from the Agency for Regulation and Control of Electricity (ARCONEL) and the electricity distribution enterprises (EDEs). MEER is the apex agency for electricity and renewable energy sector policy in Ecuador, while ARCONEL has a regulatory role, subject to the recently enacted Act Establishing the Public Electric Power Service (LOSPEE) and MEER policies.

3.2 MEER uses the country systems for procurement and financial management. Internal control at MEER is exercised by the Office of the Comptroller General (CGE) through its Internal Audit Unit.

3.3 The same structure as used in this program is successfully used in operations 3087/OC-EC and 3187/OC-EC. Under this latter operation, as of 31 December 2014 a total of 587 works contracts had been awarded in accordance with the Bank's procurement policies, for a total of US$193 million, with only four months having elapsed since its eligibility.

3.4 In August 2013, a diagnostic assessment was done of the administrative/financial procedures used during execution of the "Electrification Program for Rural and Marginal Urban Areas in Ecuador" (loan 2608/OC-EC), with the aim of proposing improvements for the design of the two above-mentioned operations. As a result of that analysis, changes were incorporated in activities governing the interaction among contractors, EDEs, ARCONEL, and MEER with regard to budget, accounting, treasury, and reporting processes in the execution of both operations, and these changes will be replicated in this operation. As the executing agency for these programs, MEER demonstrated that it maintains all activities documented, approved, and formalized through its information system and that it has personnel who have been gaining experience in administering financial management and procurement processes in Bank-financed operations.

IV. FIDUCIARY RISK ASSESSMENT AND MITIGATION MEASURES

4.1 Based on the assessments and using the information available on the program, fiduciary risks were identified and included in the respective risk matrix:

A. Weaknesses in the accountability process:

Factors: (i) multiple actors and works; (ii) lack of uniformity in the procedures used by the EDEs to report the results of projects executed; and (iii) geographically decentralized records at the EDEs. **Impact:** Delays in monitoring and proper delivery of reports and financial statements. **Mitigation measures:** (i) replicate the best practices identified from the execution of programs 2608/OC/EC, 3087/OC-EC, and 3187/OC-EC; (ii) continue to support

monitoring and improvement in the SIGPRO project management system, which is the main communications and monitoring platform for programs; (iii) conduct training and awareness workshops on processes for key EDE staff; and (iv) the Bank's fiduciary team will provide support, training, and assistance for program execution.

B. 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) the project's General Procurement Notice will report on business opportunities and efforts will be made to announce solicitations throughout the year in the necessary media outlets to ensure broad dissemination.

V. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF CONTRACTS

5.1 For consideration: Approval of the program Operations Manual.

VI. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

6.1 **Procurement execution.** It is anticipated that the executing agency, in order to strengthen the planning of procurement-related activities, will use the SEPA virtual system. The initial procurement plan will cover the first 18 months and will be updated annually or as necessary using the SEPA system.

a. **Procurement of goods, works and nonconsulting services (procurement policy document GN-2349-9):** The threshold for the use of international competitive bidding (ICB)[1] will be made available to MEER at www.iadb.org/procurement. Below that threshold, the selection method will be determined according to the complexity and nature of the procurement or contracting, which will be reflected in the procurement plan that has received the Bank's no objection. Contracts for goods, works, and nonconsulting services generated under the program and subject to ICB will be executed using the standard bidding documents (SBDs) issued by the Bank. Bid solicitations subject to national competitive bidding (NCB) and the shopping method will be executed using NCB and shopping documents agreed upon with the Bank. In addition, ICB processes may accept a reduction of up to four weeks in the deadline specified in the policies for the submission of bids on works, goods, and nonconsulting services, applicable in the case of noncomplex procurement and may use the deadline established based on local standards for NCB. In addition, the shopping method may be used to procure

[1] For works, currently the threshold for ICB is applicable for amounts of US$3,000,000 or more, and for goods and nonconsulting services, ICB is applicable for amounts of US$250,000 or more.

noncomplex works and off-the-shelf goods valued below the ICB thresholds, as published on the above-mentioned IDB portal, and the executing agency must submit a technical justification documenting the reasons why such items are defined as noncomplex works and off-the-shelf goods.

b. **Selection and contracting of consultants:** For the selection and contracting of consulting services (document GN-2350-9), any of the methods described in the consultants policies may be used, provided that said method has been identified for the respective contracting in the procurement plan approved by the Bank, which may be updated as necessary. The threshold for the formation of the shortlist with international consultants[2] will be made available to the program at www.iadb.org/procurement.

   Contracts for consulting services generated under the program will be executed using the SBDs issued by the Bank. 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, pursuant to paragraph 3.7 of the policies.

c. **Selection of individual consultants:** In the cases identified in the approved procurement plans, 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:** The Bank may retroactively finance up to US$16 million (20% of the loan), chargeable against the loan proceeds, and recognize up to US$2.12 million (20% of the local contribution) as part of the local contribution, in eligible expenditures incurred by the executing agency prior to the loan approval date, for payments made for advance procurement and to advance work on projects, provided that they satisfied requirements substantially analogous to those established in the loan contract. Such expenditures must have been made on or after 17 March 2015 (project profile approval date), but in no case may they include expenditures made more than 18 months prior to the loan approval date.

[2] For contracting consulting firms, the threshold is for amounts of US$200,000 or more. For amounts below that, the shortlist may comprise entirely national consulting firms.

Table VI-1. Table of thresholds (US$)

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

Table VI-2. Main procurements

Activity	Type of bidding	Estimated date	Estimated amount (US$000s)
1. Works			
Construction of the Babahoyo-Caluma subtransmission line	ICB	2nd half 2015	4,293
Construction of the Pascuales-Manglero 69 kv S/T/L	ICB	2nd half 2015	4,314
Management system for improving quality, reliability, loss reduction, and demand response of electricity service	ICB	2nd half 2015	15,312
Civil works: Strengthening of grids, repowering of substations, construction of subtransmission lines, 13.8 kv three-phase lines, substations, feeder, expansion of feeders at control center, integration of reconnectors, subtransmission systems, adaptation of infrastructures at substations and control center, construction of the 69 kv tap to power substations, repowering of power transformers, distribution and medium-voltage networks, and others. This plan involves 59 processes. See full list, expanded procurement plan.	NCB	2nd half 2015	44,400
Civil works: Strengthening of grids, repowering of substations, construction of subtransmission lines, 13.8 kv three-phase lines, substations, feeder, expansion of feeders at control center, integration of reconnectors, subtransmission systems, adaptation of infrastructures at substations and control center, construction of 69 kv tap to power substations, repowering of power transformers, distribution and medium-voltage networks, and others. This plan involves 45 processes classified as simple works. See full list, expanded procurement plan.	Shopping	2nd half 2015	6,300
2. Goods			
Procurement of mobile substation	ICB	2nd half 2015	1,008
3. Consulting services, firms			
Inspections for the different types of civil works. Provision is made for 20 processes. See full list, expanded procurement plan	QCBS	2nd half 2015	1,899
4. Consulting services, individual			
Inspections for the different types of civil works. Provision is made for 72 processes. See full list, expanded procurement plan	3CVs	2nd half 2015	1,271

6.2 **Procurement supervision.** Contracts subject to ex post review by the Bank will be listed in the following tables and performed according to the provisions in Appendix I of the respective policies. Contracts for amounts equal to or greater than those indicated in that table will be subject to ex ante supervision.

6.3 **Ex post review.** Ex post review visits by the Bank will be conducted at least once every 12 months. Ex post review reports will include at least one physical inspection visit, as applicable. For clarity, no less than 10% of the contracts reviewed will be physically inspected during the program.

Table VI-3. Ex post visits (US$)

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 and may be modified by the Bank in the event of changes in such capacity.

6.4 **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 organizations).

6.5 **Records and files.** The executing agency and subexecuting agencies 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.

7.2 MEER will manage disbursements and budgetary allocations for the program and will monitor quarterly budget execution through its internal systems.

7.3 **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 system currently allows reports to be prepared on the resources provided by the IDB—Ordinary Capital and China Cofinancing Fund—they do not provide the required level of detail and breakdown on all specific aspects, so separate reports are necessary to show the status and development of the projects.

7.4 Based on the above, the executing agency has agreed that the SIGPRO system would be used for the loan operation. This system developed by MEER allows for the technical and financial monitoring of the progress of execution activities and the production of detailed financial reports and project reports.

7.5 **Disbursements and cash flow.** In 2008, the Government of Ecuador instituted the National General Treasury Account (CUT), unifying treasury management for all central government entities.

7.6 The implementation of this mechanism did 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 loan proceeds, MEER will open two BCE accounts for the program corresponding to the IDB financing—one for the Ordinary Capital and the other for the China Cofinancing Fund. All program payments will be made through the e-SIGEF system by debiting the CUT.

7.7 Program disbursements will be based on the project's actual liquidity requirements, taking the two 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 nine months. The financial plans are to be prepared at project start and updated as execution proceeds.

7.8 The executing agency will submit each disbursement request to the IDB, along with the project's financial plan and cash flow for the following 270 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-237, "Financial management policy for IDB-financed projects."

7.9 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.

7.10 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.

7.11 **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.

7.12 **External control 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 projects will be conducted by tier 1 independent auditors acceptable to the Bank (international audit firms), in accordance with IDB requirements. During execution, MEER will deliver, on an annual basis within 120 days after the closing date of each fiscal year, audited financial reports 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, which will include the independent validation of the use of loan resources by each financing source and validation of the operative internal processes and controls implemented by the executing agency. The costs of the audits will be covered with the IDB loan proceeds (Ordinary Capital).

7.13 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	Annual	Fiduciary specialist	
	Review of audited and unaudited financial reports	Annual	Fiduciary specialist	MEER
	Ex post review of disbursements	Annual	Fiduciary specialist	
	Review of disbursement requests	Periodic	Fiduciary and sector team	

Supervision activity	Supervision plan			
	Nature and scope	Frequency	Responsible party	
			IDB	Third party
Procurement	Ex ante review of procurements	Initially the first year	Team leader with support from procurement specialist	MEER
	Updated procurement plan	Annual	Team leader with support from procurement specialist	MEER
Compliance	Fulfillment of conditions precedent	Once	Fiduciary and sector team	
	Review of budget allocation	Annual	Fiduciary and sector team	MEER
	Delivery of audited financial reports	Annual	Project team leader and fiduciary specialist	

7.14 **Execution mechanism.** As the executing agency, MEER will be responsible for program financial management and internal control, with technical assistance from the ARCONEL team and from the EDEs with regard to the contracting of works in their concession area.

7.15 The tasks of ARCONEL will focus on technical issues, and specifically two units: (i) the Office of Planning and Policy: where project proposals are received from the EDEs, analyzed, selected, and prioritized for execution; and (ii) the Office of Supervision and Control: where monitoring and technical supervision is done on works being executed by the EDEs and where their performance is audited based on sampling.

7.16 Within MEER, the Office of the Undersecretary for Energy Distribution and Marketing will head up execution of the program as well as the contracting and review of studies as necessary.

7.17 In addition, all administrative activity (budget, accounting, payments, etc.) will be handled by MEER through its Finance Office with support from the Office of the Undersecretary for Energy Distribution and Marketing, which will monitor the EDEs with regard to contracts, payments, documentation, and the related reports. A program management unit (PMU) will be formed for such purpose, dedicated full-time to program execution. It is considered necessary for the PGU to be made up of professionals with relevant experience in executing programs of this kind. In fiduciary terms, the PMU must consist of at least: a general coordinator, finance specialist, procurement specialist, and planning and monitoring specialist. The PMU will have staff trained to carry out accounting and financial reporting functions.

7.18 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 according to the requested formats and requirements. It will also be responsible for heading up the program vis-à-vis the Bank, coordinating with the EDEs and preparing all the management information to be submitted, including progress reports, annual work plan (AWP), program execution plan (PEP), and audit and evaluation reports.

7.19 Given that there will be external financing from two different sources within the same program (IDB funding from the Ordinary Capital and the China Cofinancing Fund), the financial and management information referenced in the preceding paragraph must provide breakdowns for each funding source, such that each source can be planned, monitored, and accounted for separately, as well as in consolidated form.

7.20 The program Operations Manual will establish in detail the program execution mechanism, the composition of the PMU, as well as the mechanism for registration, communications, and reporting to govern collaboration among contractors, EDEs, ARCONEL, and MEER.

7.21 Procurement table:

http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39528841

STRENGTHENING THE NATIONAL SYSTEM OF ELECTRICAL DISTRIBUTION PROGRAM IN ECUADOR II

EC-L1147

CERTIFICATION

The Grants and Co-Financing Management Unit (ORP/GCM) certifies receipt of the non-objection from Lan Bo, State Administration of Foreign Exchange (SAFE), dated April 16, 2015 for project "Strengthening the National System of Electrical Distribution Program in Ecuador II" for the amount of up to US$30,000,000 chargeable against the China Co-Financing Fund for Latin America and the Caribbean (CHC).

ORIGINAL SIGNED	**May/4/2015**
Sonia M. Rivera Chief Grants and Co-Financing Management Unit ORP/GCM	Date

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED
RESOLUTION DE-__/15

Ecuador. Loan ____/OC-EC to the Republic of Ecuador
Program to Strengthen the National Electricity
Distribution System of Ecuador II

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 Republic of Ecuador, as Borrower, for the purpose of granting it a financing to cooperate in the execution of the program to strengthen the national electricity distribution system of Ecuador II. Such financing will be for the amount of up to US$50,000,000, 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 __ ____ 2015)

EC-L1147
LEG/SGO/CAN/IDBDOCS#38793252-15

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED
RESOLUTION DE-__/15

Ecuador. Loan ___/CH-EC to the Republic of Ecuador
Program to Strengthen the National Electricity
Distribution System of Ecuador II

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, acting as Administrator of the China Cofinancing Fund for Latin America and the Caribbean, to enter into such contract or contracts as may be necessary with the Republic of Ecuador, as Borrower, for the purpose of granting it a financing to cooperate in the execution of the program to strengthen the national electricity distribution system of Ecuador II. Such financing will be for the amount of up to US$30,000,000, from the resources of the China Cofinancing Fund for Latin America and the Caribbean, 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 __ ____ 2015)

EC-L1147
LEG/SGO/CAN/IDBDOCS#39634777-15