



Board of Executive Directors

Simplified Procedure

On or after 17 December 2014

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Simultaneous Disclosure

To: The Executive Directors
From: The Secretary
Subject: Suriname. Proposal for a loan for the project “Support for the Implementation of the *N.V. Energiebedrijven Suriname* Investment Plan”

Basic Information: Loan typeSpecific Investment Operation (ESP)
Borrower..... Republic of Suriname
Amount up to US\$33,000,000
Source Ordinary Capital

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Remarks: Management has determined that this loan proposal meets the requirements for presentation by Simplified Procedure, in accordance with Part III, Section 2 (paragraph 3.29(b)) of the Regulations of the Board of Executive Directors and document GN-1838-1, paragraph 2.

Reference: GN-1838-1(7/94), DR-398-14(6/13), GN-2756-2(6/14)

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

SURINAME

SUPPORT FOR THE IMPLEMENTATION OF THE EBS INVESTMENT PLAN

(SU-L1039)

LOAN PROPOSAL

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ELECTRONIC LINKS

REQUIRED

1. Pluriannual Execution Plan (PEP):
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39033202>
2. Monitoring & Evaluation Arrangements:
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39023439>
3. Procurement Plan:
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39022483>
4. Environmental and Social Management Report (ESMR):
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39048743>

OPTIONAL

1. Economic Analysis:
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39055539>
2. Technical Support Documents:
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39023446>
3. Public Utilities Policy Compliance Analysis:
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=39048686>

Abbreviations

| | |
|-------|------------------------------------------------|
| AOP | Annual Operation Plans |
| CBA | Cost-Benefit Analysis |
| DEV | Rural Electrification Agency |
| EA | Executing Agency |
| EBS | National Electricity Company |
| EE | Energy Efficiency |
| ENICK | Electricity <i>Nieuw Nickerie</i> |
| EPAR | Electricity Supply Paramaribo and Surroundings |
| ERP | Enterprise Resource Planning |
| ERR | Economic Rate of Return |
| ESMR | Environmental and Social Management Report |
| EU | European Union |
| FOB | Foundation for Development of the Interior |
| GDP | Gross Domestic Product |
| GOS | Government of Suriname |
| IPP | Independent Power Producers |
| ICT | Information and Communication Technology |
| IDB | Inter-American Development Bank |
| kV | kiloVolt |
| kW | kiloWatt |
| kWh | kiloWatt-hour |
| M&E | Monitoring and Evaluation Plan |
| MNH | Ministry of Natural Resources |
| MOF | Ministry of Finance |
| MW | Megawatts |
| MWh | MegaWatt-hour |
| NPV | Net Present Value |
| O&M | Operation and Maintenance |
| PM | Project Manager |
| PEU | Project Execution Unit |
| PBP | Policy Based Programmatic |
| PPA | Power Purchase Agreement |
| RE | Renewable Energy |
| SAIDI | System Average Interruption Duration Index |
| SAIFI | System Average Interruption Frequency Index |
| SBP | Strategic Business Plan |
| SCADA | Supervisory Control And Data Acquisition |
| SEFS | Sustainable Energy Framework for Suriname |
| S/S | Substation |

PROJECT SUMMARY
SURINAME
SUPPORT FOR THE IMPLEMENTATION OF THE EBS INVESTMENT PLAN
(SU-L1039)

| Financial Terms and Conditions | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------|-------------------------------------------|-------------------------------------------------|
| Borrower: Republic of Suriname Executing Agency: <i>Energie Bedrijven</i> Suriname (EBS) | | | Flexible Financing Facility * | |
| | | | Amortization Period: | 25 years |
| | | | Original WAL: | 15.25 years |
| | | | Disbursement Period: | 60 months |
| | | | Grace Period: | 5.5 years |
| Source | Amount | % | Supervision and Inspection Fee: ** | |
| IDB OC (Ordinary Capital) | US\$33 million | 100 | Interest Rate: | LIBOR-based |
| | | | Credit Fee: | ** |
| Total | US\$33 million | 100 | Currency of approval: | U.S. Dollars chargeable to the Ordinary Capital |
| Project at a Glance | | | | |
| <p>Project Objective/Description. The Project's general objective is to contribute to the sustainability of the power sector in Suriname by: (i) strengthening EBS's operational procedures and corporate performance; and (ii) upgrading critical infrastructure in the National Power System. The specific objectives are to: (i) support the strengthening of EBS's institutional and operational processes by financing improvements in information technology management; and (ii) contribute to the upgrade and retrofitting of the National Power System's critical infrastructure, with the aim of improving the reliability of the EPAR sub-system.</p> | | | | |
| <p>Special contractual conditions precedent to the first disbursement: The borrower shall present evidence to the Bank of the following: (i) additional support for the Project Executing Unit within EBS has been established by incorporating the following full-time positions: (a) a Project Manager (PM), (b) a procurement assistant to support the existing procurement specialist, (c) a financial assistant to support the existing financial specialist, and (d) an individual coordinator for each component of the Project; (ii) the Executing Agency (EA) has approved the following key planning documents: (a) the Project Operations Manual, (b) the first Procurement Plan, (c) the first Annual Operations Plan; and (iii) a subsidiary agreement has been entered into between the Ministry of Finance and the EA for purposes of the use of loan resources and the implementation of the Project in accordance with the terms and conditions set forth in the loan contract and previously agreed upon between the Borrower and the Bank (¶3.3).</p> | | | | |
| Special execution conditions: None. | | | | |
| Exceptions to IDB policies: None. | | | | |
| Project Qualifies For: SEQ[] PTI[] Sector [] Geographic [] Headcount [] | | | | |

* Under the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting modifications to the amortization schedule and currency and interest rate conversions, subject in all cases to the final amortization date and the original WAL. When considering modification requests, the Bank will take market conditions into account, along with operational and risk management considerations.

** The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable provisions of the Bank's policy on lending rate methodology for Ordinary Capital loans.

I. DESCRIPTION AND RESULTS MONITORING

A. Background, Problem Addressed, Justification

- 1.1 **General Context.** Suriname is a small, middle-income country of 163,820 square kilometers located in the northeastern Atlantic coast of South America, facing the Atlantic Ocean between Guyana to the West, French Guyana to the East and Brazil to the South. According to the 2012 national census, the country has an estimated population of 541,683 concentrated in the coastal areas, and a sparsely populated interior that extends to the Amazon Rainforest. Indigenous and Maroon populations are predominant in the hinterland, where over 200 villages can only be reached by boat or plane. Paramaribo, the capital, concentrates more than half of Suriname's population.
- 1.2 Suriname's economy is driven by the mineral and energy sectors (gold, alumina and oil), which account for approximately 30% (percent) of Gross Domestic Product (GDP) and is one of the few Caribbean countries to post positive growth over the last ten years. GDP growth, based mainly by continued buoyant commodity export prices, elevated Government spending and large capital investments in the mineral and energy sectors has averaged 4.4% since 2008.
- 1.3 **Energy Sector Institutional Framework.** The responsibility for energy policy and supervision of the energy sector lies with the *Ministerie van Natuurlijke Hulpbronnen* (Ministry of Natural Resources, MNH). Considering the absence of specific legislation to govern the power sector's activities, such as a sector Act, license, regulatory code or dedicated policy or regulatory institutions, the power sector organization is based on contractual arrangements between the Government of Suriname (GOS) and public and private companies.
- 1.4 MNH supervises *N.V. Energie Bedrijven Suriname* (EBS), the state-owned utility company. GOS is the sole stakeholder operating under a 50-year countrywide concession covering transmission, distribution and commercialization of electricity. EBS also supplies propane gas as part of its business and currently has approximately 1,000 employees. As part of the company's directive to develop strategies and the identification of priorities, EBS has issued its Strategic Business Plan 2011-2020 (SBP).¹ The SBP sets forth an overall corporate strategy, describing the operative environment and incorporating factors that can influence EBS's strategic planning for years to come.²
- 1.5 The strategic goals related to these business priorities highlight a focus on internal planning, and energy demand and supply management, including: (i) implementation of a cost-effective Capital Improvement Program; (ii) promotion

¹ EBS is currently updating its Strategic Business Plan, which is expected to be approved by the 4th quarter of 2014.

² The SBP identifies 6 strategic priorities: (i) reliable availability of power to meet growth; (ii) timely solutions to critical shortfalls in generation, transmission and distribution capacity; (iii) adequate financing to address infrastructure needs and operating cost increases; (iv) development of a financing plan and new tariff structure; (v) operational efficiency, and (vi) appropriate engagement and constructive resolution of regulatory issues.

- of energy conservation, including community awareness for energy efficiency and conservation measures; (iii) development of workforce management programs and information technology management systems; and (iv) improved cost and financial planning and management.
- 1.6 EBS shares its responsibility for rural electrification with the *Dienst Electrificatie Voorziening* (DEV), MNH's department of rural energy, which operates small power systems in isolated and remote communities where EBS's networks do not reach customers. In addition to DEV, the *Stichting Fonds Ontwikkeling Binnenland* (Fund for the Development of the Interior, FOB) is a foundation under the Ministry of Regional Development which plays an important role in rural electrification by developing grid extension projects and small power plants, which are then transferred to DEV for Operation and Maintenance (O&M). The provision of electricity to villages in the interior is expensive in nature due to low efficiencies of the generating units and high transportation costs.³ Rural households are not charged for electricity service provision, as all the costs are absorbed by GOS.
- 1.7 Considering the current challenges in the power sector (¶1.3), GOS is assessing options to strengthen the institutional and regulatory framework and improve the financial situation of the power sector, to guarantee its sustainable long-term development. MNH initiated the process of preparing draft legislation to implement a new energy sector framework, which considers: (i) creation of an energy authority responsible for providing technical support to MNH on long-term expansion planning, policy making, regulation and supervision of the power sector; (ii) introduction of a single-buyer model to procure the supply of electricity to meet demand under competitive bidding procedures; (iii) authorization of Independent Power Producers (IPP) to participate in competitive bids to develop new generation projects; (iv) unbundling of EBS into business units with separate accounts (generation, transmission and distribution); and (v) gradual adjustment of electricity tariffs to focalize subsidies on low income consumers, reducing transfers from the national treasury and providing sufficient revenue to EBS to cover efficient supply costs. The GOS consulted with various stakeholders and drafted legislation for the energy sector framework that is currently under review by the Council of Ministers. The GOS expects to present the draft legislation to Parliament during 2014 and this forms part of a key set of activities included as policy triggers for the third Policy-Based Programmatic (PBP) operation SU-L1036. The proposed policy reforms advanced by GOS will be gradually implemented and are expected to address the underlying sector constraints and challenges. The energy sector framework will therefore provide a comprehensive, long-term set of improvements for the delivery of energy services and towards institutional strengthening for the power sector.

³ According to MNH's budget for 2014, 125 villages received a total of 173,517 liters of diesel and 48,800 liters of gasoline per month for electricity generation. The electricity service provision covers an average time of 6 hours per day, from 5:00 pm to 11:00 pm. The supply of fuel for the rural villages served by the DEV is done on a monthly basis, and in many cases, entails transportation by boat or airplane. Transportation costs are budgeted at US\$1.6/liter for diesel and US\$1.52/liter for gasoline.

- 1.8 **Power Sector Infrastructure.** The National Power System, which consists of seven isolated grids or sub-systems operated by EBS, served approximately 140,899 customers in 2013. Electricity sales in 2013 accounted for 1,398-Gigawatt/hour (GWh), which represents an increase of over 5% compared to the previous year.
- 1.9 The residential sector is the largest group of EBS's market, representing 87.9% of the total number of customers and 44% of total energy consumed. The commercial sector is the second largest group with 8.8% of total customers and 13.3% of total energy consumption, while the remaining 3.3% of customers is classified as 'other consumers' with 42.7% of energy consumption.⁴ An important sub-category, within 'other consumers' is the industrial group, which, with only 0.1% of EBS's total customers, represents 22.1% of the total energy consumption. The *Energievoorziening Paramaribo* (EPAR) is the largest sub-system in Suriname, which serves around 126,068 customers in the Paramaribo and surrounding areas, with a peak demand of approximately 205-Megawatts (MW) in 2013. The electricity supply in EPAR depends on 3 sources of generation: (i) EBS's own thermal generation (DPP1 & DPP2), which comprises 15 internal combustion engines running on Heavy Fuel Oil (HFO) and Diesel Fuel Oil (DFO), with a total installed capacity of 145.5-MW;⁵ (ii) the Afobaka Hydropower Plant, consisting of 6 turbines with an installed capacity of 189-MW,⁶ which has been used as the baseload power plant providing low-cost electricity to EPAR; and (iii) a 64-MW HFO-fired power plant owned by *Staatsolie*.⁷ The transmission infrastructure in EPAR accounts for 27 kilometers (km) of 161-kilovolt (kV) lines and 315-km of 33-kV lines, while distribution in the sub-system is through 1,200-km with 12-kV lines and 300-km with 6-kV lines.
- 1.10 The Electricity *Nieuw Nickerie* (ENICK) sub-system serves approximately 9,939 customers in the northwestern district of *Nickerie* and is the second largest network in the Suriname. Electricity is distributed by 12-kV lines from the Clara power plant, a generation facility owned by EBS with an installed capacity of 16.6-MW running on HFO. Two Renewable Energy (RE) generation projects, currently in an early development phase, are projected for the *Nickerie* district: (i) a co-generation facility, owned by *Staatsolie*; which will use sugar-cane bagasse

⁴ Sub-groups within the 'other consumers' category include: (i) non-residential; (ii) small industrial; (iii) industrial; (iv) social institutions; (v) public lighting; and (vi) billboards.

⁵ An 82.5 MW in DPP1 formation and the recently commissioned 63-MW in DPP2 formation are both located in the *Saramaccastraat* Power Plant in Paramaribo. The installed capacity relies 72% on HFO and 27% on DFO.

⁶ The *Afobaka* Hydro Power Plant was constructed in the 1960's by *Suralco* under the *Brokopondo Agreement* (1957) with GOS. The electricity produced made the development of a smelting facility and an alumina refinery viable. The agreement established that *Suralco* should supply 16-MW to GOS. When the smelter operation closed in 1999, a new agreement was signed and established an increase in supply of up to 135-MW.

⁷ *Staatsolie*, the state oil company, recently increased the installed capacity from 30-MW to 64-MW of its HFO power plant in *Tuit Lui Faut* refinery to support its crude oil processing operations and to sell electricity through Power Purchase Agreements (PPA) with GOS.

- for a power plant with 14-MW to 24-MW of installed capacity; and (ii) a 5-MW rice husk co-generation plant, currently in the pre-feasibility phase developed by EBS. Given the proposed RE generation projects, EBS is considering the introduction of higher transmission voltages (e.g. 33-kV and up) in the ENICK system, to increase the energy transmission capacity of the network.
- 1.11 The remaining five power networks⁸ in Suriname have, in combination, an approximate installed capacity of 22.2-MW of DFO-fired power plants, supplying electricity to approximately 4,892 customers, mainly in the coastal zone. Suriname is considered to have a relatively high coverage of electricity - the national electrification level is estimated at 85%, with 79% of the population served by EBS mainly in the coastal areas, and 6% reliant on rural electrification services, provided by DEV in the hinterland.⁹
- 1.12 With the aim of exploring options to increase the security of energy supply, the *Arco Norte* initiative, supported by the Inter-American Development Bank (IDB),¹⁰ is assessing the possibility of interconnecting the power systems of Guyana, Suriname, French Guyana and northern states of Brazil,¹¹ and could have an impact on the structure of the National Power System, since the assessment includes a pre-feasibility study for the most attractive interconnection options. Similarly, the IDB is also supporting a pre-feasibility study for establishing a commercial supply chain for natural gas in the Caribbean region,¹² with Suriname as one potential off-taker.
- 1.13 Taken together, the current power infrastructure and the proposed generation projects are still not sufficient to meet demand. EBS's transmission and distribution infrastructure suffers from critical weaknesses and the deterioration of its components. Some Substations (S/S) are no longer adequate to handle current demand loads, greatly limiting the effective operation of the system. With increased power deficits, and a growing demand-supply gap,¹³ there is substantial pressure on EBS and GOS to find a comprehensive solution to the energy problem. This is evidenced by the high rate of System Average Interruption Duration Index (SAIDI) in the EPAR, which currently stands at 18.5 hours in comparison to a Latin America and Caribbean average of less than 12 hours.¹⁴
- 1.14 **Sector Knowledge.** The IDB is Suriname's main development partner in the energy sector. The IDB's operations in preparation and execution are already

⁸ The other sub-systems are located at: (i) *Albina* and *Moengo* in the *Marowujne* district; (ii) *Apoera* in the *Sipaliwini* district; (iii) *Wageningen* in the *Nickerie* district; and (iv) *Totness* in the *Coronie* district.

⁹ About 125 villages in the hinterland, accounting for roughly 30,000 people, are being intermittently served with small generators, owned and operated by *Dienst Elektrificatie Voorziening* (DEV). The installed capacity of the generators in the hinterland varies according to the size of the community, and ranges from 9-kW to 450-kW.

¹⁰ IDB, "Pre-feasibility study for the Arco Norte interconnection project", RG-T2257.

¹¹ Cities of *Boa Vista* (State of *Roraima*) and *Macapá* (State of *Amapá*).

¹² IDB, "Natural Gas in the Caribbean – Feasibility Studies", RG-T2243.

¹³ EBS, "Strategic Business Plan 2011-2020: Reforming the Energy Supply System of Suriname".

¹⁴ World Bank (2008) "Benchmarking Analysis of the Electricity Distribution Sector in the Latin American and Caribbean Region". Washington, DC.

tailored to deal with the main issues affecting the electricity sector such as rapid demand growth in the coastal zone, inadequate financial sustainability, unserved populations in the hinterland and limited technical, institutional and financial resources to deliver the required energy service.

- 1.15 In particular, the IDB is supporting the design and implementation of the Sustainable Energy Framework for Suriname (SEFS) which includes a PBP Program consisting of three loan operations (SU-L1022, SU-L1035 and SU-L1036). These operations will support regulatory and institutional reforms in the energy sector (¶1.7). The first two PBP loans were approved and disbursed in 2012 and 2013 respectively, while the final PBP is expected to be approved in 2015. While this long-term intervention, focused at the enabling environment for energy reform, proceeds at a steady pace, the IDB is providing complementary support to meet the transmission and distribution infrastructure needs in Suriname.
- 1.16 The Investment Grant SU-G1001, approved in 2013, contributes to the SEFS by promoting the use of non-conventional RE and Energy Efficiency (EE) and access to sustainable energy in the hinterland.
- 1.17 In November 2013, the IDB approved the “Support to Improve Sustainability of the Electricity Sector” Investment Loan (SU-L1009) which complements the structural sector reforms by attending to other critical constraints in energy access and infrastructure. The SU-L1009 loan contributes to the SEFS by: (i) helping to improve EBS’s corporate performance; (ii) improving the reliability and cost-effectiveness of energy supply in rural areas by expanding the network and incorporating non-conventional RE; and (iii) rehabilitating critical infrastructure required for the effective operation of the electricity system. The approval of SU-L1009 has helped to leverage grant funds of up to €5 million from the European Union (EU) Caribbean Investment Facility (CIF), to further support rural electrification. The CIF grant¹⁵ is expected to finance the provision and expansion of RE in the interior of Suriname. In addition, the IDB is working closely with the *Agence Française de Développement* (AFD) with the aim of leveraging parallel financing of approximately €15 million for the power sector.
- 1.18 EBS has demonstrated its ability to execute operations and follow-through with project implementation. With 16% disbursement to date from SU-L1009, there has been substantial progress in the procurement of all of the loan’s components. The loan is expected to reach approximately 43% disbursement at the end of its first year of execution and EBS has started the procurement process for the major electrical components for Component II and III, totaling US\$6.5 million.¹⁶
- 1.19 GOS has requested that the IDB continue its support to improve reliability of energy supply by continuing to focus on operational capacity and transmission and distribution infrastructure. The project SU-L1009 allocated available

¹⁵ The CIF contribution is expected to be approved by the CIF Board in the fourth quarter of 2014, after which the IDB will prepare the Investment Grant for approval by the third quarter of 2015.

¹⁶ See: [Energy Portfolio in Suriname, Lessons Learned](#).

resources to finance the upgrade of prioritized infrastructure, as identified in EBS's SBP, focusing on the activities that needed immediate attention.¹⁷ During the design of SU-L1009, it was acknowledged that the EPAR system would progressively face reliability constraints and that further support for transmission and distribution infrastructure would be required. Furthermore, a persistent drought in 2014 impacted the *Brokopondo* reservoir, affecting the reliability of electrical distribution in the EPAR sooner than anticipated. Given estimates showing a doubling of energy demand in Suriname over the next 5 years¹⁸, it became clear that IDB's assistance to EBS would need to address the growing strain on the transmission and distribution infrastructure and increasing costs to supply electricity. This assistance plan reflects a short-term, as well as medium to long-term perspective, complementing ongoing activities currently financed by SU-L1009,¹⁹ by providing additional financial resources to continue the development of the power system's priorities. This focus on providing financing for critical infrastructure to increase system reliability and mitigate the risk of brownouts will need to be complemented by assistance on structural and enabling factors from a policy, legal and corporate governance perspective to ensure continued reliability.

- 1.20 **The Problem.** With total electricity losses of about 9% and high collection rates, EBS's overall operational efficiency can be considered adequate when compared with other utilities in the Caribbean. Nevertheless, the utility faces challenges to keep a reliable and sustainable electricity service considering the diversity of issues that are putting pressure on EBS's operations and ability to deliver optimal service for its clients. As EBS's transmission and distribution infrastructure ages at the same time as rising energy demand, the challenges to maintain and replace the infrastructure also grows. SAIFI (System Average Interruption Frequency Index) and SAIDI for 2013 reflect a decaying tendency in the reliability of the network, compared with values of 2012 and 2011. Furthermore, during 2014, Suriname experienced additional serious power system failures highlighting these critical network deficiencies. Ensuring reliable and cost effective service affects EBS's financial and operational plans, as capital investments need to be within the organization's financial and staffing resource abilities. Therefore fundamental changes to the structure of EBS are required to ensure long-term financial sustainability while providing service value to customers.

¹⁷ SU-L1009 financed the upgrade of substations C and D in the EPAR sub-system.

¹⁸ EBS Strategic Business Plan 2011-2020: Energy prognoses.

¹⁹ [SU-L1009 Loan Proposal, Paragraph 1.8](#): "In addition, EBS' transmission and distribution infrastructure exhibits critical deterioration of its components, in some cases with more than 50 years of operation and only minimal upgrades to respond to the day-to-day technical management of the EPAR system. The design ratings of these components, specifically some Substations (S/S) providing electricity to the North of Paramaribo, are no longer adequate to handle current demand loads, greatly limiting the effective operation and redundancy of the transmission system (¶1.32). At peak loads, operating conditions may exceed the nominal capacities, thereby affecting equipment integrity and performance. According to an assessment of the technical and economic benefits of the power system expansion, the EPAR system would progressively face reliability constraints above a total annual demand of 1,525-GWh, expected in 2015."

- 1.21 The growth rate in electricity demand is noteworthy – averaging 6.8% annually over the past 5 years, as a direct effect of Suriname’s economic development. Between 1970 and 2013 the peak power demand in EPAR sub-system rose from 22-MW to 205-MW and is expected to reach 500-MW by 2020.²⁰ With old and weak transmission and distribution infrastructure, EBS is facing difficulties to provide maintenance in a timely manner, resulting in poor and unstable service to existing customers and limiting supply to new customers.²¹
- 1.22 Additionally, with the expected increase in demand over the next years, the design ratings of critical infrastructure will exceed its operative limits,²² posing a significant risk for the safe operation of EBS’s power networks, while a reduction in quality of service will also hinder efforts to readjust tariffs. EBS’s transmission and distribution infrastructure faces serious risks due to the decay of vital S/S which no longer adequately handle current demand loads, limiting the safe and efficient operation of the system.²³ The nominal ratings of equipment in key S/S are being exceeded regularly, causing continuous blackouts and brownouts that are negatively impacting the power supply, causing economic losses to the customers, while affecting the consumer’s confidence in EBS.
- 1.23 On the operational side, the inadequacy of EBS’s existing Information and Communication Technology (ICT) systems limits its ability to collect and provide relevant and accurate information that supports effective decision-making processes and compliance with its obligations.
- 1.24 As described in the SBP, which also assessed EBS’s operational structure and corporate capabilities, there is urgent need to address improvements in processes related to business continuity. In this respect, the ICT system development is a key element for the modernization of EBS business processes and data collection. EBS’s current supporting systems are unable to provide systematic and timely information, which in turn hinders EBS’s ability to develop appropriate mid and long term planning, affecting also adequate oversight of EBS’s operations.
- 1.25 **Solution.** EBS requires urgent support to implement its SBP in an integrated manner so that the utility can deliver on its commitments to upgrade vital power infrastructure and improve its corporate capabilities and, in this regard, provide reliable electricity to its clients.
- 1.26 The proposed investment loan, (the Project), will support the implementation of EBS’s SBP and will follow a consistent structure and scope as designed for the operation SU-L1009, currently in execution. The Project is aligned with SBP’s strategic goals and will support GOS by: (i) strengthening EBS’s operational

²⁰ Demand forecast base scenario. EBS’s Strategic Business Plan 2011-2020.

²¹ A few substations in the EPAR systems date from the 1980’s, with its associated equipment presenting difficulties to find spare parts readily available for maintenance.

²² With EBS’s and *Staatsolie*’s recent expansion in generation (footnote 6 and 8), the nominal ratings of the associated equipment in substations located in *Paramaribo* will be exceeded, to the detriment of the electricity supply to the center part of the city and also impacting the rest of the EPAR sub-system.

²³ The short-circuit ratings are being exceeded with the recent generation expansions, which entail serious risks for the personnel and equipment, and for the reliability of network.

- performance and supporting its transition to a new corporate structure; and (ii) improving the reliability of EBS's electricity supply. The Project is supported by a set of reforms encapsulated in the PBP program that reflect: (i) the commitment of the GOS to provide the enabling environment for increasing investment in critical infrastructure (through an appropriate policy and tariff framework); and (ii) efforts by EBS to improve its corporate capacity. EBS's plans for expanding its generation facilities, as indicated in the SBP, will require the upgrade of critical infrastructure to allow for increased transmission and distribution capacity and flexibility.
- 1.27 The Project will also support the implementation of modern and integrated data collection and management systems to allow EBS to keep up with the functional requirements of business process automation, thereby improving EBS's capabilities in logistics, administration and customer-related services. An integrated technology solution will facilitate the exchange of data and information between systems and the standardization of ICT processes.
- 1.28 The Project is designed to support EBS in its timely investments both in terms of critical energy infrastructure and also in key IT and resource planning systems, particularly at a crucial time of public concern around the security and reliability of energy supply. The Project is comprehensive in nature and will assist EBS in improving its operational capacity and the expansion and upgrade of power infrastructure.²⁴
- 1.29 **Alignment with IDB's country strategy 2011-2015.** The Project is consistent with the IDB Country Strategy with the Republic of Suriname 2011-2015 (GN-2637-3) (CS), which has as an overall objective to support Suriname's reform agenda. The CS identified energy as one of its seven priority areas and the Project is aligned with the desired outcome of improving the financial sustainability of EBS. The Project is included in the updated Operational Program Report for 2014 and is also aligned with the IDB's Sustainable Infrastructure for Competitiveness and Inclusive Growth Strategy (GN-2710-5) by: (i) supporting the construction and maintenance of environmentally and socially sustainable infrastructure; and (ii) promoting ongoing improvements in infrastructure governance.
- 1.30 **Ninth General Capital Increase (GCI-9, AB-2764).** The Project is aligned with IDB's lending targets of: (i) supporting small and vulnerable countries; and (ii) lending to support climate change initiatives, renewable energy and environmental sustainability by improving the efficiency of the power system. The Project will contribute to the regional goal of increasing the percentage of households with electricity and the output indicator related to "km of electricity transmission and distribution lines installed or upgraded".

²⁴ A review of 'the critical conditions for improving operational performance in power utilities', identified the need to adopt a holistic approach that encompasses technical aspects, processes and infrastructure investments. [PA Consulting Group, "Improving Power Company Operations to Accelerate Power Sector Reform"](#).

- 1.31 The Project meets the IDB's Public Utility Policy (PUP, GN-2716-6) conditions of: (i) economic evaluation, by taking into consideration a technical assessment of EBS's power system expansion²⁵ and the economic assessment of the Project's activities (¶1.45); and (ii) financial sustainability, considering that the GOS, as included in the third PBP operation (SU-L1036, ¶1.7), is taking actions towards the implementation of a new tariff schedule²⁶ based on cost-recovery principles and will include a revision of the current subsidy levels. GOS's budgetary allocation to subsidize the provision of electricity by EBS is transparent and since EBS is responsible for O&M costs of the power system, this responsibility will extend to the O&M costs associated with the Project.²⁷ The selection, execution, operation, and maintenance of the Project's activities comply with the Bank's social and environmental safeguards. The Project's activities contribute to the scope of environmental and social sustainability of the PUP²⁸ and are also aligned with the PUP's objectives related to: (i) increasing the delivery of a reliable, quality service by enhancing EBS operational performance; (ii) delivering a service efficiently by improving the network conditions and improving reliability of the electricity service; and (iii) creating suitable incentives for service demand by improving the conditions of supplying electricity to consumers.

B. Objective, Components and Cost

- 1.32 **Operation's Objectives.** The Project's general objective is to contribute to the sustainability of the power sector in Suriname by: (i) strengthening EBS's operational procedures and corporate performance; and (ii) upgrading critical infrastructure in the National Power System. The specific objectives are to: (i) support the strengthening of EBS's institutional and operational processes by financing improvements in information technology management; and (ii) contribute to the upgrade and retrofitting of the National Power System's critical infrastructure, with the aim of improving the reliability of the EPAR sub-system. The Project consists of the following components:
- 1.33 **Component I. Improvement of EBS's Operations (US\$12,853,000).** Component I will support EBS's institutional and operational strengthening by: (i) implementing a Distribution/Outage Management System (DMS/OMS) and training activities; (ii) financing the implementation of an Enterprise Resource Planning (ERP) platform and training activities; (iii) assisting EBS during the transition to the new unbundled corporate model; and (iv) implementing a program to promote RE and EE.

²⁵ [Technical and Cost-Benefit assessment of Suriname's Power System Expansion Study.](#)

²⁶ GOS has adopted a policy of low and affordable electricity tariffs. The tariffs have remained the same since 2001 and EBS has consistently shown net operational losses. The current tariffs are insufficient to cover supply costs. The gap is compensated by direct subsidies and loans contributing to EBS's financial deficit. Although EBS is established as a corporation, it is wholly dependent on GOS's subsidies, loans and low energy supply prices from Afobaka to maintain a precarious financial equilibrium. In 2012 the average electricity tariff was about 7.9 US¢/kWh; total revenues of about US\$99 million, operating costs of about US\$174 million; and GOS contribution of US\$115 million.

²⁷ See [EBS Financial Analysis.](#)

²⁸ See [OEL No.5.](#)

- 1.34 The design and implementation of a DMS/OMS application will support key operational activities within the customer service department, as well as the transmission and distribution division.²⁹ The DMS/OMS also ensures the integration of existing systems such as the Customer Information System, Geographic Information System, Supervisory Control and Data Acquisition (SCADA) and Mobile Work Management Systems. The expected benefits of the DMS/OMS system include: (i) increased efficiency in the management and handling of emergency calls; (ii) increased ability to interact with customer outages; (iii) improved accuracy and timely data input for regulatory and internal reporting; (iv) improved accuracy and timely reporting on outages and restoration; and (v) an enhanced customer service experience.
- 1.35 An ERP platform will be designed and implemented to improve EBS's operational and management efficiency, which will help improve operational procedures. Currently, EBS's internal reporting, payroll and resource management processes are undertaken in an uncoordinated manner. As the number of customers increase, pressure is put on current systems which are inadequate to effectively manage administrative activities. The main benefits of the ERP will be: (i) process improvement; (ii) customer satisfaction; (iii) cycle-time reduction; (iv) profitability focus; (v) centralization; (vi) employee job satisfaction; (vii) data security; and (viii) corporate transparency.
- 1.36 Anticipating a reform of the legal and institutional framework of the energy sector in Suriname (¶1.7), EBS is undergoing a corporate re-organization, adjusting project planning, processes, resources and systems to changes on the horizon. The Project will support EBS by strengthening its corporate capability in the adaptation process towards the transition and in accordance with the Company's new vision.
- 1.37 An Energy Efficiency Framework (EEF) to promote EE measures and awareness will be executed by EBS, in close coordination with MNH. The EEF is intended to encourage the conservation and efficient use of energy by developing activities, including awareness-raising campaigns and energy education programs, in order to improve the population's understanding of the value of the energy.
- 1.38 **Component II. Critical Infrastructure (US\$18,000,000).** Component II will contribute to the upgrade and retrofitting of the National Power System's critical infrastructure, with aim of improving the reliability of the EPAR sub-system. Activities to be financed include: (i) upgrade of two existing S/S in the EPAR network (J and F); and (ii) construction of a new S/S in the EPAR network (Boma).
- 1.39 S/S J is one of the main providers of energy to the central zone of Paramaribo. With the current expansion in generation and transmission, S/S J's design ratings will be exceeded. The upgrade will consist of: (i) the renovation of the existing

²⁹ As part its regulatory oversight, EBS must provide periodic reports to the MOF and MNH. These reports should include information on the duration and frequency of outages. The current business processes, as well as supporting systems, are unable to provide accurate data.

- building; (ii) the replacement of switchgears to facilitate the dispatch of EBS's generation from DPP2; (iii) the replacement of protections and accessories; and (iv) the incorporation into the SCADA system.
- 1.40 S/S F is an open-air substation located in Para district. The substation needs to be upgraded to improve its reliability and to facilitate the connection of future customers. The retrofit will mainly include: (i) construction of the substation building; (ii) installation of a 25-MVA transformer; (iii) installation of switchgears; and (iv) integration into the SCADA system.
- 1.41 The new S/S Boma will improve the quality and reliability of the electricity supply in the Boma area, and allow for the connection of new customers. The activities include: (i) construction of S/S Boma and provision of equipment, including the installation of a new 25-MVA transformer; (ii) construction of a new 33-kV line to connect the new S/S to the existing S/S HL; (iii) construction of a new 33-kV line to connect the new S/S to the existing S/S E; and (iv) the upgrade of the existing S/S E.
- 1.42 Considering that EBS is in the process of formalizing the acquisition and recording the land title for the lot where S/S Boma will be developed, social and environmental aspects will be considered for the development of the proposed activities, including a review of land-tenure, as per the approved Environmental and Social Management Plan (ESMP, ¶2.2) and subject to applicable Bank Policies, in order to verify that the Project is not located in areas for which land titling or land use agreements have not been properly obtained by EBS.³⁰

C. Key Results Indicators

- 1.43 The proposed outcomes indicators and outputs, as well as their means of verification, will allow to efficiently follow up the Project's performance. The expected results are: (i) improved performance and management efficiency of EBS and a well-designed corporate transition process; and (ii) a more reliable electricity system with reduced operation and maintenance costs.
- 1.44 The evaluation methodology to be designed will consider indicators related to the reduction in the rate of SAIDI in the EPAR.
- 1.45 **Economic Viability.** A Cost-Benefit Analysis (CBA) was carried out for Components I and II using a 12% discount rate. The Internal Rate of Return (IRR) estimated for the implementation of the IT activities for Component I is 12% and its net benefits yield favorable results as follows: (i) S/S J with IRR of 29% and NPV of US\$73 million; (ii) S/S F with an IRR of 13% and NVP of US\$16 million; and (iii) S/S Boma with an IRR of 12% and NVP of US\$50.2 million.

³⁰ To develop Substation Boma, any necessary land acquisition and/or land use agreement, as the case may be, will be covered with local funds and will not be financed by this Project.

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing Instruments

- 2.1 The total Project cost is US\$33 million, to be financed with IDB resources as a specific investment intervention. Table 1 shows the detailed distribution of the Project's cost.

Table 1. Total Cost Distribution of the Project

| Components | Total IDB (US\$) |
|----------------------------------------------------------------|-------------------|
| Component I – Improvement of EBS's Operations | 12,853,000 |
| Distribution/Outage Management System | 1,340,000 |
| Enterprise Resource Planning (ERP) platform | 8,763,000 |
| Support to EBS transition process | 750,000 |
| Energy Efficiency Framework | 2,000,000 |
| Component II – Critical Infrastructure | 18,000,000 |
| Substation J Upgrade | 4,000,000 |
| Substation F Upgrade | 4,000,000 |
| Development of Substation Boma and the upgrade of Substation E | 10,000,000 |
| Components Sub-total | 30,853,000 |
| Administration, monitoring, evaluation, auditing | 700,000 |
| Contingencies | 1,447,000 |
| Total | 33,000,000 |

B. Environmental and Social Safeguard Risks

- 2.2 It is anticipated that the Project will produce a net positive environmental and social impacts, as it will improve the living conditions of its target population. Based on the requirements outlined in the IDB's Environmental Safeguards Compliance Policy (OP-703), the Project has been classified as Category "B" given that minor risks for potential environmental, social, health and safety impacts were identified in the Environmental and Social Assessment. Other low risk identified correspond to potential land titling issues stemming from the project site for Substation Boma (¶1.41) not yet acquired. The risks will be mitigated through the implementation of an ESMP.³¹

C. Fiduciary Risk

- 2.3 The limited experience in IDB's procurement procedures is considered a medium risk and will be mitigated by supporting the PEU with training and capacity building workshops and also with the incorporation of a procurement assistant (¶3.3), to keep control and consistency in the procurement activities. The IDB's fiduciary obligation to ensure the appropriate, efficient use of the funds is fulfilled in this Project by means of compliance with IDB financial and procurement policies and procedures. Based on the legal nature of the entity and for the purpose of transfer of the loan resources, EBS, with the authorization of the Ministry of Finance (MOF), will open bank accounts in the Central Bank for the management of the resources. This arrangement differs from the central

³¹ The ESMP includes a plan for managing potentially hazardous wastes from the removal of power equipment in the areas selected for projects in Component II and references to applicable Bank policies regarding appropriate land titling and land use agreements.

government that manages loan resources under a specific arrangement, under the Treasury Single Account.³² Annex III establishes the provisions applicable to the execution of all Project procurements, as well as financial management according to IDB's procedures.

D. Other Key Issues and Risks

- 2.4 **Institutional Viability.** The existing power sector Steering Committee (SC) is chaired by MNH, and includes representatives from EBS, MOF and MNH's Energy Desk. The SC provides guidance on strategic and policy issues related to the projects and initiatives that fall within the power sector. This serves to facilitate effective inter-institutional coordination and collaboration.
- 2.5 **Financial Sustainability.** GOS finances the utility by subsidizing the cost of the electricity and fuel purchased by EBS. The subsidized tariff only covers a portion of these costs, which in turn reduces EBS's financial capacity to invest in energy infrastructure, resulting in postponed or scaled-down investments. Although EBS maintains a delicate balance in its financial situation, preserved through the use of various types of GOS subsidies, the utility has the financial capacity to cover O&M costs derived from the execution of the Project, as indicated in ¶1.31. There is a low risk of the financial situation of EBS negatively affecting progress of the Project as this is being mitigated by a series of efforts by GOS and EBS. For instance, in line with the PBP, the GOS recently announced an upward revision of rates³³ and EBS is currently implementing a set of administrative, operational and financial efficiency measures. Furthermore, by addressing critical transmission and distribution infrastructure, as highlighted in the Project, EBS can expect a positive impact on the company's overall operational and financial performance through reduced O&M costs and increased reliability in electricity supply.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of Implementation Arrangements

- 3.1 **Borrower and Executing Agency.** The borrower will be the Republic of Suriname, and the Executing Agency (EA) will be EBS, which will be responsible for the fulfillment of technical, administrative and financial procedures related to the execution of the Project, as well as the planning, monitoring, supervision and independent evaluation thereof.
- 3.2 The EA will be responsible for, *inter alia*: (i) technical execution of the Project; (ii) procurement of goods, related services, works and consulting services; (iii) reviewing consulting products; (iv) registering accounting information of Project funds; (v) managing contracts; (vi) reporting periodically to the IDB on the technical and administrative activities of the Project; and (vii) monitoring of Project progress and presenting progress reports. EBS's management will lead

³² The Bank is executing the SU-L1009 loan operation with the described arrangements.

³³ Speech of His Excellency Desire Bouterse, President of the Republic of Suriname, about the Energy Situation in the Country, September 7th, 2014.

decision making at the executive level and ensure overall coordination of its technical components.

- 3.3 For the execution of the Project, the existing PEU within EBS currently supporting the execution of SU-L1009 will be expanded.³⁴ **As special contractual conditions prior to first disbursement, the Borrower shall present evidence to the Bank of the following: (i) additional support for the PEU within EBS has been established by incorporating the following full-time positions: (a) a Project Manager (PM), (b) a procurement assistant to support the existing procurement specialist, (c) a financial assistant to support the existing financial specialist, and (d) an individual coordinator for each component of the Project; (ii) the EA has approved the following key planning documents: (a) the Project Operations Manual, (b) the first Procurement Plan (PP), (c) the first Annual Operations Plan (AOP); and (iii) a subsidiary agreement has been entered into between MOF and the EA for purposes of the use of loan resources and the implementation of the Project in accordance with the terms and conditions set forth in the loan contract and previously agreed upon between the Borrower and the Bank.**
- 3.4 The PM will be responsible for the preparation of the Terms of Reference. In addition, the PM will support the selection process for contracting consultants of goods and/or services; reviewing products delivered by consultancy firms, and undertaking budget administration, logistics, local support and coordination among stakeholders.³⁵
- 3.5 With regards to the execution of the Project, EBS will ensure coordination with the SC (¶2.4) in order to align the Project's activities with ongoing initiatives in the power sector.
- 3.6 **Procurement.** The procurement of goods and works, as well as the selection and hiring of consultants and consulting firms for the development of the activities comprised by this Project will be carried out in accordance with the IDB's policies and procedures for the Procurement of Goods and Works (GN-2349-9) and for the Selection and Contracting of Consultants (GN-2350-9), and with the provisions established in the agreement and the PP.
- 3.7 **Retroactive Financing.** The IDB may retroactively finance eligible expenses for up to the amount of US\$2,000,000 (6% of the Project cost) incurred by the EA prior to the date of loan approval. These expenses will serve to cover the costs of the procurement of works and goods for S/S J (¶1.39), included in Component II. Expenses shall only be recognized if the selection procedure is in accordance with the IDB's procurement policies GN-2349-9. The abovementioned expenses shall be incurred during the 18 months prior to the date of loan approval, but in no

³⁴ Considering that under the SU-L1009 loan, a Project Executing Unit (PEU) was established and is currently dedicated to the implementation of activities with similar scope as of the proposed Project.

³⁵ The PM will prepare the AOP to assist the EA in the execution and supervision of the Project, and will also have responsibility for the delivery of the anticipated results outlined in the AOP and will coordinate with the PM of SU-L1009, in order to assure the expected overall results from EBS's SBP.

event will include expenses incurred before August 29, 2014, date of approval of the Project Profile.

B. Summary of Arrangements for Monitoring Results

- 3.8 **Monitoring.** The monitoring process and the preparation of semi-annual and annual reports during the Project execution period will be responsibility of the EA. The Results Matrix that established the Project's outputs and outcomes indicators will be the basic instrument for monitoring the Project. The EA will also be responsible for the preparation of Financial Statements needed for the annual financial audits of Project's statements.
- 3.9 **Evaluation.** As included in the Monitoring and Evaluation Arrangements document (see [REL No.3](#)), independent consultants will prepare: (i) a mid-term evaluation at the end of 36 months from the date of the signature of the loan contract or after 60% of the resources of the loan have been disbursed, whichever occurs first; and (ii) a final evaluations of the Project, after 90% of the resources of the loan have been committed. Both evaluations will be financed with Project's resources. The final evaluation will include the results from an ex-post Economic Analysis for the Project.

| Development Effectiveness Matrix | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|--------|
| Summary | | | |
| I. Strategic Alignment | | | |
| 1. IDB Strategic Development Objectives | | Aligned | |
| Lending Program | i) Lending to small and vulnerable countries, and ii) Lending to support climate change initiatives, sustainable energy (including renewable) and environmental sustainability. | | |
| Regional Development Goals | | | |
| 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-2637-3 | Energy sector operates sustainably and uses cost-effective technologies for supporting economic growth. | |
| Country Program Results Matrix | GN-2756-2 | The intervention is included in the 2014 Operational Program. | |
| Relevance of this project to country development challenges (If not aligned to country strategy or country program) | | | |
| II. Development Outcomes - Evaluability | | Evaluable | Weight |
| | | 8.2 | 10 |
| 3. Evidence-based Assessment & Solution | | 7.1 | 33.33% |
| 3.1 Program Diagnosis | | 3.0 | |
| 3.2 Proposed Interventions or Solutions | | 2.4 | |
| 3.3 Results Matrix Quality | | 1.7 | |
| 4. Ex ante Economic Analysis | | 10.0 | 33.33% |
| 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% |
| 5.1 Monitoring Mechanisms | | 2.5 | |
| 5.2 Evaluation Plan | | 5.0 | |
| III. Risks & Mitigation Monitoring Matrix | | | |
| Overall risks rate = magnitude of risks*likelihood | | Medium | |
| Identified risks have been rated for magnitude and likelihood | | Yes | |
| Mitigation measures have been identified for major risks | | Yes | |
| Mitigation measures have indicators for tracking their implementation | | Yes | |
| Environmental & social risk classification | | B | |
| IV. IDB's Role - Additionality | | | |
| The project relies on the use of country systems | | | |
| Fiduciary (VPC/PDP Criteria) | | | |
| Non-Fiduciary | | | |
| The IDB's involvement promotes improvements of the intended beneficiaries and/or public sector entity in the following dimensions: | | | |
| Gender Equality | | | |
| Labor | | | |
| Environment | Yes | Promotion of sustainable management practices through energy efficiency and awareness. | |
| 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 | SU-T1055 (ATN/OC-13446-SU) approved in 2013 and SU-T1077 to be approved in Q3 2014. | |
| 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 program's goal is to contribute to the sustainability of the power sector in Suriname by: (i) strengthening the National Electricity Company (EBS's) operational procedures and corporate performance by financing improvements in information technology management; and (ii) upgrading and retrofitting critical infrastructure in the National Power System, with the aim of improving the reliability of the Electricity Supply Paramaribo and Surrounding (EPAR) sub-system. Given the sector and nature of the intervention, where there are still little impact evaluations, the project does not present rigorous empirical evidence about the effectiveness of the intervention in other or similar contexts. For this reason, there is also no discussion on how previous evidence could be applicable to the context of Suriname.

The results matrix presents in detail all the output indicators, but could be improved in terms of its vertical logic and the definition of the outcome and impact indicators. In particular, some outcome indicators reported constitute product indicators. Moreover, the impact indicator does not capture the overall objective of the operation.

The project presents a complete cost-benefit analysis that clearly explains all the assumptions made and conducts a detailed sensitivity analysis. The monitoring and evaluation plan is based on an ex post economic analysis and an analysis of indicators before and after to identify and quantify the impact of the program.

The risks identified are thoughtful and include mitigation measures and tracking metrics. Given that the program will promote energy efficiency and awareness, which could potentially lead to sustainable practices, the operation qualifies for environmental additionality.

**RESULTS FRAMEWORK
MATRIX OF INDICATORS**

| | |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operation objective | To contribute to the sustainability of the power sector by: (i) strengthening EBS's operational procedures and corporate performance; and (ii) upgrading critical infrastructure in the National Power System. |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Output Indicators | Baseline (2013) | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Target | Means of Verification |
|--------------------------------------------------------------------------|-----------------|--------|--------|--------|--------|--------|--------|--------------------------------------------------------------------|
| Component 1 – Improvement of EBS' Operations. | | | | | | | | |
| Distribution/outage Management System (DMS/OMS) fully functional. | 0 | - | 1 | - | - | - | 1 | System's procurement documents provided by EBS; Inspection visits. |
| Enterprise Resource Planning (ERP) platform procured and implemented. | 0 | - | - | - | - | 1 | 1 | System's procurement documents provided by EBS; Inspection visits. |
| Energy Efficiency Framework plan implemented. | 0 | - | 1 | - | - | - | 1 | Project reports, EBS statements, contracts, inspection visits. |
| Guidelines for the EBS transition to a new corporate structure designed. | 0 | - | 1 | - | - | - | 1 | Project reports, EBS statements, contracts, inspection visits. |
| Component 2 – Critical Infrastructure. | | | | | | | | |
| Upgraded Substation J procured and commissioned. | 0 | 1 | - | - | - | - | 1 | Progress reports and project final reports prepared by EBS. |
| Upgraded Substation F procured and commissioned. | 0 | - | 1 | - | - | - | 1 | Progress reports and project final reports prepared by EBS. |
| New Substation Boma procured and commissioned. | 0 | - | - | 1 | - | - | 1 | Progress reports and project final reports prepared by EBS. |

| Output Indicators | Baseline (2013) | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Target | Means of Verification |
|-----------------------------------------------------------------------------------------------------|-----------------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------|
| Km of new 33-kV transmission line between Substation Boma and Substation HL procured and installed. | 0 | - | 11 | - | - | - | 11 | Progress reports and project final reports prepared by EBS. |
| Km of new 33-kV transmission line between Substation Boma and Substation E procured and installed. | 0 | - | 15 | - | - | - | 15 | Progress reports and project final reports prepared by EBS. |

| Outcome | Indicator | Baseline (2013) | Target | Means of Verification |
|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------|--------|-------------------------------------------|
| Component 1 – Improvement of EBS’ Operations. | | | | |
| Strengthening in EBS's operational procedures and corporate performance. | EBS’ business units trained on the operation, maintenance and updating of the new DMS/OMS and ERP. | 0 | 3 | EBS technical reports; Inspection visits. |
| Component 2 – Critical Infrastructure. | | | | |
| Increased power delivery capacity. | Substation F transformation capacity (Unit: MVA) | 7 | 25 | EPAR operator (EBS) data and reports. |
| | Substation Boma transformation capacity (Unit: MVA) | 0 | 25 | |

| Impact | Impact Indicators | Base (2013) | Target | Means of Verification |
|---------------------------------------|-------------------------------------------------------------------------------------------------------|-------------|--------|---------------------------------------|
| A more reliable energy supply system. | System Average Interruption Duration Index (SAIDI) for the EPAR system. (Unit: <i>hours/client</i>). | 18.5 | 16.2 | EPAR operator (EBS) data and reports. |

FIDUCIARY ARRANGEMENTS

Country: Suriname
Project: Support for the Implementation of the EBS Investment Plan (SU-L1039)
Executing Agency: *Energiebedrijven Suriname (EBS)*
Fiduciary Team: Paula Louis-Grant, Fiduciary Financial Management Snr Specialist; Shirley Gayle, Procurement Specialist; Mariska Tjon A Loi, Procurement Consultant

I. Executive Summary

- 1.1 The general objective of the Project is to contribute to the sustainability of the power sector in Suriname through an IDB investment loan of US\$33 million. The Project Executing Agency (EA) will be EBS, which will be responsible for the Financial Management, Procurement functions and Project Management of the Project as well as Technical Officers in charge of the implementation of different components. In 2013, the IDB approved 3059/OC-SU (SU-L1009) Support to Improve the Sustainability of the Electricity Sector, which is currently being executed by EBS. The Procurement and Financial specialists of the existing Project Executing Unit (PEU) of loan 3059/OC-SU will support the new PEU for the SU-L1039.
- 1.2 A procurement and financial management capacity assessment of EBS was undertaken in 2013 and updated in July 2014 using the ICAS (Institutional Capacity Assessment) tool which was applied to the existing PEU within EBS. This, coupled with the Bank's knowledge and experience gained from the execution of loan operation 3059/OC-SU, has concluded the fiduciary risks as medium. Notwithstanding, the Bank will continue to provide support to increase institutional capacity of the PEU.
- 1.3 The IDB will provide and conduct close fiduciary support and supervision on these institutional arrangements while providing continuous training and advice on IDB's policies, procedures and practices. The level of the fiduciary risk will be monitored during the execution period of the Project through a supervision plan designed for such purpose.

II. Executing Agency's Fiduciary Context

- 2.1 EBS is a state-owned company under the supervision of the Ministry of Natural Resources (MNH). The fiduciary context of the GOS and its line ministries has been documented in the Public Expenditure Financial Accountability (PEFA) report of 2011, indicating that the legal framework and practices for Public Financial Management Systems (PFMS) and procurement are outdated and are not consistent with best practices and international standards.
- 2.2 The specific features of the EBS's PFMS are:

- (i) EBS's governance structure is headed by a Board of Directors, management roles composed by experienced officials, namely a Chief Executing Officer (CEO), a Chief Financial Officer (CFO) and a Chief Technical Officer (CTO).
 - (ii) The EBS Financial Structure is headed by the CFO. The following units are established: treasury, planning budgeting and control; financial services (accounting) and the procurement unit, and other administrative units. These units have solid financial and procurement staffing, although systems and business processes are under improvement process.
 - (iii) The financial services/accounting unit is headed by a certified accountant.
 - (iv) The company has its own PFM and procurement structure that is non-integrated or related to the centralized system and structure of the GOS. EBS's financial and accounting system has been developed in house, as well as the processes around it and it is partially automated. The current system does not incorporate budgeting and monitoring functions and does not support the reporting processes either. These last two processes are manual using excel worksheets.
 - (v) Based on the aforementioned observations related to EBS's PFM structure, the current financial and accounting systems will not be used for the purposes of the Project, since it cannot report according to the IDB's requirements. It was discussed and agreed with EBS management that it will be necessary to deploy an accounting solution, such as Quick Books, for the accounting and recording needs of the Project.
 - (vi) EBS as a public company is not required to use the arrangements of the Treasury Single Account (TSA) established by the Ministry of Finance (MOF) for the flow of funds of projects funded by foreign development partners.
- 2.3 The Procurement Unit of the EBS is composed by the following units: Goods and services, Stores/inventory and Projects. The procurement function process is automated into separate modules and non-integrated with the financial system of EBS. Under the SU-L1009 loan, a PEU comprising among others, a procurement specialist and financial specialist, was established and is currently dedicated to the implementation of activities with similar scope as of the proposed Project.
- 2.4 Regarding the overall strengthening process of the Company, the GOS has been engaged in several strengthening activities. The Development Plan 2012-2016 indicates that all actors within the Surinamese economy should contribute to two main objectives: (i) achieving real and fundamental stability of payments and the government budget; and (ii) a real and structural growth of the gross domestic product and per capita income.

- 2.5 In this context, in 2012 the GOS hired the services of KPMG consulting firm, to execute a rapid assessment of key areas to assess the current state of the operational and financial functioning of EBS. The assessment included the identification of areas for improvement. Results are in line with recent findings of the ICAS exercise.

III. Fiduciary Risk Evaluation and Mitigation Actions

- 3.1 The Project Team has developed a preliminary Risk Mitigation Matrix that will be discussed with the Executing Agency. This Matrix outlines the necessary mitigating actions to be taken with EBS. The Bank and EBS will undertake joint reviews of the Matrix on a yearly basis, and introduce necessary additional mitigating actions as a result of such reviews.

| Risks Identified | Risk | Mitigating Measures |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lack of awareness of IDB procurement policies and procedures, disbursements and reporting procedures affecting procurement and disbursement of funds. | Low-Medium | Training on IDB's procurement procedures to the PEU and the project management team has commenced and will be continued. |
| Lack of Project management skills impeding execution of project. | Low-Medium | Training in Project management will be conducted to ensure that execution of IDB Project is seamless by streamlining decision making within EBS structure. |

IV. Aspects to be considered in the Special Contractual Conditions

- 4.1 Prior to first disbursement: The Borrower shall present evidence to the IDB of:
- (i) a subsidiary agreement has been entered into between the Ministry of Finance and EBS for purposes of the use of loan resources and the implementation of the project in accordance with the terms and conditions set forth in the loan contract and previously agreed upon between the Borrower and the Bank;
 - (ii) the establishment of additional support for the PEU within EBS by incorporating the following full-time positions: (a) a Project Manager (PM), (b) a procurement assistant to support the existing procurement specialist, (c) a financial assistant to support the existing financial specialist, and (d) an individual coordinator for each component of the Project; and
 - (iii) the EA has presented the following planning documents: (a) Project Operations Manual (POM) which includes the administrative, procurement, financial management policies, procedures and internal control requirements that will define overall Project management, (b) the first Procurement Plan, and (c) the first Annual Operating Plan (AOP).

- 4.2 Rate of Exchange Agreed with the Executing Agency. The application of the exchange rate will be as follows: (i) Reimbursement of Expenses made: the effective rate of exchange on the date of payment of each expenditure, as published by the Central Bank of Suriname; (ii) Reporting on Accounts or justification of the Advance of Funds:- the effective rate of exchange used in the conversion of the currency of the operation to the local currency; and (iii) Disbursements in alternate currencies from the US Dollar and the Suriname Dollar: In cases of direct payment and reimbursement of a guarantee of letter of credit, the equivalent of the currency of the operation will be fixed in accordance with the amount effectively disbursed by the IDB.
- 4.3 Financial Statements and Reports, audited or unaudited:
- (i) Semi-annual financial reports are to be included in the semi-annual progress report which will be submitted by the EA to the Bank;
 - (ii) Annual financial statements of the project, audited by a firm of independent public accountants acceptable to the Bank, are to be submitted to the Bank within 120 days at the end of each fiscal year, beginning with the fiscal year in which the first project expenditures are incurred and
 - (iii) Final financial statements, audited by a firm of independent public accountants acceptable to the Bank, are to be submitted to the Bank within 120 days following the last disbursement date of the Project.

V. Requirements and Agreements for the execution of the Procurement

- 5.1 Additionally the following required fiduciary arrangements are already covered by the General Conditions clauses related to financial system and internal control structure:
- 5.2 The procurement fiduciary arrangements establish the conditions applicable to all procurement execution activities in the Project.
- 5.3 Execution of the Procurement Plan.
- 5.4 Procurement of Goods, Works and Non-Consulting Services: Procurement under the Project will be governed by IDB GN-2349-9 Policies for the Procurement of Goods and Works. The procurement plan indicates the procedures to be used for the contracting of goods, works and non-consulting services generated under the Project. Activities subject to National Competitive Bidding (NCB) may be executed through the use of National Bidding Documents satisfactory to the IDB. Where these are not available, IDB' Standard Bidding Documents will be used. The review of technical specifications during the preparation of the selection process is the responsibility of IDB Project sector specialist.

- 5.5 Procurement of Information Technology (IT) Systems: If necessary, as part of the Bank's review and non-objection process, the Bank will seek the advice of one of its IT Specialists.
- 5.6 Selection and Contracting of Consultants: Procurement of Consulting services will be conducted in accordance with GN-2350-9 Policies for the Selection and Contracting of Consultants. The Procurement Plan indicates the procedure to be used for the contracting of consulting services. Review of Terms of Reference (TOR) for the selection of consulting services is the responsibility of IDB's sector specialist.
- 5.7 Selection of Individual Consultants: Individual Consultants will be selected in accordance with the policies referenced above.
- 5.8 Recurrent Expenses: The Project will finance recurrent expenses including: salaries of project staff, utilities for office facilities, advertisements, photocopies, mailing services.
- 5.9 Retroactive Financing: The IDB may finance retroactively eligible expenses for up to the amount of US\$2,000,000 (6% of the Project cost) incurred by the EA prior to the date of loan approval. These expenses will serve to cover the costs of the procurement of works and goods for S/S J, included in Component II. Expenses shall only be recognized if the selection procedure is in accordance with the IDB's procurement policies (GN-2350-9, and GN-2349-9). The above mentioned expenses shall be incurred during the 18 months prior to the date of loan approval, but in no event will include expenses incurred before August 29, 2014, date of approval of the Project Profile.
- 5.10 Training: The detailed procurement plan indicates which consultancy services, training and workshops are applicable. As per GN-2350-9 if the assignment includes an important component for training or transfer of knowledge to Borrower staff or national consultants, the TOR shall indicate the objectives, nature, scope, and goals of the training, including details on trainers and trainees, skills to be transferred, time frame, monitoring and evaluation arrangements. The cost for the training shall be included in the consultant's contract and in the budget for the assignment.
- 5.11 Advance Contracting or Retroactive Financing is expected with the execution of the Project for activities under component II.
- 5.12 Procurement Plan (PP): [IDBDOCS#39022483](#)
- 5.13 Procurement Supervision. The procurement plan indicates the procedures to be used for the procurement of goods, the contracting of works and services, and the method of selecting consultants, for each contract or group of contracts. It also indicates cases requiring prequalification; the estimated cost of each contract or group of contracts; the requirement for prior or post review modality by the IDB. The supervision modality will be determined and agreed for each selection process after

discussion and review of the PP with the Team Leader. Ex post reviews will be performed at least once per year but may be done more frequently if the volume of procurement activities warrants. The ex post review reports will include at least one physical inspection visit. The procurement plan will be updated by the EA on an annual basis, or when changes are proposed and agreed with the IDB.

5.14 Records and Files. The PEU shall be responsible for maintaining updated files and records of the Project. All records and files will be maintained by the EA, according to accepted best practices, and be kept for up to three (3) years beyond the end of the Project's execution period.

5.15 Country Thresholds for Procurement (in US\$'000s) www.iadb.org/procurement

| Works | | | Goods | | | Consulting Services |
|-----------------------------------|------------------------------|----------------------------|-----------------------------------|------------------------------|----------------------------|--------------------------------------|
| International Competitive Bidding | National Competitive Bidding | Shopping/ Price Comparison | International Competitive Bidding | National Competitive Bidding | Shopping/ Price Comparison | Short Lists Solely by Nationals/ NCB |
| ≥1,000 | 100 – 1,000 | <100* <1,000** | ≥100 | 25 - 100 | <25* <100** | <100 |

* When procuring complex works and non-common goods with amounts under the NCB range, Shopping shall be used.

** When procuring simple works and common goods and their amount is under the International Competitive Bidding thresholds, Shopping may be used.

IV. Specific Fiduciary arrangements for Financial Management

6.1 Programming and Budget: EBS starts with a strategic planning process that is the basis for the annual budgeting, which is translated into department budgets. The Budgeting process, as well as the monitoring, are not automated and not entered in the accounting system of EBS. The process is managed on a manual basis using Microsoft Excel.

6.2 For the purposes of the Project, the EA will prepare and implement the Project planning documents, including the AOP, and the PP, consistent with the financial plan.

6.3 Treasury: Disbursements and flow of Funds: EBS has a treasury function that executes payments on the basis of the purchase orders entered in the accounting systems. Payments/expenditures completeness and all transactions are reviewed against Bank statements therefore reconciling items are also incorporated in the accounting systems. Bank's reconciliations are prepared in a monthly basis.

- 6.4 EBS will be responsible for the submission of all disbursement requests to the Bank. Resources requested from Bank financing are payable according to the Advance of Funds for up to 180 days. The EA will provide adequate control over the utilization of all Advance of Funds balance, whenever 80% of said balance has been spent. Advances will normally cover a period not exceeding 180 days.
- 6.5 EBS with the authorization of the MOF, will open separate bank accounts in the Central Bank of Suriname for the management of the resources. This arrangement differs from the central government current requirement to use the Treasury Single Account (TSA) which is not applicable to public entities such as the EBS. The financial plan will serve as the basis for the disbursement of funds to the EA to cover the Project's 6 month cash flow needs. The main disbursement methodology will be the advance of funds, based on liquidity needs of the Project. Other disbursement methodologies that will be used on a smaller scale are the Reimbursement of Payments Made and Direct Payment to Supplier.
- 6.6 Disbursements will be reviewed as ex-post, except for Requests for Direct Payment to Suppliers and Direct Payment to Borrower. The EA will be responsible for the maintenance of adequate and original documentation to support the Project expenditures and shall be made available for the ex post reviews.
- 6.7 EBS will use QuickBooks or any other accounting software acceptable to the Bank for the financial administration of the Project. This include recording and classification of all financial transactions, providing information related to planned versus actual financial execution of the project, financial planning, financial reports performance reports, and any other reports, financial or otherwise, audited or unaudited, that may be required from the Bank from time to time. EBS has an internal audit department which will conduct periodic audits of the project.
- 6.8 The EA will establish an internal control system documented in the POM that should provide reasonable assurance that: (i) the Project funds are used for their intended purpose; (ii) Project assets are properly safeguarded; (iii) Project transactions, decisions and activities are properly authorized and documented; and (iv) Project transactions are executed in accordance with the established policies, practices and procedures delineated in the legal agreements. In addition proper segregation of duties, approval authority levels for signature of contracts, commitment of funds, reception of goods and services and payment to suppliers and beneficiaries should be arranged adequately.
- 6.9 External Control and Reporting: The External audit of the Project will be performed by an independent audit firm acceptable to the IDB. Audits will be performed in accordance with IDB's Guidelines for Financial Reports and External Audit. The EA will be responsible for contracting of an external auditor eligible to the IDB to perform the Project audit as follows: (i) an annual financial audit of the Project to be submitted within 120 days of the end of fiscal year; (ii) one final financial audit of the Project to be submitted within 120 days after the date of last disbursement. The

- scope of the external audit can be modified according the needs identified during Project execution.
- 6.10 Financial Supervision Plan: IDB fiduciary staff will conduct inspection visits on a semi-annual basis to ascertain the proper functioning of the accounting systems, the adequacy of the internal control system and follow up the fiduciary risk initially assessed.
 - 6.11 Execution Mechanism: The PEU Procurement and Financial specialist of the PEU which is executing IDB Loan 3059/OC-SU will support the new PEU which will execute this operation. EBS Board will guide the project on the strategic level providing guidance and orientation concerning Project priorities, monitoring progress of implementation according to the agreed time schedule and recommending on operational issues. EBS Management (Chief Technical Officer, Chief Executive Officer and the Chief Financial Officer) will lead decision making at the Executive Level and ensure overall coordination of its technical components.
 - 6.12 The PEU, technical officers, financial and procurements specialists will primarily operate on the technical & administrative levels on day-to-day basis. EBS will be responsible for assigning staff for these specific functions.
 - 6.13 EBS as the EA is responsible for the implementation of the (i) technical execution of Project activities; (ii) selecting and contracting of goods, services and works; (iii) reviewing and approving consulting services; (iv) financial recording and reporting of project funds; (v) managing consulting contracts and processing payments for consulting services and procurement of goods; (vi) reporting periodically to the IDB on the technical, administrative and financial activities of the Project; (vii) monitoring of Project progress towards outcomes and goals, and the identification of needs for adaptive management; and (viii) preparing and presenting progress reports.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-____/14

Suriname. Loan __OC/SU to the Republic of Suriname
Support for the Implementation of the EBS Investment Plan

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 Suriname, as Borrower, for the purpose of granting it a financing to cooperate in the execution of a program to support the implementation of the EBS investment plan. Such financing will be for an amount of up to US\$33,000,000 from the Ordinary Capital resources of the Bank, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Approved on _____ 2014)

SU-L1039
LEG/SGO/SU/IDBDOCS#39198011