

SURINAME
Project Profile (PP)

I. BASIC PROJECT DATA

Project Name:	Support to Improve Sustainability of the Electricity Service		
Project Number:	SU-L1009		
Project Team:	Alberto Elizalde (ENE/CVE) Team Leader; Alejandro Melandri (INE/ENE) Alternate Team Leader; Jesus Tejada (ENE/CEC); Carlos Echeverria (INE/ENE); Wilkferg Vanegas (INE/ENE); Lourdes Sánchez (FMP/CSU); Roy Parahoo (FMP/CSU); Steven Hofwijks (CCB/CSU); Mónica Lugo (LEG/SGO); under the supervision of Leandro Alves, Energy Division Chief (INE/ENE) and Marco Nicola, Representative in Suriname (CCB/CSU).		
Borrower:	Republic of Suriname		
Executing Agency:	<i>Energiebedrijven Suriname (EBS)</i>		
Amount and Source:	IDB:	US\$	25,000,000
	Local:	US\$	0
	Total:	US\$	25,000,000
Disbursement period:	Disbursement		84 months
Exceptions to Bank Policies and procedures:	None		
Environmental and Social Review:	Classification “C”		

II. GENERAL JUSTIFICATION AND OBJECTIVES

- 2.1 **Background.** Suriname is a middle-income country with a Gross Domestic Product (GDP) per capita of US\$12,300 and 4 percent (%) average growth (2010-2012). With an area of 163,820 square kilometers (km²) and a population of approximately 567,000, Suriname is the youngest sovereign country in South America. Over 50% of the economic activity is related to extractive industries (e.g., oil, gold and bauxite mining).
- 2.2 **Sector Knowledge.** *Energiebedrijven Suriname (EBS)* is a state-owned company under the supervision of the Ministry of Natural Resources (MNH). Since 1973, EBS operates under a 50-year countrywide concession covering transmission, distribution and commercialization of electricity. EBS receives supply from the *Afobaka* hydro power plant under the terms of an agreement between the State and *Suralco*,¹ the bauxite and aluminum company that owns the facility. *Afobaka* capacity of 189-MegaWatt (MW) is 65% of the total installed capacity in Suriname of 290-MW. To supply a growing demand, EBS owns thermal plants fueled with diesel and fuel-oil, and it also purchases electricity from third parties, mainly *Suralco* and the state oil company *Staatsolie*. Paramaribo is interconnected by the *Energievoorziening Paramaribo (EPAR)* grid, which serves

¹ *Suralco* is involved in bauxite and alumina mining and refining. It was founded in 1916, it is based in Suriname and it operates as a subsidiary of Alcoa World Alumina LLC. The *Brokopondo* Agreement (1957) is the mainstay of Suriname’s electricity supply and it is based on the concession for bauxite mining.

about 79% of the total population. Small grids operated by EBS exist in the western part of Suriname and in main towns in the coastal plain, powered by thermal generators on a 24-hour basis.

- 2.3 EBS' average costs are tempered by the relatively low purchase price for the hydro energy from *Afobaka*. With electricity demand increasing quickly, the average costs go up, when adding new thermal capacity to the system. In addition, EBS has critical infrastructure, in some cases, with more than 50 years of operation, with minimal upgrades to respond to the day-to-day requirements of the system. The design ratings of some of this infrastructure, especially substations that provide energy to the Northern load center of *Paramaribo*, impose great limitations to the transmission operations and introduce high safety hazards to personnel and equipment.²
- 2.4 Native, Renewable Energy (RE) sources may offer lower cost alternatives to respond to the expected increasing demand of power, especially in the EPAR system. Natural gas may also contribute to the energy matrix in the mid or long-term in Suriname. While technically competent, EBS has insufficient financial resources to invest in new infrastructure and is not prepared to administer its resources and expanding customer base efficiently.
- 2.5 Electricity supply in the sparsely inhabited interior is under the mandate of the *Dienst Elektriciteitsvoorziening* (DEV), which is an agency of MNH. About 130 villages have diesel generators installed which are owned and operated by DEV. The total installed capacity is 4.5-MW serving an estimated population of 30,000 people. The electricity service is designed for an average time of 6 hours per day (from 5:00 pm to 11:00 pm). Fuel transport to remote villages is done by boat or airplane, while communities closer to Paramaribo can be reached by road.³ Rural households are not charged for the service, as all the costs are absorbed by the Government of Suriname (GOS). The GOS considers the availability of reliable electricity as a key factor to stabilize demographic development in the Hinterlands.
- 2.6 The limitations of the electrification strategy are evident in the larger communities, including the civic centers which are planned as part of a decentralization process to improve governance and public services. Linking the upstream Suriname River area with the coastal plain, *Atjoni* has been assigned a key role for demographic and economic development in the heart of Suriname. Diesel generators are installed, but 24-hour service is hardly possible due to technical and logistical transport limitations. Similar constraints are felt around *Powakka*, about 60-km south of *Paramaribo*. In response to this situation, the GOS plans to transfer the responsibility of the service in these areas from DEV to EBS.

² According to the "Power System Expansion Study", the generation and transmission system will begin facing reliability constraints in 2012, when the total generation demand would reach 1,525-GigaWatt-hour (GWh). IDBDocs#37119322.

³ Fuel supply is constrained due to cost and logistical reasons and in some villages it is unavailable for long periods, which greatly affects services quality of life and economic activity, resulting in migration activity.

- 2.7 **Issue.** Decision-making in Suriname's electricity sector is concentrated in MNH and EBS. There is no comprehensive institutional or normative framework, and tariffs are not defined on the principle of cost recovery. Therefore, EBS cannot afford investments in critical infrastructure to meet growing demand, to upgrade or replace obsolete assets, and to enhance the soft infrastructure needed for planning and operation of the transmission and distribution systems, and the integration of technical and commercial operations.
- 2.8 The current approach to rural electrification is not sustainable due to: (i) insufficient technical capacity and resources; (ii) high diesel costs; (iii) vulnerable logistical chains claiming scarce human resources and transport means; and (iv) costs of the electricity service borne by the GOS. A revised approach would focus on securing social, economic and environmental sustainability through the expansion of grid systems under EBS. RE technologies are instrumental to control electricity generation costs and for establishing a reliable service for end-users in the more isolated and remote communities.
- 2.9 In summary, the electricity sector in Suriname faces serious challenges associated to: (i) strong growth in energy demand; (ii) financial stress of EBS; (iii) stagnant expansion of electricity coverage in the Hinterlands; and (iv) limited technical, institutional and financial capacity to service the grid and areas in the Hinterlands. Addressing these challenges involves the revision of: (i) legal and regulatory framework; (ii) institutional capacity, including EBS' performance; (iii) know-how of new technological options; (iv) environmental and social issues; and (v) tracing of a road map to promote the rational use of energy.
- 2.10 **Proposal.** The GOS has acknowledged the need to strengthen the electricity sector through a comprehensive and coordinated approach. To this extent the GOS sought support from the IDB to foster a Sustainable Energy Framework for Suriname (SEFS) with the objective of creating conditions for the economic, social, financial and environmental sustainability of the sector, thereby anticipating future demand growth. This SEFS will assist the GOS and EBS to implement adequate regulation and management practices to: (i) reduce operation and maintenance costs of the system; (ii) review the current tariff structure; (iii) draft model contracts for the purchase of electricity from third parties generators; (iv) assess the potential of low-carbon energy technologies; and (v) improve access to sustainable and quality energy, increase the coverage index in Suriname, while resources will also be allocated to improve critical infrastructure and access to a reliable electricity supply.
- 2.11 The envisioned SEFS will be the result of the design and implementation of an institutional and regulatory framework; the consolidation of good governance structures and practices; and the operation of robust, efficient and reliable infrastructure. The PBL Program⁴ supports policy goals consistent with the sector

⁴ The PBL Program consists of three operations (SU-L1022, SU-L1035 and SU-L1036) to support the reforms in the energy sector, with the specific objectives of developing the SEFS and strengthening the sustainability and corporate capabilities of sector entities. The PBL SU-L1022 was approved in 2012.

framework and governance while investment operations and grants⁵ (GEF, MIF) are focused on high priority infrastructure to sustain or improve the quality of the electricity supply in rural and urban areas.

- 2.12 The hereby proposed Investment Loan (the Project) will contribute to the SEFS by: (i) helping to improve EBS' Operations; (ii) rehabilitating critical infrastructure required for the reliable and effective operation of EBS; and (iii) improving the reliability and cost-effectiveness of energy supply in selected areas by expanding the network and incorporating non-conventional RE technologies.
- 2.13 **Country Strategy.** The Project is consistent with the IDB Country Strategy 2011-2015 (CS), the overall objective of which is to support Suriname's reform agenda. The CS intends to assist Suriname with a structural transition to a more sustainable economic model through better governance, strong growth rates, increased living standards and improved human capital and equity. The CS identified energy as one of its seven priority areas.
- 2.14 **Ninth General Capital Increase (GCI-9).** The Project is aligned with IDB's Framework of a New Institutional Strategy under its sector priorities and preferential support to less developed Latin American and Caribbean countries. It will contribute to the following lending target areas: (i) supporting development in small and vulnerable countries; and (ii) assisting borrowers in dealing with climate change, sustainable energy and environmental sustainability.

III. PROJECT'S OBJECTIVE AND DESCRIPTION

- 3.1 **Project's goal and purpose.** The Project will contribute to the implementation of a Sustainable Energy Framework for Suriname by strengthening EBS' operational procedures, corporate performance, and by improving the sustainability of rural electricity supply. The Project consists of the three following components:
- 3.2 **Component I. Improvement of EBS' Operations.** Component I will contribute to support EBS' performance by: (i) integrating Supervisory Control and Data Acquisition (SCADA) platforms for technical supervision and operation of the power system; and (ii) incorporating business information solutions by financing Information Technologies (IT) hardware and software, such as the Enterprise Resources Planning (ERP) and a Geographical Information System (GIS);
- 3.3 **Component II. Sustainable Rural Electrification.** Component II will finance: (i) the integration of *Powakka* village and surrounding communities into the EPAR grid by rehabilitating and upgrading the transmission and distribution system and securing the sustainability of the investment; and (ii) installation of

⁵ IDB/GEF operation (SU-G1001), approved in 2013, contributes to the SEFS by promoting the use of non-conventional RE and energy-efficient technologies and increasing access to sustainable energy in the Hinterlands. The IDB/MIF operation (SU-M1019), approved in 2012, will support the SU-G1001 by providing sustainable management schemes for rural electrification systems in the interior by empowering local communities.

hybrid RE generation plugged to local distribution systems to improve sustainability in electricity supply in *Atjoni* and nearby communities;

- 3.4 **Component III. Critical Infrastructure.** Component III will finance the rehabilitation and upgrade of critical infrastructure in EBS which include the retrofit of two existing 33/12/6 -kiloVolt (kV) substations⁶ that provide energy to the northern load center of Paramaribo. Both substations date from 1965 and, if not properly rehabilitated, their design ratings will be violated by the expansion in generation and transmission of EBS, introducing safety risks and compromising the reliability of the whole system.

IV. EXPECTED RESULTS

- 4.1 The expected results from the Project are: (i) increased reliability of the system; (ii) increased cost effectiveness of the power supply for interior locations; and (iii) improved performance and management efficiency of EBS.
- 4.2 Evaluation of the Project's outcomes will extend to the achieved impacts. The evaluation methodology, to be defined, will consider at least the following indicators: (i) percentage of the population with access to reliable electricity; (ii) reduction in variable cost for electricity supply at interior locations; and (iii) decrease in the percentage of EBS' operational costs.

V. SAFEGUARDS AND FIDUCIARY SCREENING

- 5.1 According to the Safeguard Policy procedures the Project is expected to be classified as Category "C" as no negative socio-environmental impact is foreseen; thus no Environmental and Social Strategy is required. Moreover, improvement of EBS' performance is expected, as well as positive socio-economic impacts benefitting electricity consumers in Suriname.
- 5.2 The Project faces the following risks: (i) delay of GOS' approval for identified sector reforms targeting EBS' financial recovery; (ii) inability to keep up with the expected demand growth, due to lack of institutional capacity and/or access to investment capital; and (iii) slow decision-making and institutional coordination for approval of rural electrification projects based on non-conventional RE technologies and economically sustainable business models.⁷

VI. RESOURCES AND TIMETABLE

- 6.1 Key event dates for project approval are: (i) POD distribution on August 30; (ii) Draft Loan Proposal to OPC on October 3; and (iii) Board approval on November 6.⁸

⁶ According to EBS, the two substations are identified as substation D (S/S D) and substation C (S/S C), both of them located in the EPAR system.

⁷ Risk mitigation measures will be established based on the results from the Institutional Capacity Assessment (ICASS) and the technical and economic evaluation of the rural electrification projects.

⁸ Required consulting studies will be financed by the Technical Cooperation (TC) SU-T1055 approved October 2, 2012, while administrative funds will be utilized for missions to Suriname.

ANNEX I - CONFIDENTIAL

SAFEGUARD POLICY FILTER REPORT

This Report provides guidance for project teams on safeguard policy triggers and should be attached as an annex to the PP (or equivalent) together with the Safeguard Screening Form, and sent to ESR.

1. Save as a Word document. 2. Enter additional information in the spaces provided, where applicable. 3. Save new changes.

PROJECT DETAILS	IDB Sector	ENERGY-ENERGY INSTITUTIONAL STRENGTHENING AND CAPACITY BUILDING
	Type of Operation	Investment Loan
	Additional Operation Details	
	Investment Checklist	Institutional Development Investment
	Team Leader	Elizalde Baltierra, Alberto (ALBERTOEL@iadb.org)
	Project Title	Support to Improve Sustainability and Accessibility of the Electricity Service
	Project Number	SU-L1009
	Safeguard Screening Assessor(s)	Vanegas, Wilkferg (wilkfergv@IADB.ORG)
	Assessment Date	2013-06-20
	Additional Comments	

SAFEGUARD POLICY FILTER RESULTS	Type of Operation	Loan Operation	
	Safeguard Policy Items Identified (Yes)	The Bank will make available to the public the relevant Project documents.	(B.01) Access to Information Policy– OP- 102
		The operation is in compliance with environmental, specific women’s rights, gender, and indigenous laws and regulations of the country where the operation is being implemented (including national obligations established under ratified Multilateral Environmental Agreements).	(B.02)

		The operation (including associated facilities) is screened and classified according to their potential environmental impacts.	(B.03)
		The Bank will monitor the executing agency/borrower's compliance with all safeguard requirements stipulated in the loan agreement and project operating or credit regulations.	(B.07)
		Suitable safeguard provisions for procurement of goods and services in Bank financed projects may be incorporated into project-specific loan agreements, operating regulations and bidding documents, as appropriate, to ensure environmentally responsible procurement.	(B.17)
	Potential Safeguard Policy Items(?)	No potential issues identified	
	Recommended Action:	Operation has triggered 1 or more Policy Directives; please refer to appropriate Directive(s). Complete Project Classification Tool. Submit Safeguard Policy Filter Report, PP (or equivalent) and Safeguard Screening Form to ESR.	
	Additional Comments:		

ASSESSOR DETAILS	Name of person who completed screening:	Vanegas, Wilkferg (wilkfergv@IADB.ORG)
	Title:	
	Date:	2013-06-20

SAFEGUARD SCREENING FORM

This Report provides a summary of the project classification process and is consistent with Safeguard Screening Form requirements. The printed Report should be attached as an annex to the PP (or equivalent) and sent to ESR.

1. Save as a Word document. 2. Enter additional information in the spaces provided, where applicable. 3. Save new changes.

PROJECT DETAILS	IDB Sector	ENERGY-ENERGY INSTITUTIONAL STRENGTHENING AND CAPACITY BUILDING
	Type of Operation	Investment Loan
	Additional Operation Details	
	Country	SURINAME
	Project Status	
	Investment Checklist	Institutional Development Investment
	Team Leader	Elizalde Baltierra, Alberto (ALBERTOEL@iadb.org)
	Project Title	Support to Improve Sustainability and Accessibility of the Electricity Service
	Project Number	SU-L1009
	Safeguard Screening Assessor(s)	Vanegas, Wilkferg (wilkfergv@IADB.ORG)
	Assessment Date	2013-06-20
	Additional Comments	

PROJECT CLASSIFICATION SUMMARY	Project Category: C	Override Rating:	Override Justification:
	Conditions/ Recommendations		Comments:
			<ul style="list-style-type: none"> • No environmental assessment studies or consultations are required for Category "C" operations. • Some Category "C" operations may require specific safeguard or monitoring requirements (Policy Directive B.3). Where relevant, these operations will establish safeguard, or monitoring requirements to address environmental and other risks (social, disaster, cultural, health and safety etc.). • The Project Team must send the PP (or equivalent) containing the Environmental and Social Strategy (the

		requirements for an ESS are described in the Environment Policy Guideline: Directive B.3) as well as the Safeguard Policy Filter and Safeguard Screening Form Reports.
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SUMMARY OF IMPACTS/RISKS AND POTENTIAL SOLUTIONS	Identified Impacts/Risks	Potential Solutions
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ASSESSOR DETAILS	Name of person who completed screening:	Vanegas, Wilkferg (wilkfergv@IADB.ORG)
	Title:	
	Date:	2013-06-20

SURINAME
SUPPORT TO THE ENERGY SECTOR
SU-L1009

ENVIRONMENTAL AND SOCIAL STRATEGY (ESS)

The objective of the Project is to contribute to the implementation of a Sustainable Energy Framework for Suriname by reducing EBS' financial constraints and strengthening its operational procedures, and by improving the sustainability of rural electricity supply.

The expected results of the Project are: (i) improved performance, financial sustainability and governance of EBS; (ii) increased financial sustainability of the power supply for interior locations; and (iii) increased electricity coverage and reliability of the system.

The Project will support the financing of critical hard and soft infrastructure required for the reliable and effective operation of EBS, as well as, infrastructure to improve the reliability and cost-effectiveness of energy supply in selected areas by expanding the network, thereby anticipating future demand growth, promoting economic sustainability of the service, and reducing environmental risks related to diesel transport in the Hinterlands.

Main activities of the Project are: (a) improvement of EBS' operations by integrating Supervisory Control and Data Acquisition (SCADA) platforms for technical supervision and operation of the power system and incorporating business information solutions by financing IT hardware and software (including Enterprise Resources Planning and Geographical Information Systems); (b) financing sustainable rural electrification through the integration of Powakka village and surrounding communities into the main grid by expanding and upgrading the existent transmission and distribution system; and (c) financing critical infrastructure by retrofitting two existing 33/12/6 kV substations that provide energy to the Northern load center of the Capital Paramaribo.

Considering the scope of the Project, which include the retrofitting of existing facilities and infrastructure, the Safeguard Policy Filter and Safeguard Screening Form (Annex II), classified the Project as "Category C", thus no Environmental and Social Strategy is required.

SURINAME
SUPPORT TO THE ENERGY SECTOR
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INDEX FOR PROPOSED SECTOR WORK

Issues	Description of works	Expected Dates	References & hyper links to Technical files
Technical aspects	EBS SCADA Dispatch Center Technical Specification	2 nd Quarter 2013	IDBDocs#37854336
	Project Description SCADA for EPAR Transmission Grid	2 nd Quarter 2013	IDBDocs#37854363
	EMP Powaka – Upgrade Electrical Infrastructure	2 nd Quarter 2013	IDBDocs#37854340
	GIS Project Document	2 nd Quarter 2013	IDBDocs#37854350
	Project Description Upgrade Substation C	2 nd Quarter 2013	IDBDocs#37854368
	Project Description Upgrade Substation D	2 nd Quarter 2013	IDBDocs#37854372
	Upgrade Electrical Infrastructure for Connecting Powaka	2 nd Quarter 2013	IDBDocs#37854381
	EBS Project identification form – Substations.	4 th Quarter 2012	IDBDocs#37854329
Missions	Identification mission (Aide Memoire)	1 st Quarter 2013	IDBDocs#37855007
	Preparation mission (draft Aide Memoire)	3 rd Quarter 2013	IDBDocs#37908038
	Preparation mission	3 rd Quarter 2013	

ANNEX V - CONFIDENTIAL