

## TC Document

### I. Basic Information for TC

▪ Country/Region:	SURINAME
▪ TC Name:	Support for rural electrification with renewable energy, potable water and telecommunications in Suriname
▪ TC Number:	SU-T1165
▪ Team Leader/Members:	Ballon Lopez, Sergio Enrique (INE/ENE) Team Leader; Cuervo, Javier (INE/ENE) Alternate Team Leader; Berlanda Custodio Da Silva, Cleide (VPC/FMP); Carlos Rodrigues (INE/WSA); Francine Vaurof (CSD/CCS); Gangadin, Rajant Amarnath (CCB/CSU); Hincapie Salazar, Daniel (CSD/ACU); Irigoyen, Jose Luis (INE/ENE); Loana Vega (INE/ENE); Luz Caballero (INE/ENE); Martinez Legaria, Juan Antonio (VPS/ESG); Mendoza Benavente, Horacio (LEG/SGO); Puig Gabarro, Pau (IFD/CMF); Veerle Vivienne Combee (VPC/FMP)
▪ Taxonomy:	Client Support
▪ Operation Supported by the TC:	
▪ Date of TC Abstract authorization:	29 Aug 2022.
▪ Beneficiary:	Government of Suriname
▪ Executing Agency and contact name:	Inter-American Development Bank
▪ Donors providing funding:	Low Carbon Energy Fund for People and Planet(LCE); OC SDP Window 3 - Sustainable Development in the Amazon(W3A)
▪ IDB Funding Requested:	Low Carbon Energy Fund for People and Planet (LCE): US\$200,000.00 OC SDP Window 3 - Sustainable Development in the Amazon (W3A): US\$300,000.00 Total: US\$500,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (which includes Execution period):	24 months
▪ Required start date:	December 2022
▪ Types of consultants:	Individual consultants and firms
▪ Prepared by Unit:	INE/ENE-Energy
▪ Unit of Disbursement Responsibility:	CCB/CSU-Country Office Suriname
▪ TC included in Country Strategy (y/n):	Si
▪ TC included in CPD (y/n):	No
▪ Alignment to the Second Update to the Institutional Strategy 2020-2023:	Environmental sustainability; Gender equality; Productivity and innovation; Social inclusion and equality

### II. Objectives and Justification of the TC

- 2.1 The general objective of this Technical Cooperation (TC) is to promote the social and economic development of the rural villages in the Amazon Hinterland of Suriname, by increasing access to affordable, reliable, clean and sustainable electricity, potable water, and communication services. The specific objectives of the TC are to: (i) support the implementation of solar mini-grids, water supply and telecommunication systems

(the Systems); (ii) promote efficient use of energy and water; (iii) promote productive uses with basic services in the hinterlands; and (iv) support establishing a sustainable regulatory and institutional framework for rural electrification/water projects.

- 2.2 With an area of 163,820 km<sup>2</sup> and a population of approximately 541,638, Suriname is the youngest sovereign country in South America. The country has more than 94% forest cover<sup>1</sup> and is home to one of the most well-preserved areas of the Amazon biome. It is estimated that 10% of Suriname's population lives in the Amazon Hinterland (54,000 Maroons and 8,000 Amerindians), distributed in about 300 isolated villages, lacking access to affordable and reliable basic services, such as water and electricity. Most villages are being intermittently served with small diesel generators for an average time of 6 hours/day, but this is seldom the case due to irregular provision of diesel or, very often, because the units are out of service.
- 2.3 The *Ministerie van Natuurlijke Hulpbronnen* (Ministry of Natural Resources, MNH) has responsibility for energy policy and supervision of the energy sector. N.V. *Energie Bedrijven Suriname* (EBS) is the state-owned utility company supervised by the MNH and in charge of the operation of the power system. EBS shares its responsibility for rural electrification with the *Dienst Electrificatie Voorziening* (DEV), the MNH's department of rural energy, which operates the small power systems located in isolated and remote communities where EBS networks do not reach customers. One of these isolated systems is Pokigron and Atjoni where the tariff for Operations and Maintenance (O&M) is approximately US\$0.05/kWh, which is the average tariff for the urban areas in the country.
- 2.4 The country is increasing energy access through grid extension projects or using isolated solar mini grids. Since 2018, Inter-American Development Bank (IADB) supported EBS with the first solar mini grid in the country, a 500-kW solar plant, including energy storage and a diesel generator as a backup, to provide 24/7 electricity to the villages of Pokigron and Atjoni.<sup>2</sup> Currently, IADB is financing MNH and EBS several mini grids in other isolated villages in the Hinterland, such as: 250 kWp solar mini grid with potable water supply in Godo Holo<sup>3</sup> and 10 mini grids with batteries in Upper Suriname region<sup>4</sup> that will provide up to 2 MWp for more than 2,000 families. However, it is estimated that there is still an investment gap of approximately US\$ 93 million to reach universal energy access in Suriname by 2030.
- 2.5 Notwithstanding, Suriname electricity sector faces many challenges, such as: (i) lack of a regulatory framework<sup>5</sup> in place for the rural electrification sector; (ii) a Rural

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<sup>1</sup> FAO, 2015. [Global Forest Resources Assessment 2015](#).

<sup>2</sup> Financed by IADB-EU-CIF, SU-L1009 [Support to Improve Sustainability of the Electricity Service](#)

<sup>3</sup> Financed by IADB-GEF, SU-L1001 [Development of Renewable Energy, Energy Efficiency and Electrification](#)

<sup>4</sup> Finance by IADB, SU-L1055 [Consolidating a Sustainable Energy Sector](#)

<sup>5</sup> will be supported by SU-L1055 [Consolidating a Sustainable Energy Sector](#)

Electrification Plan<sup>6</sup> to achieve the 100% Surinam electricity access; and (iii) financial incentives or mechanisms to promote private investment in energy access projects.

- 2.6 The MNH is responsible for water supply through the N.V. Surinaamsche Waterleiding Maatschappij (SWM), being a government-owned utility that provides water to 75 - 80% of the population in the coastal plain, and the Dienst Watervoorziening (NH/DWV) (Water Supply Division) being a department in the MNH providing safe drinking water to less than 40% of the interior population. The NH/DWV has approximately 20,000 connections. A significant complexity of the water sector is service provision to the interior, as a consequence of physical difficulties such as the large number of small villages, their spread across a large area, and transportation; a lack of inventory of the status of existing systems and the number of villages without access to safe water; multiplicity of stakeholders, as well as financial constraints both in terms of capital and operation costs, as the cost of maintenance inevitably surpasses the collected fees.
- 2.7 Some villages have piped water supply, many of them sponsored and installed by NGO's or governmental funds. Management and maintenance being the task of the MNH where collaboration and handover challenges between sponsors and the ministry, among other factors, create challenges to the sustainability of these systems. Some villages are located near a water source, mostly alongside the banks of a river, but there are also villages that rely on creeks or the Brokopondo lake. Raw water sources for water supply systems in the hinterlands are limited. There is no known ground water in aquifers and/or difficult to search for as the soil is rocky and generally consists of base rock formation.
- 2.8 The telecommunication sector (voice and internet) in Suriname is regulated through the Telecommunications Act of Suriname (TAS). Currently there are two legally established companies: Digicel and Telesur. These companies are licensed to operate throughout the country. The tariffs are determined and regulated by the regulatory entity and provide this service in urban and rural areas, however, the coverage of this service is not 100%.
- 2.9 The aforementioned service has a strong link with the energy sector, given that telecommunications stations require electricity to operate 24/7, therefore, by promoting the development of mini grids in the hinterlands of Suriname, telecommunications are promoted too.
- 2.10 The implementation of basic service infrastructure in the country, would bring the opportunity to implement productive uses with basic services, promoting the generation of new small businesses, strengthening local human capital, promote bioeconomy, and ensure long term sustainability and positive impact in the hinterland villages.

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<sup>6</sup> This will be supported by RG-4133 [Regional Platform to Scale Up Rural Electrification Investment](#)

- 2.11 Suriname is committed to reaching universal access to electricity and water. As established in the National Development Plan 2017-2022, one of the main priorities of the GOS is to provide 24/7 hours of electricity and water. The NDC 2020 states that Suriname will adopt a Renewable Energy Act, focusing on the Hinterland electrification. The NDC 2020 states that Suriname wishes to facilitate commercial finance and investment by standardizing the way mini-grid projects are structured and applications are evaluated by commercial banks. As established in the Multi-Annual Development Plan 2022-2026, a large part of the more than 50 villages with over 50,000 inhabitants along the reaches of the Suriname River should be provided with piped water.
- 2.12 **Gender.** 62.1% of employed women are laboring in agriculture and 37.9% in industry, services and other non-agricultural services (UNDP, 2018). Therefore, access solar-battery energy storage mini-grids, solar water supply systems and internet/telecommunications infrastructure in rural communities offers new opportunities to develop productive activities for women.
- 2.13 **Strategic Alignment.** The TC is aligned with the country priorities stated in the paragraph above, as well as the IDB Country Strategy with Suriname 2021-2025, as it will support interventions to reduce inequality to basic services such as water and electricity.
- 2.14 The TC is consistent with the Second Update to the Institutional Strategy 2020-2023 (AB-3190-2). Specifically, it is aligned with the cross-cutting issues of Climate Change and Environmental Sustainability by promoting the deployment of solar energy in Suriname, which will diversify and clean its energy matrix; and Gender Equality and Diversity by designing strategies for productive uses with electricity-water-telecommunication systems combined with gender diversity and equality activities. The TC aligns with the development challenges of Social Inclusion and Equality by supporting actions to bring electricity, water, and communication to vulnerable communities in rural areas that currently lack these services; and Productivity and Innovation, as energy, water and telecommunications projects implemented with the latest technologies will provide good quality services and promote the creation of new jobs oriented on innovative local activities derivate from the productive uses with basic services. This operation is also consistent with the Corporate Results Framework 2020-2023 (GN-2727-12), specifically with the indicator of climate change and environmental sustainability as it aims at reducing the amount of CO<sub>2</sub> emissions by promoting the introduction of clean energy sources (i.e., solar energy) in areas that have predominantly used fossil fuels to meet their energy needs. The TC is it is also aligned with Suriname's 2021-2025 country strategy in the strategic area of improving basic services and social protection by increasing access to electricity-water-telecommunication services in the country's rural areas.
- 2.15 The TC is consistent with the OC SDP Window 3 - Sustainable Development in the Amazon (W3A) objectives: (i) fostering the development and implementation of models that are tailored to the local conditions of the Amazon; and (ii) facilitating the needed governance and collaboration in the region to generate synergies and

progress towards the Sustainable Development Goals (SDGs) #7 and #13, supporting access to affordable, reliable, and modern energy services to underserved communities, and by taking action to fight climate change mitigating the consumption of fossil fuels, in the Amazon region. This TC fulfills these objectives as it will assist the GoS in the design and implementation of energy-water-telecommunication projects in the Amazon hinterlands and will strengthen the regulatory and institutional framework for basic services in rural areas.

- 2.16 The TC is aligned with the first objective of the Low Carbon Energy Fund for People and Planet (LCE): "increasing access to affordable, reliable, and modern energy services to underserved communities in LAC by expanding the use of Distributed Renewable Energy (DRE) services." It is also aligned with the Fund's eligible pillar 1 "access to energy services via Distributed Renewable Energy (DRE)". The operation will support the preparation and the implementation of solar mini grids, as well as water and telecommunication systems; promote efficient use of these systems on the demand side; incorporate productive use measures of energy-water-telecommunication services; and promote good practices, knowledge sharing, regulatory and institutional actions. All these activities will create new capabilities in the rural electrification sectors that will increase the country's performance and bring sustainability to the sector. As justified in ¶2.15, the TC is also aligned with the Energy Sector Framework Document (GN-2830-8), specifically with three of its four thematic lines to guide LAC's energy sector work: (i) energy access; (ii) energy sustainability; and (iii) energy governance.

### III. Description of Activities/Components and Budget

- 3.1 **Component I. Design energy-water-telecommunication systems in Amazon Hinterlands.** This component will finance: (i) design the prefeasibility studies in a culturally appropriately manner for the solar-battery energy storage mini-grids, solar water supply systems and internet/telecommunications infrastructure in the indigenous villages, including a financial business model and technical assessment that incorporates barriers and propose mitigation measures for a proper O&M of the systems; (ii) design strategies for productive uses with electricity-water-telecommunication, while promoting human capital, bioeconomy, forest conservation, diversity and gender equality; and (iii) prepare all required environmental and social assessments, including a sociocultural analysis as part of the prefeasibility studies for the selected indigenous villages.
- 3.2 **Component II. Regulatory and institutional framework.** This component includes: (i) design the regulatory framework and specific regulations for rural basic services (electricity and water) for the Hinterland of Suriname; and (ii) strengthen the technical capacity of the main stakeholders involved in the energy and water sector to develop and replicate these types of integral projects through workshops.
- 3.3 **Budget.** The total cost of the project is US\$500,000, which will be financed with the following resources: US\$200,000 from the Low Carbon Energy Fund for People and

the Planet (LCE), and US\$300,000 from the Ordinary Capital Strategic Development Program OC SDP, Window 3 - Sustainable Development in the Amazon (W3A).

#### Indicative budget

Activity/Component	IDB/LCE	IDB/W3A	Total Funding
Design Energy-Water-Telecommunications Systems in Amazon Hinterlands, including E&S analysis.	US\$200,000.00	US\$230,000.00	US\$430,000.00
Regulatory and institutional framework	US\$0.00	US\$70,000.00	US\$70,000.00
<b>Total</b>	<b>US\$200,000.00</b>	<b>US\$300,000.00</b>	<b>US\$500,000.00</b>

#### IV. Executing Agency and Execution Structure

- 4.1 At the request of the Government of Suriname (GoS), the Bank, through the Energy Division (INE/ENE) will be the Executing Agency (EA) of the project due to its experience in the preparation and development of both technical and operational instruments, and projects with a multisectorial approach, which will contribute more effectively to the achievement of the TC objectives in a timely manner. Moreover, the beneficiary specifically requested the Bank to be the EA given the technical, social, and environmental complexities related to the project. This is in line with Procedures for the Processing of Technical Cooperation Operations and Related Matters (OP-619-4, Annex II, C 2.2). Furthermore, the Bank and the beneficiary agree that contracting by the Bank would enhance independence under the impartiality criteria, as several stakeholders might have different interests in the regulatory and institutional aspects, as well as the proposed financial structure for the implementation of this TC.
- 4.2 The beneficiary of this TC will be the GoS, represented by the Ministry of Natural Resources, the Energy Authority of Suriname and the electric utility (EBS). The Bank will coordinate and engage with the main stakeholders from the beginning of the implementation of the TC, seeking feedback and regularly presenting and discussing progress reports. The designated focal point and sector specialist responsible for the execution and supervision of the TC will be the Team Leader, Sergio Ballon (INE/ENE), based in Suriname. He will have the support of the Bank's Country Office in Suriname (CCB/CSU) and the INE/ENE team.
- 4.3 **Procurement Policies.** The IDB will be responsible for the selection and contracting of consulting firms and individual consultants. Activities to be executed are included in the Acquisition Plan and will be contracted in accordance with Bank policies as follows:

(i) Hiring of individual consultants, as established in the regulations AM-650; (ii) Policy for the Selection and Contracting of Consulting Firms for Bank-executed Operational Work according to GN-2765-4 and its associated operational guides (OP-1155-4); and (iii) contracting of logistics services and other services other than consulting, according to the policy GN-2303-28. The beneficiary may provide technical inputs to the terms of reference and reports of the consultants, such inputs should be provided directly to the Bank. The Bank will have the autonomy to approve such documents. This dynamic will facilitate proper articulation between the various actors within the framework of the technical dialogue of this TC. The TC does not present fiduciary management risks as it will be implemented by the Bank. Therefore, no financial audit is required.

- 4.4 The execution and disbursement period for this TC is estimated to be 24 months.

## **V. Major Issues**

- 5.1 The main risk in the TC is the potential delay arising from the coordination with multiple stakeholders and the potential misalignment of the outcomes with political decisions. This risk will be mitigated by involving the counterpart from the beginning of the implementation of the TC, seeking feedback and regularly presenting and discussing progress reports. The achievement of development objectives will rely on securing financing to implement the systems. Another risk is the high level of staff turnover in the governmental entities. This risk will be mitigated through the involvement of the Bank's technical team to facilitate the dialogue with the new authorities.

## **VI. Environmental and Social (E&S) Strategy**

- 6.1 This TC will finance feasibility and/or pre-feasibility studies for investment projects with associated environmental and social studies, The terms of reference and outputs of these studies will be prepared and should be consistent with the applicable ESPF requirements.
- 6.2 As a result of the [E&S Risk Analysis](#) based on the description of activities and components, it is expected to have high level of direct impacts, substantial level of indirect and/or cumulative impacts, also the Borrower/Executing Agency has no organizational capacity and competency for E&S management and it is expected high contextual risks associated with the investment project for which financing will be provided for the prefeasibility or feasibility studies. Overall E&S initial risk is High.
- 6.3 For this TC a Strategic Environmental and Social Assessment (SESA) including a sociocultural analysis as part of the prefeasibility studies and an Environmental and Social Management Framework (ESMF) will be developed for the administration of the projects. The SESA and the ESMF will include the procedures that the Ministry of Natural Resources, the Energy Authority of Suriname and the electric utility (MNH) has established to ensure the analysis and environmental and social management of all the projects to be financed under the operation, including a procedure for the disclosure of information that will include the publication of the required socio-environmental instruments for the projects, including Stakeholder Engagement Plan (SEP) and Indigenous People's Plan (IPP). The ESMF contains eligibility criteria, such that projects that negatively affect critical natural habitats or critical cultural sites,

projects that cause significant negative impacts on indigenous populations or their individual or collective rights do not qualify for financing with program funds; or projects that cause significant adverse impacts due to physical resettlement or any access restrictions.

**Required Annexes:**

[Request from the Client - SU-T1165](#)

[Results Matrix - SU-T1165](#)

[Terms of Reference - SU-T1165](#)

[Procurement Plan - SU-T1165](#)