

TC Document

I. Basic Information for TC

▪ Country/Region:	SURINAME
▪ TC Name:	Promotion of energy efficiency and distributed generation in Suriname
▪ TC Number:	SU-T1147
▪ Team Leader/Members:	Abadal Colomina, Jordi (INE/ENE) Team Leader; Cuervo, Javier (INE/ENE) Alternate Team Leader; Berlanda Custodio Da Silva, Cleide (VPC/FMP); Flores Aguilar, Adrian (CSD/CCS); Francine Vaurof (CSD/CCS); Gangadin, Rajant Amarnath (CCB/CSU); Marquez Barroeta, Fidel (INE/ENE); Suber, Stephanie Anne (INE/ENE); Vila Saint-Etienne, Sara (LEG/SGO)
▪ Taxonomy:	Client Support
▪ Operation Supported by the TC:	N/A
▪ Date of TC Abstract authorization:	09 Aug 2021.
▪ Beneficiary:	Government of Suriname
▪ Executing Agency and contact name:	Inter-American Development Bank through INE/ENE
▪ Donors providing funding:	OC Strategic Development Program for Infrastructure(INF)
▪ IDB Funding Requested:	US\$250,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (which includes Execution period):	24 months
▪ Required start date:	01 January, 2022
▪ Types of consultants:	Individuals; Firms
▪ Prepared by Unit:	INE/ENE-Energy
▪ Unit of Disbursement Responsibility:	CCB/CSU-Country Office Suriname
▪ TC included in Country Strategy (y/n):	Yes
▪ TC included in CPD (y/n):	No
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Environmental sustainability; Productivity and innovation

II. Objectives and Justification of the TC

- 2.1 The general objective of this technical cooperation is to promote the deployment of Distributed Generation (DG) with renewable energies (RE) and Energy Efficiency (EE) measures in the buildings in Suriname, by: (i) elaborating an EE diagnosis and a market study for DG; (ii) defining suitable financial, implementation and regulatory mechanisms for the promotion of DG and EE projects; and (iii) increasing local content to promote the creation of local jobs.
- 2.2 Suriname is a small middle-income country with an estimated population of 551,000 people concentrated in the coastal areas, and a sparsely populated interior that extends to the Amazon Rainforest (locally known as Hinterland).
- 2.3 The National Power System (NPS) consists of seven isolated power networks served by the public utility company Energie Bedrijven Suriname (EBS) based on hydro and thermal generation. Energievoorziening Paramaribo (EPAR) is the largest network, serving around 143,485 customers, with peak demand of around 203 Megawatts (MW). EPAR has mainly depended on power supply from the 189 MW Afobaka

hydropower plant, which generates about 50% of total electricity consumed in Suriname.

- 2.4 Non-conventional RE is being slowly introduced in the country. The biggest solar plant in the country is a 5 MW solar plant that was commissioned in 2014 to supply power to the IAMGold Rosebel gold mine. The Bank, in partnership with other agencies such as Global Environment Facility and the European Union, is financing several smaller solar mini grids (both isolated and grid-connected) with the aim to increase energy access and improve quality of the electricity service in rural areas using RE.
- 2.5 The quality of service in the EPAR system is critical during peaks periods in the dry season, coinciding with the warmer periods of the year (partly related to the consumption of air-conditioning equipment) and higher solar irradiation. Solar energy helps to soften these peaks.
- 2.6 Energy policies such as subsidies, net metering, and net billing, implemented in several countries in Latin America and the Caribbean (LAC) to promote RE sources have led to increase of DG for self-consumption in the electricity sector. However, in Suriname there are regulatory, financial, and economic barriers that must be overtaken for the deployment of DG, which currently is in an early stage of development.
- 2.7 CARICOM countries, including Suriname, are relatively inefficient in their energy use, with a higher average energy intensity (4,618Btu per US\$ of GDP) than the other countries in LAC (4,003Btu per US\$ of GDP). Previous studies have identified several barriers for the implementation of EE projects in the Caribbean, including subsidies to conventional forms of energy, high initial capital costs, imperfect capital markets, lack of skills and information, financing risks and uncertainties, and a variety of regulatory and institutional factors.
- 2.8 The Policy Development Plan 2017-2021¹ of Suriname aims for: (i) energy access for everyone in the country; (ii) promoting EE; and (iii) stimulating the use of RE. As stated in its Nationally Determined Contribution (NDC) 2020², Suriname is looking to develop an Energy Efficiency Framework (EEF) to further promote EE measures and awareness. The NDC 2020 also states that Government of Suriname (GoS) is committed to implement fiscal sustainability measures that will include the promotion of EE investments.
- 2.9 The Electricity Law 2016 of Suriname allows customers to install RE systems for self-consumption, using the grid to exchange electricity through the net metering mechanism. However, the impact of this measure in the deployment of DG for self-consumption has been very low. One of the main reasons for the low development of DG and EE in Suriname is that the country had traditionally one of the lowest electricity tariffs in the LAC and Caribbean region (the average tariff is ~US\$0.04/kWh), which makes that currently these projects are not economically feasible. However, the new government administration established in 2020, has announced that the electricity

¹ [2017-2021. Policy Development Plan. Part 1: Development Priorities of Suriname.](#)

² [The Republic of Suriname. Nationally Determined Contribution.](#)

tariff will be increased to reduce the subsidies to the electricity sector and the first tariff adjustment was done in August 2021. The new electricity tariff will open the opportunity to promote DG for self-consumption and EE projects, which will impact in a reduction of the electricity bill of customers (direct beneficiaries of the TC), as well as protect the more vulnerable customers against energy poverty.

- 2.10 This TC will identify the main barriers hampering the development of DG with RE and EE projects and design suitable mechanism to accelerate its deployment. Accelerating the transition to a RE based energy sector and the implementation of EE measures represents a unique opportunity for Suriname to meet climate change mitigation goals, while fueling economic growth, creating new employment opportunities, and enhancing societal welfare.
- 2.11 The TC is aligned with the IDB Second Update to the Institutional Strategy 2020-2023 (AB-3190-2). It is also aligned with the development challenge of Productivity and Innovation, as solar energy and EE can contribute to reduce the cost of electricity generation, improve the quality of the electricity supply, and create new jobs. The TC will also promote the introduction of solar energy in Suriname, which will diversify and clean its energy matrix, directly contributing to the cross-cutting issue of Climate Change and Environmental Sustainability. The TC is aligned with the Ordinary Capital Strategic Development Program objectives for Infrastructure and Integration (GN-2819-1), as it will improve the design of public policies and transmission of lessons learned from other countries in promoting DG and EE projects, as well as deepen the local knowledge in those areas.
- 2.12 The TC is aligned with the IDB 2025 vision (GN-3025-5), as the incorporation of RE and EE will contribute to mitigate climate change, as well as the economic development and the creation of new green jobs in Suriname. Thus, the TC is also aligned with the environmental pillar of the CCB Build Forward initiative.
- 2.13 The TC is aligned with the several indicators of the IDB Corporate Result Framework 2020-2023 (GN-2727-6): (i) 2.8 Jobs supported (#); (ii) 2.19 Emissions avoided (annual tons CO₂ equivalent); (iii) 2.22 Installed power generation capacity from renewable sources (MW); and (iv) 2.23 Value of investments in resilient and/or low-carbon infrastructure (\$).
- 2.14 The TC is aligned with the IDB Climate Change Sector Framework (GN-2835-8) and the IDB Energy Sector Framework (GN-2830-8), by promoting the implementation of non-conventional RE and EE in the country, which will contribute to climate change mitigation.
- 2.15 The TC is aligned with the IDB Sustainable Infrastructure for Competitiveness and Inclusive Growth Strategy (GN-2710-5), as: (i) will be explored innovate financing models for the deployment of solar and EE projects; (ii) will explore options for private sector to finance the infrastructure; and (iii) will promote the implementation of solar energy in the country, helping to mitigate climate change.
- 2.16 The TC is aligned with the IDB Group Country Strategy with Suriname 2021-2025 (GN-3065) as the implementation of EE and DG projects will: (i) reduce the energy

consumed from the grid, thus reducing the subsidies to the energy sector, (ii) improve access to reliable electricity, and (iii) promote the decarbonization of the energy sector.

III. Description of activities/components and budget

- 3.1 **Component I: Fostering Distributed Generation in Suriname (US\$100,000).** This component will finance: (i) a market analysis of rooftop solar PV, including both demand and supply side; (ii) analysis and identification of areas of improvement for the legal, regulatory, and institutional framework, market and fiscal arrangements, barriers and challenges that hinder the development of renewable DG in Suriname; and (iii) identification of potential suitable financing schemes, business models and public programs to promote DG projects.
- 3.2 **Component II: Fostering energy efficiency in buildings in Suriname (US\$100,000).** This component will finance: (i) EE diagnosis for the building sector; (ii) elaboration of EE technical guides for the retrofitting and construction of new buildings; (iii) identification of financing schemes, business models and public programs to promote the implementation of EE measures; and (iv) elaboration of a 5 years Building Energy Efficiency Plan
- 3.3 **Component III: Dissemination and capacity building (US\$ 50,000).** This component will finance: (i) dissemination activities, workshops and knowledge products³ and (ii) training and certification programs to professionals actively working in the energy sector, including but not limited to facility managers, governmental officials and private sector, to support the implementation of DG and EE projects in Suriname.

3.4 Budget

Activity/Component	IDB/Fund Funding	Counterpart Funding	Total Funding
Fostering Distributed Generation in Suriname	US\$ 100,000	US\$ 0	US\$ 100,000
Fostering energy efficiency in buildings in Suriname	US\$ 100,000	US\$ 0	US\$ 100,000
Dissemination and capacity building	US\$ 50,00	US\$ 0	US\$ 50,000
Total	US\$ 250,000	US\$ 0	US\$ 250,000

- 3.5 Project team will report progress annually, by January 30th, through Technical Cooperation Monitoring and Reporting System (TCM). The progress report will include information about the actual inputs, output delivery, and outcome achievement, among others, as of the last day of the reporting period, which closes on December 31st of the reporting year.
- 3.6 The TC final report in TCM will be submitted 4 months after the execution of the TC is completed.

IV. Executing agency and execution structure

- 4.1 The Bank, through INE/ENE, as requested by the Government of Suriname, will be the executing agency of the project, considering the Bank's experience in the

³ All knowledge products will be subject to the bank policies and directives for intellectual property.

preparation and development for both technical and operational proposed for this type of operation. This is in accordance with the Procedures for the Processing of Technical Cooperation Operations and Related Matters (OP-619-4), as the Bank and the beneficiary agree that contracting by the Bank would enhance independence under the impartiality criteria, as several stakeholders might have different interest in the regulatory and institutional aspects.

- 4.2 The TC will be executed in close collaboration with the Ministry of Economic Affairs Entrepreneurship and Technological Innovation, Ministry on Natural Resources, the Energy Authority of Suriname and the electric utility (EBS), as representatives of the GoS. 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 report. The team leader for the execution of the TC is Jordi Abadal (INE/ENE), energy specialist based in the country office of Suriname.
- 4.3 The IDB will be responsible for the selection and contracting of consulting firms and individual consultants, to be carried out in close coordination with the beneficiary. Activities to be executed are included in the Procurement Plan and will be contracted in accordance with Bank policies as follows: (a) AM-650 for Individual consultants; (b) GN-2765-4 and Guidelines OP-1155-4 for Consulting Firms for services of an intellectual nature; and (c) GN-2303-28 for logistics and other related services. The Beneficiary may provide technical inputs to the terms of reference and reports of the consultants.

V. Major issues

- 5.1 The main risk in the TC is the potential delay arising from the coordination with multiple stakeholders. 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 report.
- 5.2 Restrictions related to the COVID-19 pandemic can have a negative impact in some activities of the TC, in some of the dissemination and capacity building activities. This risk will be mitigated using digital communication tools and adapting the activities to these restrictions.

VI. Exceptions to Bank policy

- 6.1 The TC does not require exceptions to the Bank policy.

VII. Environmental and Social Strategy

- 7.1 This TC will not finance pre-feasibility or feasibility studies of specific investment projects that will include environmental and social studies, hence ESG will not assign specialists to support the preparation and execution of that particular set of TCs.

Annexes:

[Request from the Client - SU-T1147](#)

[Results Matrix - SU-T1147](#)

[Terms of Reference - SU-T1147](#)

[Procurement Plan - SU-T1147](#)