

2022

Renewable Energy Actions in the Energy Matrix in Guyana

GY- T1164

ANNUAL REPORT

This Report covers the period January – December 2022 as
per the agreement.

Donor 1 logo

Donor 2 logo



Donor 1 logo

Donor 2 logo



PSG PROGRESS REPORT TEMPLATE: INSTRUCTIONS FORMAT AND CONTENT

Notes:

- Project Teams can customize this template by deleting or adding sections, depending on the specificities of the operation and of the donors' requirements.
- For operations that use TCM and/or PMR Report in Convergence, we recommend downloading and importing information and tables directly into this document. This will avoid duplication of efforts and ensure consistency between internal and external reporting. To this end, we recommend Project Teams to update relevant information in Convergence prior to downloading and inputting formatted tables in the different sections outlined below.
- Following IDB's branding rules, placeholders show the exact place in which Donors' logos should be inserted in relation to the IDB Logo. The IDB Logo should be inserted always at the end of the row.

Donor 1 logo

Donor 2 logo



CONTENTS

- 1. General Information & Key Project Data 4
 - 1.1. Project Objectives5
 - 1.2. Project Structure5
 - 1.3. Benefits of the Project6
- 2. Project Activities in (reporting year).....6
 - 2.1. Results at Outcome Level.....7
 - 2.2. Results at Output Level.....7
- 3. Lessons Learned.....9
- 4. Recommendations.....11

ACRONYMS

| | |
|---------|---|
| GoG | Government of Guyana |
| GPL | Guyana Power and Light inc. |
| GUY SOL | Guyana Utility Scale Solar Photovoltaic Program |
| IDB | Inter-American Development Bank |
| LECI | Linden Electricity Company Inc. |
| MHSSS | Ministry of Human Services and Social Security |
| MW | Megawatt |
| NGG | Norwegian Grant for Guyana |
| PSG | Project Specific Grant |
| PV | Photovoltaic |
| RFP | Request for Proposal |
| SCADA | Supervisory Control And Data Acquisition |
| TC | Technical Cooperation |
| WEPP | Women's Economic Empowerment Program |

1. General Information & Key Project Data

| | | | |
|--|--|--|--|
| Reporting Period: | | | |
| Reporting Institution | Inter-American Development Bank | | |
| Project Team Leader | Dr. Malaika Masson | | |
| Date: | 20 th March, 2023 | | |
| | | | |
| Project Title: | Renewable Energy Actions in the Energy Matrix in Guyana | | |
| IDB Project Registration Number: | GY-T1164 | | |
| Donor Registration Number: | If any | | |
| Project Start Date (Eligibility Date): | 20 Jan, 2022 | | |
| Project End Date (Final Disbursement Date): | 16 December, 2026 | | |
| Executing Agency: | Inter-American Development Bank | | |
| Current Phase: | The development and implementation of supporting activities to facilitate the implementation of the GY-G1007 operation “Guyana Utility Scale Solar Photovoltaic Program” (GUYSOL) are being performed. | | |
| Total Budget | US \$ 1,500,000.00 | Contribution (PSG NGG) (GY-T1164) | |
| | | Contribution Cooperation (Donor 1: NGG - Norwegian Grant for Guyana) | |
| | | Contribution Cooperation (Donor 2) | |

1.1. Project Objectives

The general objective of this Technical Cooperation (TC) is:

- to support operation GY-G1007 in the development of GPLs' capacity toward a utility scale solar PV sector, as well as the advancement of required studies that serve the deployment of a transformative Solar PV Program in Guyana. Accordingly, the TC will facilitate the financing of activities geared towards the preparation of operation GY-G1007 intended for the deployment of approximately 33 MW of new Solar PV installed capacity in the country.

1.2. Project Structure

The project comprises the following components:

- **Component 1: Preparation of the investment operation (US\$160,000).** It will support technical and operational activities for the preparation of investment operation GY-G1007. The component will facilitate finance for: (i) team missions (i.e. analysis mission, field missions);¹³ (ii) the development of Economic Analysis (such as a Cost-Benefit Analysis); (iii) the elaboration of the Program Operation Manual; and (iv) a gender analysis to identify gender gaps and potential actions to promote gender equality and women's empowerment that could be implemented in the areas where the solar PV plants will be installed.
- **Component 2: Operational support to implement the investment operation (US\$1,125,000).** It will finance project supervision, with the objective of having international expert support to accompany the implementation of the Investment Operation. Additionally, a capacity building program will develop local capacities for utility scale solar PV projects. This component will finance: (i) a capacity building program for public utility operators which includes: (a) simulation and modeling for the interconnection of variable RE technology to the national grid; (b) planning, design, tendering and evaluation of solar PV proposals; (c) system operation, demand management and Supervisory Control And Data Acquisition (i.e. SCADA); (d) PLEXOS software modeling; and (e) on the job practical trainings and exchange visits to utility scale solar PV generation plants; (ii) an international technical consultancy to support GPL's team in the supervision the solar PV projects (including storage) during construction and installation.
- **Other costs (US\$140,000).** Includes activities geared towards the monitoring and supervision of the construction and installation of the power plant under the investment operation. Especially, considering those that will be performed in Linden and Essequibo Coast's location.

Executing Agency And Execution Structure. At the request of the GoG, and in line with the Operational Guidelines for Technical Cooperation Products (GN-2629-2), the Bank will act as the executing agency for this TC. The Bank's role is essential for the coordination and articulation of the activities between the different

stakeholders towards the achievement of the objectives. Furthermore, the Bank will be able to leverage its extensive network of internal and external subject-matter experts and well-established relationships with stakeholders to ensure a smooth execution.

The Bank will contract individual consultants, consulting firms, and non-consulting services in accordance with its current procurement policies and procedures: (i) individual consultants will be hired in accordance with the guidelines set out in the AM-650; (ii) the procurement process for consulting firms will follow the Bank Policy for the Selection and Contracting of Consulting Firms for Bank-executed Operational Work (GN-2765-4) and the related Operational Guidelines (OP-1155-4); and (iii) the procurement of non-consultant services will follow the Bank Corporate Procurement Policy (GN-2303-28).

The financial management of the operation will be guided by the Financial Management Guidelines (OP-273-12). Disbursements will be made by the Bank via direct payment to suppliers or contractors. The effective exchange rate on the date of the payment will be used to record all expenses incurred in any currency other than project currency.

1.3. Benefits of the Project

The main beneficiaries of this Technical Corporation are the Renewable Energy Sector in Guyana and the Guyana Power and Light Inc. The renewable energy deployment skillsets of the human resources within the sector and GPL will be enhanced. Additionally, the public utilities, GPL and LECI will benefit from the technical studies, operational and monitoring technical support that will be provided through this TC during the implementation of the investment operation (GY-G1007).

2. Project Activities in 2022 (reporting year)

Generally, the TC is in an advanced stage of facilitating the implementation of the initial activities that are necessary for the effective support to GUY SOL. The Project team, in close coordination with government and Utility counterparts, has provided critical support to the process for the development of these supporting activities. In 2022, there were advances in the execution of the operation, two products have been realized under Component 1. Preparation of the Investment Operation: (a) an Investment Grant operation, through the elaboration of the Program Operation Manual, was prepared and approved by the IDB Board of Directors in June 2022; and (b) Diagnostics and Assessments were completed to facilitate the preparation of the investment grant. Studies, and diagnostics used to prepare the

investment grant included a Cost-Benefit Analysis study and a Gender Analysis and Assessment on the Capacity Building Consultancy required. Additionally, in December 2022, the Request For Bids for the GUY SOL program was published, and a consultant was hired under this TC to help GPL define the functions and roles required of a Support Firm to build the Utility's capacity to implement distributed generation solar PV plants.

2.1. Results at Output level

Outputs: Annual Physical Progress

| 1.1. Preparation of the Investment Grant | | | | | | Physical Progress | | | | | | |
|--|--|------------------------|----------|----------|--|-------------------|------|------|------|------|-----|---|
| Outputs | Output | Unit of | Baseline | Baseline | Means of | 2020 | 2021 | 2022 | 2023 | 2024 | EOP | |
| 1.1 Investment grant operation prepared | | Operation Prepared (#) | 0 | 2020 | Proposal for Operation Development (POD) finalized | P | 0 | 1 | 0 | 0 | 0 | 1 |
| | | | | | | P(a) | 0 | 1 | 1 | 1 | 0 | 2 |
| | | | | | | A | 0 | 0 | 1 | | | 1 |
| 1.2 Diagnostics and assessments completed | | Diagnostics (#) | 0 | 2019 | Final report delivered | P | 1 | 0 | 0 | 0 | 0 | 1 |
| | | | | | | P(a) | 1 | 0 | 1 | 2 | 0 | 3 |
| | | | | | | A | 0 | 0 | 1 | | | 1 |
| 2.2. Operational support to the Implementation of the Investment Grant | | | | | | Physical Progress | | | | | | |
| Outputs | Output | Unit of | Baseline | Baseline | Means of | 2020 | 2021 | 2022 | 2023 | 2024 | EOP | |
| 2.1 Institutional strengthening programs delivered | GPL teams equipped with the capacity to design, operate, | Programs (#) | 0 | 2019 | Final report of the program | P | 0 | 0 | 0 | 1 | 1 | 2 |
| | | | | | | P(a) | 0 | 0 | 0 | 0 | 2 | 2 |
| | | | | | | A | 0 | 0 | 0 | | | 0 |
| 2.2 Technical consultancy for program supervision delivered | | Report (#) | 0 | 2019 | Final report delivered | P | 0 | 0 | 0 | 0 | 1 | 1 |
| | | | | | | P(a) | 0 | 0 | 0 | 0 | 1 | 1 |
| | | | | | | A | 0 | 0 | 0 | | | 0 |

Donor 1 logo

Donor 2 logo



Outputs: Annual Financial Progress

1.1. Preparation of the Investment Grant

| Outputs | Output | Unit of | Baseline | Baseline | Means of |
|---|--------|------------------------|----------|----------|--|
| 1.1 Investment grant operation prepared | | Operation Prepared (#) | 0 | 2020 | Proposal for Operation Development (POD) finalized |
| 1.2 Diagnostics and assessments completed | | Diagnostics (#) | 0 | 2019 | Final report delivered |

| | | Financial Progress | | | | | |
|------|--|--------------------|------|-------|-------|------|--------|
| | | 2020 | 2021 | 2022 | 2023 | 2024 | EOP |
| P | | 0 | 0 | 0 | 50000 | 0 | 50000 |
| P(a) | | 0 | 0 | 0 | 50000 | 0 | 58880 |
| A | | | | 8880 | | | 8880 |
| P | | 0 | 0 | 50000 | 60000 | 0 | 110000 |
| P(a) | | 0 | 0 | 50000 | 71120 | 0 | 101120 |
| A | | | 0 | 30000 | | | 30000 |

2.2. Operational support to the Implementation of the Investment Grant

| Outputs | Output | Unit of | Baseline | Baseline | Means of |
|---|--|--------------|----------|----------|-----------------------------|
| 2.1 Institutional strengthening programs delivered | GPL teams equipped with the capacity to design, operate, | Programs (#) | 0 | 2019 | Final report of the program |
| 2.2 Technical consultancy for program supervision delivered | | Report (#) | 0 | 2019 | Final report delivered |

| | | Financial Progress | | | | | |
|------|--|--------------------|------|--------|--------|--------|--------|
| | | 2020 | 2021 | 2022 | 2023 | 2024 | EOP |
| P | | 0 | 0 | 100000 | 500000 | 325000 | 925000 |
| P(a) | | 0 | 0 | 100000 | 500000 | 425000 | 925000 |
| A | | | | | | | |
| P | | 0 | | 0 | 100000 | 100000 | 200000 |
| P(a) | | 0 | | 0 | 100000 | 100000 | 200000 |
| A | | | | | | | |

| Other Cost |
|----------------------------|
| IDB fee |
| Monitoring and Supervision |

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | Cost |
|------|--------|------|--------|-------------|-------------|-------------|--------------|
| P | \$0.00 | | \$0.00 | \$0.00 | \$75,000.00 | | \$75,000.00 |
| P(a) | \$0.00 | | \$0.00 | \$0.00 | \$75,000.00 | | \$75,000.00 |
| A | | | | | | | |
| P | \$0.00 | | | \$20,000.00 | \$60,000.00 | \$60,000.00 | \$140,000.00 |
| P(a) | \$0.00 | | | \$20,000.00 | \$60,000.00 | \$80,000.00 | \$140,000.00 |
| A | | | | | | | |

| Total Cost |
|------------|
| |

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | Total Cost |
|------|------|------|------|--------------|--------------|--------------|----------------|
| P | | | | \$170,000.00 | \$845,000.00 | \$485,000.00 | \$1,500,000.00 |
| P(a) | | | | \$170,000.00 | \$856,120.00 | \$605,000.00 | \$1,500,000.00 |
| A | | | | \$38,880.00 | | | \$38,880.00 |

3. Lessons Learned

| Challenge | Lessons Learned |
|----------------------------------|--|
| 1. Planning And Design | <p>Effective implementation of gender or women empowerment activities requires that the implementing agency and partners be capable of conducting gender-responsive training. Training of GPL is required.</p> <p>Building awareness of gender mainstreaming in GPL. can positively impact the successful implementation of gender activities in the project.</p> <p>GPL should be more culturally aware when planning sessions to avoid conflicting local activities which can affect maximum community participation.</p> |
| 2. Program 1 Solar Pv Technology | <p>A participatory workshop format is is more effective.</p> <p>As the practical sessions were very hands-on, a few of the sessions took more time than allocated. Future training should consider a longer duration of more than 2 training days.</p> <p>Some trainees encountered very difficult personal situations such as deaths in their families, in one case the loss of a husband who was the sole breadwinner. In the future, a certain number of hours should be allocated for “make-up” sessions to allow trainees who missed hours for extenuating circumstances.</p> <p>The approach of using adult learning pedagogy was also very successful as trainees reported feeling respected and their lived experiences were valued.</p> |

| | |
|---|--|
| | <p>Partnership with national partners such as the Ministry of Human Services and Social Security, the agency with the mandate for gender mainstreaming in Guyana, is indispensable in reaching the target women of the programs.</p> |
| | <p>Local partners in the regions were very effective channels for disseminating the call for applicants for the program and this resulted in a wide cross-section of women from several geographical areas. In Region 7 and Bartica, the Office of the Prime Minister was instrumental in mobilizing women from across the region resulting in most women coming from outside of the town.</p> |
| | <p>The stipends that were provided and distributed promptly served as a major incentive to the women and allowed them to participate. In some instances, it offset critical needs associated with participation including transportation costs and childcare.</p> |
| <p>3. Program 2 Business Management Training</p> | <p>In Region 9, local government mechanisms including indigenous governance entities such as the village councils and district councils should be incorporated as partners and mediums for the dissemination of calls for applications.</p> |
| <p>4. Developing GUYSOL Bid documents And Other Associated/Supporting Documents</p> | <p>The technical evaluation/scoring matrix for a utility scale solar and BESS project technical evaluation should include criteria that speaks to utility scale solar and BESS project management, engineering, etc.</p> |
| | <p>It is good practice to bolster the Execution Agency’s communications strategy in general on Utility scale RE projects such as GUYSOL and the opportunity should be explored to write this into the RFP.</p> |
| | <p>Hiring a competent external consulting firm to support the executing agency during the bid preparation, evaluation and negotiation period adds value to the process and quality to the documents.</p> |
| | <p>Regarding capacity support, if bidders are required to provide pricing as well as</p> |

qualifications, a weighted scoring matrix should be considered so as to have the best qualified who is in line with budget, not necessarily the cheapest.

Recommendations

1. Planning And Design

- Integrate the gender mainstreaming activities of the project i.e., the programs seamlessly into project activities.
- In addition to the gender analysis conduct a gender audit of the implementing agency and potential partners of the gender or women empowerment programs to assess their capacity to mainstream gender and conduct gender-responsive activities.
- Provide gender mainstreaming and safeguards training and awareness to the implementing agency and program partners.
- Participatory planning steps should be shared in detail with all partners especially the trainers to mitigate issues with delays in learning materials.
- Practical materials should be procured and delivered prior to the commencement of the training to avoid affecting the flow, quality, and completion of training.
- Examination of training centers should be conducted prior to training and retrofitted for the training.
- Future training should consider women with training in electrical installation or wiring. Training and certification in electrical installation will increase employability in the sector and ensure an easier path toward electrical technician licensure.
- The implementing agency should consider an advanced training in solar PV installation, maintenance, and technology.
- Future programs should consider childcare costs in the determination of stipends.
- The business training should be of a longer duration, possibly five days. The training should be more specific to the local context, i.e., hinterland and rural Guyana.

2. Implementation

- The center-core periphery of Guyana's landscape should be taken into consideration when planning activities outside of Georgetown. Allowance should be made for adaptive planning and longer periods for implementation as the hinterland regions may lack infrastructure such as communication facilities and transportation which increases the time for communication with partners and potential beneficiaries.
- A longer period for the implementation of the programs should be considered given the slow rate of implementation of activities in Guyana as a whole and in the hinterland project regions.
- Project partners should be expanded to include local stakeholders in the regions and communities. This should be done especially when working in a Region which has strong non-governmental entities and indigenous governance mechanisms such as Village Councils and District Councils.

Donor 1 logo

Donor 2 logo



3. Evaluation

- The pioneering status of this project is an ideal opportunity for the program of the donor agency to assess its contribution to women's empowerment and to the renewable energy sector in Guyana. It is therefore recommended that the program considers an evaluation using the W+ standards.

Donor 1 logo

Donor 2 logo

