

# PMR Operational Report

<b>Operation Number</b>	RG-L1071	<b>Chief of Operations Validation Date</b>	03/25/19
<b>Year- PMR Cycle</b>	Second period Jan-Dec 2018	<b>Division Chief Validation Date</b>	04/08/19
<b>Last Update</b>	03/25/19	<b>Country Representative Validation Date</b>	04/09/19
<b>PMR Validation Stage</b>	Validated by Representative		

## Basic Data

### Operation Profile

<b>Operation Name</b>	Sustainable Energy Facility (SEF) for the Eastern Caribbean	<b>Loan Number</b>	3561/OC-RG
<b>Executing Agency</b>	CARIBBEAN DEVELOPMENT BANK	<b>Sector/Subsector</b>	EN-INT - ENERGY-ENERGY INTEGRATION
<b>Team Leader</b>	GISCHLER BLANCO, CHRISTIAAN	<b>Overall Stage</b>	Disbursing (From eligibility until all the Operations are closed)
<b>Operation Type</b>	Loan Operation	<b>Country</b>	REGIONAL
<b>Lending Instrument</b>	Investment Loan	<b>Convergence related Operation(s)</b>	RG-G1009, RG-G1004
<b>Borrower</b>	CARIBBEAN DEVELOPMENT BANK		

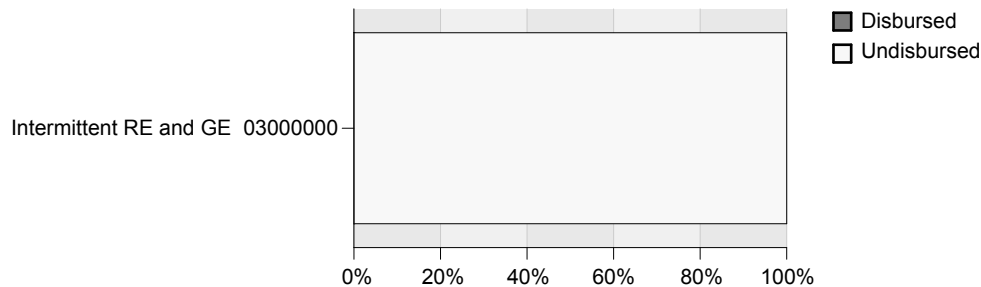
## Environmental and Social Safeguards

<b>Impacts Category</b>	B13	<b>Was/Were the objective(s) of this operation reformulated?</b>	NO
<b>Safeguard Performance Rating</b>	Partially Satisfactory	<b>Date of approval</b>	
<b>Safeguard Performance Rating - Rationale</b>	CDB is executing the Environmental and Social Management System in compliance with IDB environmental and social policies, but requires additional capacity building to manage E+S impacts and risks specific to geothermal energy.		

## Financial Data

Item	Total Cost and Source					Available Funds (US\$)			
	Original IDB	Current IDB	Local Counterpart	Co-Financing / Country	Total Original Cost	Current IDB	Disb. Amount to Date	% Disb	Undisbursed Amount
RG-G1004	3,013,698	3,013,698	0	0	3,013,698	3,013,698	346,000	11.48%	2,667,698
RG-G1009	19,050,000	19,050,000	0	0	19,050,000	19,050,000	2,000,000	10.50%	17,050,000
RG-L1071	20,000,000	20,000,000	29,435,000	0	49,435,000	20,000,000	4,721,000	23.60%	15,279,000
<b>Aggregated</b>	<b>42,063,698</b>	<b>42,063,698</b>	<b>29,435,000</b>	<b>0</b>	<b>71,498,698</b>	<b>42,063,698</b>	<b>7,067,000</b>	<b>16.80%</b>	<b>34,996,698</b>

## Expense Categories by Loan Contract (cumulative values)



Please note that inactive indicators and outputs are not displayed; totals in the actual cost table may not match the sum of the cost of the outputs displayed, due to the cost of inactive outputs.

## PMR Operational Report

### RESULTS MATRIX

#### IMPACTS

**Impact Nbr. 0:** Define impact statement

**Observation:**

Indicator		Unit of Measure	Baseline	Baseline Year		2023	EOP 2023
0.0	Average electricity tariff for customers in ECC	US\$/KWh	0.33	2015	P		0.30
					P(a)		0.30
					A		

#### Details

**Means of verification:** Measures the average electricity tariff in the 6 ECC covered by the program.

**Pro-Gender** No **Pro-Ethnicity** No

Indicator		Unit of Measure	Baseline	Baseline Year		2023	EOP 2023
0.1	Regional penetration of indigenous renewable energy sources for power generation within the ECC	%	0.00	2016	P		30.00
					P(a)		30.00
					A		

#### Details

**Means of verification:** Measures the average electricity tariff in the 6 ECC covered by the program.

**Pro-Gender** No **Pro-Ethnicity** No

## PMR Operational Report

### RESULTS MATRIX

#### OUTCOMES

**Outcome Nbr. 0:** Reduction in electricity consumption from public lighting sectors with EE projects financed by the program

**Observation:**

Indicator		Unit of Measure	Baseline	Baseline Year		2017	2018	2019	2020	2021	2022	2023	EOP 2023
0.0	Electricity saved by EE applications, measures & programs	GWh/year	0.00	2016	P	4.00	6.00	11.30	11.30	11.30	11.30	11.30	66.50
					P(a)	4.00	6.00	11.30	11.30	11.30	11.30	11.30	62.50
					A								0.00
Details													
Means of verification: Report from CDB based on utility sales reports													
Pro-Gender		No			Pro-Ethnicity			No					

**Outcome Nbr. 1:** Reduction in imports of fossil fuels for electricity generation in ECC due to EE projects financed at any stage by the program.

**Observation:**

Indicator		Unit of Measure	Baseline	Baseline Year		2017	2018	2019	2020	2021	2022	2023	EOP 2023
1.0	Reduction in imports of fossil fuels for electricity generation	Thousand barrels of oil	0.00	2016	P	6.50	9.70	18.30	18.30	18.30	18.30	18.30	107.70
					P(a)	6.50	9.70	18.30	18.30	18.30	18.30	18.30	101.20
					A								0.00
Details													
Means of verification: Executing Agency (EA)													
Observations: Estimation based on efficiency levels and number of retrofitted lamps; to be provided by the Executing Agency (EA) based on information from governments and utilities in ECC. Final calculations to be checked with the utilities and the governments in the ECC (ex-post CBA)													
Pro-Gender		No			Pro-Ethnicity			No					

**Outcome Nbr. 2:** Greenhouse Gas (GHG) emissions avoided by EE projects financed at any stage by the program

**Observation:**

Indicator		Unit of Measure	Baseline	Baseline Year		2017	2018	2019	2020	2021	2022	2023	EOP 2023
2.0	GHG emissions avoided due to EE projects	ktCO2e/yr	0.00	2016	P	3.00	4.50	8.60	8.60	8.60	8.60	8.60	50.40
					P(a)	3.00	4.50	8.60	8.60	8.60	8.60	8.60	50.40
					A								
Details													
Means of verification: IDB methodology													
Observations: IDB estimations made following IDB methodology, based on number of lamps installed, efficiency levels of lamps, and an average conversion factor (ex-post CBA)													
Pro-Gender		No			Pro-Ethnicity			No					

## PMR Operational Report

### RESULTS MATRIX

#### OUTCOMES

**Outcome Nbr. 3:** ECC with legal and regulatory frameworks that enable Geothermal Energy (GE) development

**Observation:**

Indicator		Unit of Measure	Baseline	Baseline Year		2017	2018	2019	2020	2021	2022	2023	EOP 2023
3.0	# countries that have GE legal and regulatory frameworks	# countries	1.00	2015	P		1.00	1.00					3.00
					P(a)		1.00	1.00				3.00	
					A								
Details													
Means of verification: Report from CDB													
Pro-Gender		No	Pro-Ethnicity		No								

**Outcome Nbr. 4:** Women trained in construction, operation and/or maintenance of RE and EE infrastructure and projects

**Observation:**

Indicator		Unit of Measure	Baseline	Baseline Year		2017	2018	2019	2020	2021	2022	2023	EOP 2023
4.0	Women trained in the field of SE out of the total number of people trained using Program resources	%	0.00	2016	P								25.00
					P(a)							25.00	
					A								
Details													
Means of verification: Report from CDB													
Observations: Reports from the CDB based on information from governments and private project sponsors. Measured as an average of individual GE sub-projects at the end of the program													
Pro-Gender		No	Pro-Ethnicity		No								

**Outcome Nbr. 5:** GHG emissions avoided by geothermal projects financed at any stage by the program

**Observation:**

Indicator		Unit of Measure	Baseline	Baseline Year		2017	2018	2019	2020	2021	2022	2023	EOP 2023
5.0	GHG emissions avoided due to RE projects	ktCO2e/yr	0.00	2016	P				310.20	310.20	310.20	310.20	1,240.90
					P(a)				310.20	310.20	310.20	310.20	1,240.90
					A								
Details													
Means of verification: IDB estimations													
Observations: IDB estimations made following IDB methodology, based on installed capacity, electricity generation, and an average conversion factor (ex-post CBA).													
Pro-Gender		No		Pro-Ethnicity				No					

## PMR Operational Report

### RESULTS MATRIX

#### OUTCOMES

**Outcome Nbr. 6:** Reduction in imports of fossil fuels for electricity generation in ECC with geothermal projects financed at any stage by the program

**Observation:**

Indicator		Unit of Measure	Baseline	Baseline Year		2017	2018	2019	2020	2021	2022	2023	EOP 2023
6.0	Reduction in imports of fossil fuels for electricity generation	Thousand barrels of oil	0.00	2016	P				662.00	662.00	662.00	662.00	2,648.00
					P(a)				662.00	662.00	662.00	662.00	2,648.00
					A								

#### Details

**Means of verification:** IDB estimations

**Observations:** IDB estimations based on estimated installed capacity and electricity generation to be provided in EA reports based on information from governments and utilities in ECC. Final calculations to be checked with the utilities and the governments in the ECC (ex-post CBA).

**Pro-Gender** No **Pro-Ethnicity** No

**Outcome Nbr. 7:** Geothermal power generation capacity installed in projects facilitated or financed at some stage by the program

**Observation:**

Indicator		Unit of Measure	Baseline	Baseline Year		2017	2018	2019	2020	2021	2022	2023	EOP 2023
7.0	MW of geothermal capacity	MW	0.00	2016	P							55.00	55.00
					P(a)							55.00	55.00
					A								

#### Details

**Means of verification:** Report from CDB.

**Observations:** Estimations of expected installed capacity based on quality of resource confirmed once exploration wells are drilled

**Pro-Gender** No **Pro-Ethnicity** No

	Renewable				P								
					P(a)								55.00
					A								

**Outcome Nbr. 8:** Geothermal projects financed at any stage by the program that moved on from early exploration to production drilling or from early exploration or production drilling to construction of plants and/or electricity generation

**Observation:**

Indicator		Unit of Measure	Baseline	Baseline Year		2017	2018	2019	2020	2021	2022	2023	EOP 2023
8.0	Number of GE projects financed that moved to the following stage of development	Number of GE projects	0.00	2016	P		1.00	1.00	1.00	1.00			4.00
					P(a)		1.00	1.00	1.00	1.00			4.00

## PMR Operational Report

### RESULTS MATRIX

#### OUTCOMES

8.0	Number of GE projects financed that moved to the following stage of development	Number of GE projects	0.00	2016	A								
Details													
<b>Means of verification:</b> Reports from the CDB													
<b>Observations:</b> Report from CDB with information from ECC and private project sponsors													
<b>Pro-Gender</b>		No			<b>Pro-Ethnicity</b>		No						

**Outcome Nbr. 9:** Women participate in consultation processes related to GE projects

**Observation:**

Indicator		Unit of Measure	Baseline	Baseline Year		2017	2018	2019	2020	2021	2022	2023	EOP 2023
9.0	% of women who participate in consultations	%	0.00	2016	P								45.00
					P(a)								45.00
					A								
Details													
Means of verification: Reports from the CDB													
Observations: Reports from the CDB based on information from governments and private project sponsors (Measured as an average of individual GE sub-projects at the end of the program).													
Pro-Gender		No			Pro-Ethnicity			No					

## RESULTS MATRIX

### OUTPUTS: ANNUAL PHYSICAL AND FINANCIAL PROGRESS

#### Component Nbr. 1 Component I - Energy Efficiency

	Output	Unit of Measure		PHYSICAL PROGRESS		FINANCIAL PROGRESS	
				2018	EOP 2023	2018	EOP 2023
1.1	Funding operations provided for EE projects	Number of funding operations a	P	1	3	7,440,000	13,000,000
			P(a)	1	6	4,305,000	16,354,527
			A	1	4	4,710,000	4,710,000

#### Component Nbr. 2 Component II - Reg. framework, inst. strengthening and capacity building

	Output	Unit of Measure		PHYSICAL PROGRESS		FINANCIAL PROGRESS	
				2018	EOP 2023	2018	EOP 2023
2.1	Studies to support energy policy reform, regulation and implementation of renewable energy and energy efficiency projects in the ECC	Number of studies completed	P	1	3	647,609.51	1,942,828.53
			P(a)	1	3	300,000	2,285,879
			A	2	3	91,500	256,500
2.2	Training and capacity building interventions for the EA, SPVs, and/or government employees	Number of interventions comple	P	2	8	258,160.2	1,032,640.8
			P(a)	1	8	150,000	820,015
			A	3	4	85,000	110,000

#### Component Nbr. 3 Component III - Intermittent RE and GE

	Output	Unit of Measure		PHYSICAL PROGRESS		FINANCIAL PROGRESS	
				2018	EOP 2023	2018	EOP 2023
3.1	Funding operations for GE projects	Number of funding operations a	P		3	9,275,000	44,050,000
			P(a)	0	3	5,300,000	42,694,998
			A	1	2	2,710,998	2,710,998
3.2	Number of loans for transmission and distribution projects	Number of loans approved by CD	P		1		10,000,000
			P(a)	1	1	3,516,000	8,016,000
			A	1	1	4,300,000	4,300,000
3.3	Funding operations for intermittent RE projects	Number of funding operations a	P		1	512,360.33	1,024,720.66
			P(a)	0	1	130,000	1,078,000
			A	0	1	0	0

#### Other Cost

Project Management		P			28,701.6	143,508
		P(a)			53,077	179,279
		A			0	0
Monitoring and evaluation RG-L1071		P			64,375	305,000
		P(a)			40,000	70,000
		A			0	0

#### Total Cost

Total Cost		P			18,226,206.64	71,498,697.99
		P(a)			13,794,077	71,498,698
		A			11,897,498	12,087,498

# PMR Operational Report

## CHANGES TO THE MATRIX

Section	Name	Reasons	Type of Change	Subtype	Modified By	Entered in the System
Output	Funding operations for GE projects	As planned, one additional GE sub-project was approved in 2018 and one more is planned/expected in 2020 to complete 3 projects for EOP. However, the projected financial amount has changed due to the on-demand nature of this operation (Global Credit Loan) and based on the most recent update of the Indicative Pipeline of projects which reflects the actual amounts approved by CDB for the two funding operations approved, and the expected amount for the operation to be approved in 2020. indicative pipeline figures are updated semi-annually.	Modify Output	Modify Financial P(a) value	CAMILAG	03/19/2019
						03/22/2019
				Modify Physical P(a) value	CAMILAG	03/19/2019
	Funding operations for intermittent RE projects	The funding operation for RE is a project in A&B for 1,078,000 that has been slow to start disbursing. However, it should be fully disbursed by the end of 2020.	Modify Output	Modify Financial P(a) value	CAMILAG	03/19/2019
						03/22/2019
	Funding operations provided for EE projects	4 funding operations for EE projects have been approved by CDB (funded by CDB counterpart resources) instead of the 3 initially planned. Therefore the P(a) values, which reflect the expected disbursements by CDB of the approved operations amounts, are higher than originally planned. The projected financial amount has changed due to the on-demand nature of this operation (Global Credit Loan) and based on the most recent update of the Indicative Pipeline of projects that are expected to receive funding from the SEF. These figures are updated semi-annually.	Modify Output	Modify Financial P(a) value	CAMILAG	03/19/2019
						03/19/2019
						03/22/2019
						03/22/2019
	Number of loans for transmission and distribution projects		Modify Output	Modify Financial P(a) value	CAMILAG	03/19/2019
				Modify Physical P(a) value	CAMILAG	03/19/2019
	Studies to support energy policy reform, regulation and implementation of renewable energy and energy efficiency projects in the ECC	The original Planned amount of 3 studies is maintained. However, the projected financial amount has changed due to the on-demand nature of this operation (Global Credit Loan) and based on the most recent update of the Indicative Pipeline of projects which reflects the expected cost of the three studies already contracted and which will continue to be disbursed. CDB approves the use of grants for studies based on ECC priorities. Since these priorities can change, indicative pipeline figures are updated semi-annually.	Modify Output	Modify Financial P(a) value	CAMILAG	03/19/2019
						03/22/2019
	Training and capacity building interventions for the EA, SPVs, and/or government employees	3 training and capacity building interventions were executed in 2018: (i) a geothermal workshop in St Lucia on a methodology for assessing GE project readiness; (ii) Regional training involving various ECC; and (iii) capacity support to SVG on financial modelling to be used for PPA negotiation purposes. The original Planned amount of 8 interventions is maintained. However, the projected financial amount has changed due to the on-demand nature of this operation (Global Credit Loan) and based on the most recent update of the Indicative Pipeline of projects which reflects the expected cost of the training and capacity building activities planned by CDB based on ECC priorities. Since these priorities can change, indicative pipeline figures are updated semi-annually.	Modify Output	Modify Financial P(a) value	CAMILAG	03/19/2019
				Modify Physical P(a) value	CAMILAG	03/22/2019



# PMR Operational Report

## IMPLEMENTATION STATUS AND LEARNING

Lesson Learned - Categories
Project Design
Project Management Capacity
Stakeholder Priorities