Operation Number	BA-L1025	Chief of Operations Validation Date	04/07/17
Year- PMR Cycle	Second period Jan-Dec 2016	Division Chief Validation Date	04/24/17
Last Update	04/06/17	Country Representative Validation Date	05/10/17
PMR Validation Stage	Validated by Division Chief		

### **Basic Data**

### **Operation Profile**

Operation Name	Public Sector Smart Energy (PSSE) Program	Loan Number	2748/OC-BA
Executing Agency	Division of Energy and Telecommunications	Sector/Subsector	EN-EEC - ENERGY-ENERGY EFFICIENCY AND RENEWABLE ENERGY IN END USE
Team Leader	GISCHLER BLANCO, CHRISTIAAN	Overall Stage	Disbursing (From eligibility until all the Operations are closed)
Operation Type	Loan Operation	Country	BARBADOS
Lending Instrument	Investment Loan	Convergence related Operation(s)	
Borrower	BARBADOS		

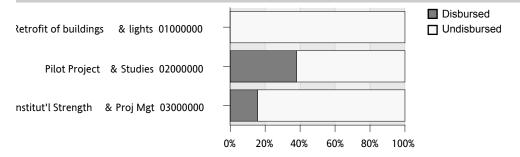
## **Environmental and Social Safeguards**

Impacts Category	С	Was/Were the objective(s) of this operation reformulated?	NO
Safeguard Performance Rating		Date of approval	
Safeguard Performance Rating - Rationale			

### **Financial Data**

Item			Total Cost an	id Source		Available Funds (US\$)				
пеш	Original IDB		Co-Financing / Country	Total Original Cost	Current IDB	Disb. Amount to Date	% Disb	Undisbursed Amount		
BA-L1025	17,000,000	17,000,000	0	7,664,000	24,664,000	17,000,000	617,030.32	3.63%	16,382,969.68	
Aggregated	17,000,000	17,000,000	0	7,664,000	24,664,000	17,000,000	617,030.32	3.63%	16,382,969.68	

### **Expense Categories by Loan Contract (cumulative values)**



Please note that the Overall Stage represents the stage of the operation at the time of this report's publication, which might not necessarily match the stage of the operation during the PMR Cycle to which the report pertains. Please also 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.

## **RESULTS MATRIX**

### **IMPACTS**

Impact Nbr. 1: PSSE Financial savings

cumulative to date (real

2012 US\$).

**Observation:** Financial savings from the reduction in electricity

purchased from BL&P by the GOBA, as well as the sale of electricity produced by the solar PV systems to BL&P, and reduction in fuel purchased for the GOBA vehicle fleet.

	Indicator	Unit of Measure	Baseline	Baseline Year		2018	EOP 2018			
1.1	PSSE Financial savings	US\$	0.0	2012	Р		11,284,963.00			
	cumulative to date (real 2012 US\$).				P(a)		11,284,963.00			
					Α					
				Detai	ls					
Means	Means of verification: Power consuption Information provided by the Government and by the utility (BL&P)									
Pro-Gender No Pro-Ethnicity No										

**Impact Nbr.** 2: Avoided CO2 emissions by the PSSE Program

(cumulative to date).

#### Observation:

Observ	auon.							
Indicator		Unit of Measure	Baseline Baselin Year			2018	EOP 2018	
2.1	Avoided CO2 emissions by	tCO2	0.0	2012	Р		32,528.00	
	the PSSE Program (cumulative to date).				P(a)		32,528.00	
					Α			
Details								
Means	of verification: Reports prepared by Government	ent of Barbados	- Eneray Divisio	n				

Pro-Gender No Pro-Ethnicity No

## **RESULTS MATRIX**

### **OUTCOMES**

Outcome Nbr. 1: RE capacity installed in government

buildings

Observation:

	Indicator		Baseline	Baseline Year		EOP 2018
1.1	Electricity Generated from	MWh	0.0	2012	Р	6,073.00
	Solar PV Systems (MWh/year, MWh to date generated).				P(a)	6,073.00
					Α	

### **Details**

Means of verification: Reports prepared by Government of Barbados- Energy Dvision

Observations: Assuming an output of 1,700/kW/year for solar PV. Note: this includes the 50kW PV system installed for charging the Electric Vehicles in Component 2.

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

Outcome Nbr. 2: Energy saving with EE technologies in public lighting and buildings

#### Observation:

	Indicator	Unit of Measure	Baseline	Baseline Year		EOP 2018			
2.1	Electricity Saved through retrofits (energy efficient public	MWh	0.0	2012	Р	28,608.00			
	lights and energy efficient equipment in public buildings) (MWh/year, MWh to date saved).			-	P(a)	28,608.00			
					Α				
	Details								

Means of verification: Reports prepared by Government of Barbados Energy Division

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

Outcome Nbr. 3: Fossil Fuels Saved from the

implementation of the pilot projects (barrels of oil equivalent).

Observation:

Indicator	Unit of Measure	Baseline	Baseline Year		EOP 2018
3.1 Fossil Fuels Saved from the implementation of the pilot	barrels of oil	0.0	2012	Р	240.00
projects (barrels of oil				P(a)	240.00

# **RESULTS MATRIX**

## **OUTCOMES**

3.1	equivalent).	barrels of oil	0.0	2012	Α						
Details											
Means	Means of verification: Reports prepared by Government of Barbados - Energy Division										
Pro-Ge	nder No				Pr	o-Ethnicity	No				

Outcome Nbr. 4: public awareness increased in public sector for RE and EE

## Observation:

	Indicator	Unit of Measure	Baseline	Baseline Year		EOP 2018			
4.1	Percentage of survey respondents participating at events that report high	%	0.0	2012	P	80.00			
	awareness and support of sustainable energy practices (Number of respondents that answered ?high			-	P(a)	80.00			
	awareness and support of sustainable energy?/ Total number of survey res				Α				
	Details								
Means	of verification: Reports prepared by Governme	ent of Barbados	- Energy Div	vision					
Pro-Ge	nder No				Pr	p-Ethnicity No			

## **RESULTS MATRIX**

## **OUTPUTS: ANNUAL PHYSICAL AND FINANCIAL PROGRESS**

## Component Nbr. 1 RE and EE in public buildings

		PHYSICAL F	PROGRESS	FINANCIAL I	PROGRESS		
	Output	Unit of Measure		2016	EOP 2018	2016	EOP 2018
1.1	Streetlight installation completed	%	Р	40	85	3,283,000	9,977,800
			P(a)	0	85	55,705.46	9,977,898.87
			Α	0	0	19,151.47	41,028.47
1.2	Number of public	Buildings	Р	3	12	2,767,000	4,150,000
	buildings retrofitted with EE		P(a)	0	12	340,769	4,150,000
			Α	0	0	0	0
1.3	PV in Public Buildings Installed	kW	Р	300	1,190	1,833,000	5,500,000
			P(a)	952	1,190	4,935,079	5,510,761
			Α	0	0	0	10,761

### Component Nbr. 2 Pilot projects

				PHYSICAL PROGRESS		FINANCIAL PROGRESS	
	Output	Unit of Measure		2016	EOP 2018	2016	EOP 2018
2.1	Public Electric Vehicles with Solar PV installed and pilot completed	Electric vehicles	Р	3	8	150,000	300,000
			P(a)	2	8	99,192	300,000
			Α	2	2	116,469.25	116,469.25
2.2	Ocean studies completed	Studies	Р	0	1	920,000	1,000,000
			P(a)	0	1		1,000,031.36
			Α	0	0	2,985.09	15,043.09

### Component Nbr. 3 capacity building

				PHYSICAL PROGRESS		FINANCIAL PROGRESS	
	Output	Unit of Measure		2016	EOP 2018	2016	EOP 2018
3.1	Capacity Building training/activities completed	numbr of people	Р		0	503,000	1,395,000
			P(a)	25	100	20,000	1,416,345.97
			Α	0	0	0	46,451
3.2	Public awareness events completed	number of people	Р	20	100	0	305,000
			P(a)	5	100	0	305,000
			Α	0	0	0	0
3.3	Monitoring and evaluation activities completed	activities P P(a)	Р	1	4	210,000	500,000
			P(a)	0	5	349,229	500,000
			Α	0	0	0	0
3.4	Number of Jobs created in ETD for implementing the PSSE Program	Positions P P(a) A	Р		4	210,000	1,153,000
			P(a)	1	7	230,428	1,325,124.58
			Α	0	7	175,301.93	717,091.93

### Other Cost

Administrative fees expended	Р			383,200
	P(a)		0	383,200
	Α		0	0

### **Total Cost**

Total Cost	P	9,876,000	24,664,000
	P(a)	6,030,402.46	24,868,361.78
	A	313,907.74	946,844.74

# **CHANGES TO THE MATRIX**

No information available for this section