



Operation Number: **BA-L1025**  
Year- PMR Cycle: **First period Jan-Jun 2014**  
Last Update: **11/7/2014**  
PMR Validation Stage: **Validated by Representative**

Chief of Operations validation date: **11/10/2014**  
Division Chief validation date: **11/11/2014**  
Country Representative validation date: **11/12/2014**

Inter-American Development Bank - IDB  
Office of Strategic Planning and Development Effectiveness

## Operation Profile

### Basic Data

Operation name:	Public Sector Smart Energy (PSSE) Program	Loan Number:	2748/OC-BA
Executing Agency (EA):	Division of Energy and Telecommunication s		
Team Leader:	Gischler Blanco,Christiaan	Sector/Subsector:	ENERGY EFFICIENCY AND RENEWABLE ENERGY IN END USE
Operation Type:	Loan Operation	Overall Stage:	Disbursing (From eligibility until all the loans are closed).
Lending Instrument:	Investment Loan	Country:	BARBADOS
Borrower:	BARBADOS	Convergence related Operation(s):	

### Total Cost and Source

	Original IDB	Current Active IDB	Local Counterpart	Co-Financing/Country	Total operation cost - Original Estimate
BA-L1025	\$17,000,000.00	\$17,000,000.00	\$0.00	\$7,664,000.00	\$24,664,000.00

### Available Funds (US\$)

	Current IDB	Disb. Amount to Date	% Disbursed	Undisbursed Balance
BA-L1025	\$17,000,000.00	\$0.00	0.00%	\$17,000,000.00

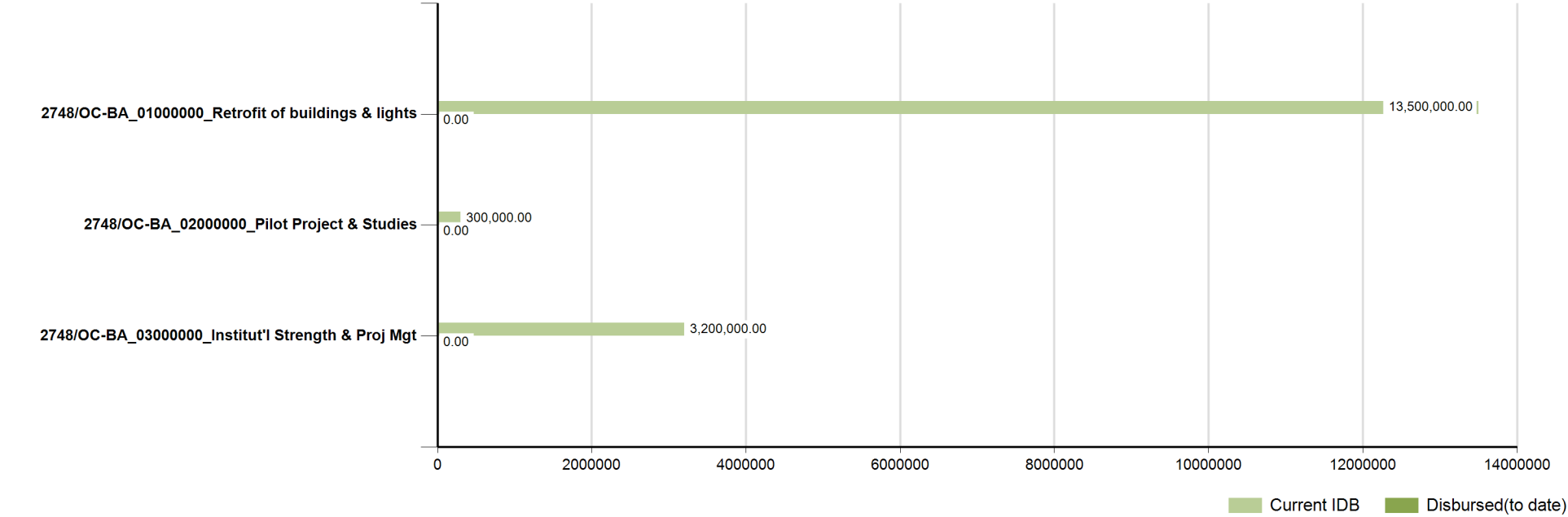
### Environmental and Social Safeguards

Main Operation	
Impacts Category:	C
Safeguard Performance Rating:	
Safeguard Performance Rating - Rationale:	

### Reformulation Information

Main Operation	
Was/Were the objective(s) of this operation reformulated?	NO
Date of approval:	

Expense Categories by Loan Contract (cumulative values)



Results Matrix

Impacts

Impact:	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.								
Indicators		Flags*	Unit of Measure	Baseline	Baseline Year	Means of verification	Observations	EOP	
1.1 PSSE Financial savings cumulative to date (real 2012 US\$).			US\$	0.00	2012	Power consumption Information provided by the Government and by the utility (BL&P)		P	11,284,963.00
								P(a)	11,284,963.00
								A	
Impact:	2 Avoided CO2 emissions by the PSSE Program (cumulative to date).								
Observation:									
Indicators		Flags*	Unit of Measure	Baseline	Baseline Year	Means of verification	Observations	EOP	
2.1 Avoided CO2 emissions by the PSSE Program (cumulative to date).			tCO2	0.00	2012	Reports prepared by Government of Barbados - Energy Division		P	32,528.00
								P(a)	32,528.00
								A	

 RF - RF Indicator

 SI - Sector Indicator

 CI - Country Indicator

 PG - Pro-Gender

 PE - Pro-Ethnicity

Outcomes

Outcome:	1 RE capacity installed in government buildings
Observation:	

Indicators	Flags*	Unit of Measure	Baseline	Baseline Year	Means of verification	Observations	EOP	
							P	6,073.00
1.1 Electricity Generated from Solar PV Systems (MWh/year, MWh to date generated).		MWh	0.00	2012	Reports prepared by Government of Barbados-Energy Division	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.	P(a)	6,073.00
	A							

<b>Outco</b>	2 Energy saving with EE technologies in public lighting and buildings
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**Observation:**

Indicators	Flags*	Unit of Measure	Baseline	Baseline Year	Means of verification	Observations	EOP	
							P	28,608.00
2.1 Electricity Saved through retrofits (energy efficient public lights and energy efficient equipment in public buildings) (MWh/year, MWh to date saved).		MWh	0.00	2012	Reports prepared by Government of Barbados Energy Division		P(a)	28,608.00
	A							

<b>Outcome:</b>	3 Fossil Fuels Saved from the implementation of the pilot projects (barrels of oil equivalent).
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**Observation:**

Indicators	Flags*	Unit of Measure	Baseline	Baseline Year	Means of verification	Observations	EOP	
3.1 Fossil Fuels Saved from the implementation of the pilot projects (barrels of oil equivalent).		barrels of oil	0.00	2012	Reports prepared by Government of Barbados - Energy Division		P	240.00
							P(a)	240.00
							A	

<b>Outco</b>	4 public awareness increased in public sector for RE and EE
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Observation:								
Indicators	Flags*	Unit of Measure	Baseline	Baseline Year	Means of verification	Observations	EOP	
4.1 Percentage of survey respondents participating at events that report high awareness and support of sustainable energy practices (Number of respondents that answered ?high awareness and support of sustainable energy?/ Total number of survey res		%	0.00	2012	Reports prepared by Government of Barbados - Energy Division		P	80.00
							P(a)	80.00
							A	

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## Outputs: Annual Physical and Financial Progress

RE and EE in public buildings		Physical Progress			Financial Progress		
Outputs	Unit of Measure		2014	EOP		2014	EOP
Streetlight installation completed	%	P	25.00	260.00	P	6,000,000.00	9,977,638.00
		P(a)	25.00	85.00	P(a)	6,000,000.00	9,977,640.00
		A	0.00	0.00	A	0.00	0.00
Number of public buildings retrofitted with EE	Buildings	P	0.00	21.00	P	1,150,000.00	4,150,000.00
		P(a)	0.00	12.00	P(a)	1,150,000.00	4,150,000.00
		A	0.00	0.00	A	0.00	0.00
PV in Public Buildings Installed	kW	P	0.00	2,080.00	P	0.00	5,500,000.00
		P(a)	0.00	1,190.00	P(a)	0.00	5,500,000.00
		A	0.00	0.00	A	0.00	0.00
Pilot projects		Physical Progress			Financial Progress		
Outputs	Unit of Measure		2014	EOP		2014	EOP
Public Electric Vehicles with Solar PV installed and pilot completed	Electric vehicles	P	0.00	17.00	P	0.00	300,000.00
		P(a)	0.00	2.00	P(a)	0.00	300,000.00
		A	0.00	0.00	A	0.00	0.00
Ocean studies completed	Studies	P		0.00	P		0.00
		P(a)		1.00	P(a)		1,000,000.00
		A	0.00	0.00	A	0.00	0.00
capacity building		Physical Progress			Financial Progress		
Outputs	Unit of Measure		2014	EOP		2014	EOP
Public awareness events completed	people	P	1.00	4.00	P	187,000.00	798,000.00
		P(a)	1.00	100.00	P(a)	187,000.00	2,328,160.00
		A	0.00	0.00	A	0.00	0.00
Number of Jobs created in ETD for implementing the PSSE Program	Positions	P	2.00	2.00	P	200,000.00	800,000.00
		P(a)	2.00	2.00	P(a)	200,000.00	1,025,000.00
		A	6.00	6.00	A	74,000.00	74,000.00

Other Cost		2014	Cost
Administrative fees expended	P		
	P(a)		\$383,200.00
	A	\$0.00	\$0.00

Total Cost		2014	Total Cost
	P	\$7,537,000.00	\$21,525,638.00
	P(a)	\$7,537,000.00	\$16,991,000.00
	A	\$74,000.00	\$74,000.00

## Changes to the Matrix

Section	Name	Type of Change	Reasons	Entered in the System	Agreed with Executing Agency
Output	Public awareness events completed	Modify Physical P(a) value	The output was changed to reflect number of people participating in public awareness events instead of number of events, thus, the physical P(a) values had to change accordingly	11/5/2014	7/15/2014
Output	Public awareness events completed	Modify Unit of Measure	The output was changed to reflect number of people participating in public awareness events instead of number of events	11/5/2014	7/15/2014
Output	Public awareness events completed	Modify Output name	The output was changed to reflect number of people participating in public awareness events instead of number of events	11/5/2014	7/15/2014

Output	Public Electric Vehicles with Solar PV installed and pilot completed	Modify Physical P(a) value	Executing Agency revised number of electric vehicles	11/5/2014	7/15/2014
Output	Public Electric Vehicles with Solar PV installed and pilot completed	Modify Output name	Executing Agency revised number of electric vehicles	11/5/2014	7/15/2014
Output	PV in Public Buildings Installed	Modify Physical P(a) value	Output indicator was changed to reflect yearly instead of cumulative number of public buildings with PV installed thus, the physical P(a) values had to change accordingly	11/5/2014	7/15/2014
Output	PV in Public Buildings Installed	Modify Output name	Output indicator was changed to reflect yearly instead of cumulative number of public buildings with PV installed	11/5/2014	7/15/2014
Output	Number of public buildings retrofitted with EE	Modify Physical P(a) value	Output indicator was changed to reflect yearly instead of cumulative number of public buildings retrofitted with EE thus, the physical P(a) values had to change accordingly.	11/5/2014	7/15/2014
Output	Number of public buildings retrofitted with EE	Modify Output name	Output indicator was changed to reflect yearly instead of cumulative number of public buildings retrofitted with EE	11/5/2014	7/15/2014
Output	Streetlight installation completed	Modify Physical P(a) value	Output indicator was changed to reflect yearly instead of cumulative streetlights installed thus, the physical P(a) values had to change accordingly.	11/5/2014	7/15/2014
Output	Streetlight installation completed	Modify Output name	Output indicator was changed to reflect yearly instead of cumulative streetlights installed	11/5/2014	7/15/2014
Output	Number of Jobs created in ETD for implementing the PSSE Program	Modify Financial P(a) value	Financial P(a) value revised by Executing Agency based on latest budget	11/5/2014	7/15/2014
Output	Number of events in public awareness or programs (and of participants), cumulative	Modify Financial P(a) value	Financial P(a) value revised by Executing Agency based on latest budget	11/5/2014	7/15/2014
Output	Share of national public lighting (EE street lights and traffic lights) with efficient technology (current number of EE street and traffic lights / total number of street and traffic lights).	Modify Financial P(a) value	Financial P(a) value revised by Executing Agency based on latest budget	11/5/2014	7/15/2014
Output	Ocean studies completed	Create Output	Ocean studies, an important part of the component, were not included initially in the results matrix and had to be added to it.	11/5/2014	7/15/2014

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.