

# PMR Operational Report

<b>Operation Number</b>	BA-L1012	<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>	Deployment of Cleaner Fuels and Renewable Energies in Barbados	<b>Loan Number</b>	3843/OC-BA
<b>Executing Agency</b>	National Petroleum Corporation	<b>Sector/Subsector</b>	EN-REH - ENERGY-ENERGY SECTOR REHABILITATION AND EFFICIENCY
<b>Team Leader</b>	PRADO, VERONICA	<b>Overall Stage</b>	Disbursing (From eligibility until all the Operations are closed)
<b>Operation Type</b>	Loan Operation	<b>Country</b>	BARBADOS
<b>Lending Instrument</b>	Investment Loan	<b>Convergence related Operation(s)</b>	
<b>Borrower</b>	BARBADOS		

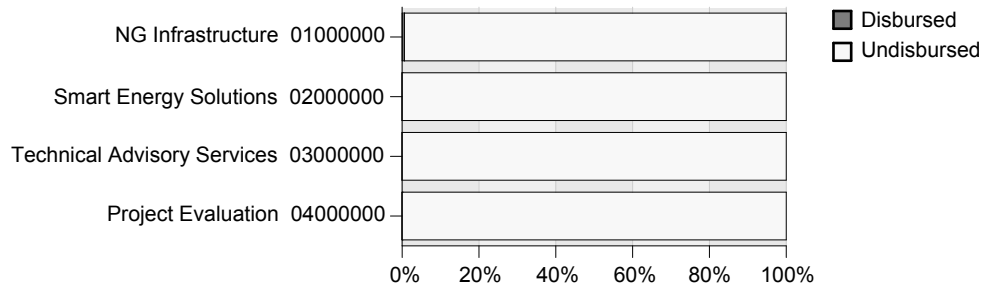
## Environmental and Social Safeguards

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

## 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
BA-L1012	34,000,000	34,000,000	0	0	34,000,000	34,000,000	1,798,538.17	5.29%	32,201,461.83
Aggregated	34,000,000	34,000,000	0	0	34,000,000	34,000,000	1,798,538.17	5.29%	32,201,461.83

## 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.

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### RESULTS MATRIX

#### IMPACTS

**Impact Nbr. 0:** Expected long-term impacts include a reduction in the electricity tariff that contributes to one of the goals in the Barbados Country Strategy and GHG emissions reductions from power generation.

**Observation:** Assessment on impact can only be made at the end of the project.

Indicator		Unit of Measure	Baseline	Baseline Year		2023	EOP 2023
0.0	Total GHG emissions resulting from power generation in Barbados	Million tons CO2 equivalent t/year	2.00	2015	P		1.50
					P(a)	1.50	1.50
					A		

#### Details

**Means of verification:** Reports Intended Nationally Determined Contribution (INDC) compliance

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

Indicator		Unit of Measure	Baseline	Baseline Year		2023	EOP 2023
0.1	Average national electricity tariff in Barbados	US\$/KWh	0.28	2015	P		0.25
					P(a)	0.25	0.25
					A		

#### Details

**Means of verification:** Reports from Barbados Light and Power (BL&P)

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

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### RESULTS MATRIX

#### OUTCOMES

**Outcome Nbr. 0:** Expected Result 1: Ensure Natural gas service continuity

**Observation:**

Indicator		Unit of Measure	Baseline	Baseline Year		2018	2019	2020	2021	2022	2023	EOP 2023
0.0	Annual Natural Gas sales by NPC to residential, commercial and industrial clients	Million cubic feet (mmcf)	511.00	2015	P	511.00	511.00	538.00	575.00	600.00	600.00	600.00
					P(a)	511.00	511.00	538.00	575.00	600.00	600.00	600.00
					A	511.00						
Details												
Means of verification: Semi-annual reports (SAR) from NPC/BNCOL.												
Pro-Gender		No	Pro-Ethnicity		No							

**Outcome Nbr. 1:** Expected Result 2: Increase the number of LNG suppliers to Barbados to enhance energy security

**Observation:**

Indicator		Unit of Measure	Baseline	Baseline Year		2018	2019	2020	2021	2022	2023	EOP 2023
1.0	Number of international/regional Liquefied Natural Gas (LNG) suppliers to Barbados	# of LNG suppliers	1.00	2015	P	2.00	2.00	2.00	2.00	2.00	2.00	2.00
					P(a)	2.00	2.00	2.00	2.00	2.00	2.00	2.00
					A	1.00						
Details												
Means of verification: Semi-annual reports (SAR) from NPC/BNCOL.												
Pro-Gender		No	Pro-Ethnicity		No							

**Outcome Nbr. 2:** Expected Result 3: Reduce CO2 emission reductions from NPC/BNOCL operational and administrative facilities

**Observation:**

Indicator		Unit of Measure	Baseline	Baseline Year		2018	2019	2020	2021	2022	2023	EOP 2023
2.0	Annual CO2 emission reductions from implementing smart energy solutions in NPC and/or BNOCL operational and administrative facilities	Tons CO2 equivalent / year	0.00	2015	P	0.00	0.00	0.00	1,500.00	1,500.00	6,000.00	9,000.00
					P(a)	0.00	0.00	0.00	1,500.00	1,500.00	6,000.00	9,000.00
					A	0.00						
Details												
Means of verification: Semi-annual reports (SAR) from NPC/BNCOL.												
Observations: Calculated based on EE saved, RE installed and accepted carbon emission reduction methodologies. Smart energy solutions includes RE and EE.												
Pro-Gender		No			Pro-Ethnicity			No				

**Outcome Nbr. 3:** Expected Result 4: Increased operational efficiency in NG transmission and distribution

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### RESULTS MATRIX

#### OUTCOMES

Observation:

Indicator	Unit of Measure	Baseline	Baseline Year		2018	2019	2020	2021	2022	2023	EOP 2023
3.0	NPC's Annual Operational cost per customer	US\$/ customer	5.20	2015	P	5.20				4.30	4.30
					P(a)	5.20				4.30	4.30
					A	5.20					

#### Details

**Means of verification:** Semi-annual reports (SAR) from NPC/BNCOL.

**Observations:** The operational cost per customer will take into account only transmission and distribution of NG which is NPC's main responsibility

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

**Outcome Nbr. 4:** Expected Result 5: Increase private sector participation to develop an LNG project

Observation:

Indicator	Unit of Measure	Baseline	Baseline Year		2018	2019	2020	2021	2022	2023	EOP 2023
4.0	Number of private sector partners with a contract awarded to implement the Small LNG Plant	# of private sector partners	0.00	2015	P	0.00	1.00	0.00	0.00	0.00	1.00
					P(a)	0.00	1.00	0.00	0.00	0.00	1.00
					A	0.00					

#### Details

**Means of verification:** Contract with winning proponent which will be attached to the semi-annual reports from NPC and BNOCL

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

## RESULTS MATRIX

### OUTPUTS: ANNUAL PHYSICAL AND FINANCIAL PROGRESS

#### Component Nbr. 1 Component 1: Natural Gas Infrastructure

	Output	Unit of Measure		PHYSICAL PROGRESS		FINANCIAL PROGRESS	
				2018	EOP 2023	2018	EOP 2023
1.1	Monitoring and control systems upgraded/replaced	# of systems	P	0	7	1,438,431.5	6,241,431.5
			P(a)	0	7	1,438,431.5	6,147,961
			A	0	0	539,993	559,919
1.2	Pipelines for transmission and distribution replaced, realigned and/or installed	Km of pipeline	P	0	10	280,461.38	8,286,400.2
			P(a)	0	10	280,461.38	7,550,000
			A	0	0	0	0
1.3	Natural Gas distribution stations upgraded	# of stations	P	0	1		250,000
			P(a)	0	1		50,000
			A	0	0		0
1.4	On-road Natural Gas distribution fleet acquired or modernized	# of vehicles	P	0	12	750,000	1,500,000
			P(a)	0	12	750,000	1,500,000
			A	0	0	0	0
1.5	Small LNG Plant constructed at the Port	Binary (yes/no)	P	0	1	108,831.9	7,355,461.95
			P(a)	0	1	108,831.9	7,355,462
			A	0	0	0	0

#### Component Nbr. 2 Component 2: Smart Energy Solutions

	Output	Unit of Measure		PHYSICAL PROGRESS		FINANCIAL PROGRESS	
				2018	EOP 2023	2018	EOP 2023
2.1	RE capacity installed in NPC/BNOCL/newly created entity facilities	kW	P	0	1,150	890,965.21	4,704,826.05
			P(a)	0	1,150	890,965.21	5,174,620
			A	0	0	0	0
2.2	EE and/or RE equipment installed in NPC and/or BNOCL or newly created entity's operational and administrative facilities	Binary (yes/no)	P	0	1	52,000	1,360,000
			P(a)	0	1	52,000	1,601,275
			A	0	0	0	0

#### Component Nbr. 3 Component 3: Technical Advisory Services

	Output	Unit of Measure		PHYSICAL PROGRESS		FINANCIAL PROGRESS	
				2018	EOP 2023	2018	EOP 2023
3.1	Studies developed to improve NPC and/or BNOCL or newly created entity's corporate governance, environmental, legal and regulatory functions, quality management systems, and information technology	# of studies	P	0	4	80,000	1,223,000
			P(a)	0	4	80,000	1,250,000
			A	0	0	0	0
3.2	NPC and/or BNOCL or newly created entity personnel trained in technical and management areas to support Natural Gas expansion	persons	P	0	17	15,000	150,000
			P(a)	0	17	15,000	150,000
			A	0	0	0	0

#### Other Cost

	Program Management, Monitoring and Evaluation	P			449,723.58	2,523,083.39
		P(a)			449,723.58	3,220,682
		A			457,146	653,398

#### Total Cost

	Total Cost	P			4,065,413.57	33,594,203.09
		P(a)			4,065,413.57	34,000,000
		A			997,139	1,213,317

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## CHANGES TO THE MATRIX

Section	Name	Reasons	Type of Change	Subtype	Modified By	Entered in the System
Impact	Average national electricity tariff in Barbados	Adjustment made to reflect expected target.	Modify Impact Indicator	Modify EOP P(a)	VPRADO	03/25/2019
	Total GHG emissions resulting from power generation in Barbados	Adjust made to reflect expected target.	Modify Impact Indicator	Modify EOP P(a)	VPRADO	03/25/2019
Output	EE and/or RE equipment installed in NPC and/or BNOCL or newly created entity's operational and administrative facilities	The heading of this output was adjusted for consistence.	Modify Output	Modify Financial P(a) value	VPRADO	03/18/2019
						03/22/2019
						03/22/2019
						03/22/2019
	Monitoring and control systems upgraded/replaced	The heading of this output was adjusted for consistence.	Modify Output	Modify Financial Historical Actual	VPRADO	03/22/2019
				Modify Financial P(a) value	VPRADO	03/18/2019
						03/22/2019
						03/22/2019
	NPC and/or BNOCL or newly created entity personnel trained in technical and management areas to support Natural Gas expansion	This activity was entered twice (men/women), but in fact it is only one activity.	Modify Output	Modify Financial P(a) value	VPRADO	03/18/2019
						03/22/2019
	Natural Gas distribution stations upgraded	This change was made given the uncertainty from the Government if moving forward with this activity.	Modify Output	Modify Financial P(a) value	VPRADO	03/22/2019
	On-road Natural Gas distribution fleet acquired or modernized	The heading of this output was adjusted for consistence.	Modify Output	Modify Financial P(a) value	VPRADO	03/18/2019
	Pipelines for transmission and distribution replaced, realigned and/or installed	The heading of this output was adjusted for consistence.	Modify Output	Modify Financial P(a) value	VPRADO	03/18/2019
						03/22/2019
						03/22/2019
	RE capacity installed in NPC/BNOCL/newly created entity facilities	The heading of this output was adjusted for consistence.	Modify Output	Modify Financial P(a) value	VPRADO	03/18/2019
						03/22/2019
	Small LNG Plant constructed at the Port	The heading of this output was adjusted for consistence.	Modify Output	Modify Financial P(a) value	VPRADO	03/18/2019
						03/22/2019
	Studies developed to improve NPC and/or BNOCL or newly created entity's corporate governance, environmental, legal and regulatory functions, quality management systems, and information technology	The heading of this output was adjusted for consistence.	Modify Output	Modify Financial P(a) value	VPRADO	03/18/2019
						03/22/2019

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## IMPLEMENTATION STATUS AND LEARNING

Lesson Learned - Categories
Others - Dimensions Related to Public Processes/ Actors
Others - Fiduciary Dimensions
Others - Organizational and Managerial Dimensions