

PMR Operational Report

Operation Number	BA-L1012	Chief of Operations Validation Date	03/24/20
Year- PMR Cycle	Second period Jan-Dec 2019	Division Chief Validation Date	03/24/20
Last Update	03/20/20	Country Representative Validation Date	03/26/20
PMR Validation Stage	Validated by Representative		

Basic Data

Operation Profile

Operation Name	Deployment of Cleaner Fuels and Renewable Energies in Barbados	Loan Number	3843/OC-BA
Executing Agency	National Petroleum Corporation	Sector/Subsector	EN-REH - ENERGY-ENERGY SECTOR REHABILITATION AND EFFICIENCY
Team Leader	PRADO, VERONICA	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		

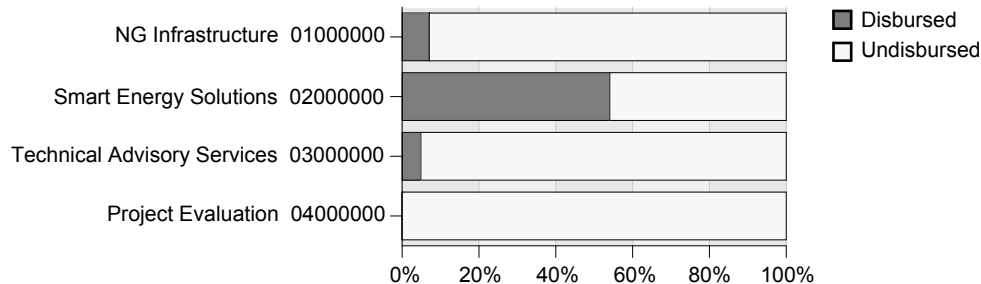
Environmental and Social Safeguards

Impacts Category	B	Was/Were the objective(s) of this operation reformulated?	NO
Safeguard Performance Rating	Satisfactory	Date of approval	
Safeguard Performance Rating - Rationale	Currently the project focused on the initial set up of renewable energy sources and overall resource efficiencies building, due to focus of Barbados that is shifting away from LNG. Minor upgrades to local LNG lines have been performed. Additional focus and development of renewable energy (wind and solar) might be included as studies. These studies should ensure proper assessment all environmental and social impacts, especially if designed offshore. All impacts of the projects so far have been properly mitigated		

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	7,981,597.78	23.48%	26,018,402.22
Aggregated	34,000,000	34,000,000	0	0	34,000,000	34,000,000	7,981,597.78	23.48%	26,018,402.22

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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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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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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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	0.00	1.00
					P(a)	0.00	1.00	0.00	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	
				2019	EOP 2023	2019	EOP 2023
1.1	Monitoring and control systems upgraded/replaced	# of systems	P	3	7	2,893,700	6,241,431.5
			P(a)	3	6	1,241,542	6,241,431.5
			A	3	3	744,969	1,304,888
1.2	Pipelines for transmission and distribution replaced, realigned and/or installed	Km of pipeline	P	0	10	4,205,157.72	8,286,400.2
			P(a)	0	10	0	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	0	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	22	750,000	1,500,000
			A	18	18	496,196	496,196
1.5	Small LNG Plant constructed at the Port	Binary (yes/no)	P	0	1	725,546.2	7,355,461.95
			P(a)	0	1	0	7,355,462
			A	0	0	0	0

Component Nbr. 2 Component 2: Smart Energy Solutions

	Output	Unit of Measure		PHYSICAL PROGRESS		FINANCIAL PROGRESS	
				2019	EOP 2023	2019	EOP 2023
2.1	RE capacity installed in NPC/BNOCL/newly created entity facilities	kW	P	0	1,150	1,138,316.5	4,704,826.05
			P(a)	0	4,100	3,363,503	5,174,620
			A	0	0	1,811,117	1,811,117
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	13,000	1,360,000
			P(a)	0	1	220,510	1,380,765
			A	0	0	0	0

Component Nbr. 3 Component 3: Technical Advisory Services

	Output	Unit of Measure		PHYSICAL PROGRESS		FINANCIAL PROGRESS	
				2019	EOP 2023	2019	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	1	4	540,000	1,223,000
			P(a)	1	3	280,000	990,000
			A	0	0	20,000	20,000
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	135,000	150,000
			P(a)	0	17	15,000	135,000
			A	0	0	0	0

Other Cost

	Program Management, Monitoring and Evaluation	P			503,723.58	2,523,083.39
		P(a)			520,065	3,191,274
		A			490,657	1,144,055

Total Cost

	Total Cost	P			10,904,444	33,594,203.09
		P(a)			6,390,620	33,568,552.5
		A			3,562,939	4,776,256

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CHANGES TO THE MATRIX

Section	Name	Reasons	Type of Change	Subtype	Modified By	Entered in the System
Output	Monitoring and control systems upgraded/replaced	Delay in procurement and contract signature as well as revised payment schedule of signed contract. The contracting firm requested a 20% payment instead of the 30/35%.	Modify Output	Modify Financial EOP P(a) value - caused by a change in the Financial P(a).	JANETTEA	03/20/2020
				Modify Physical EOP P(a) value - caused by a change in the Physical P(a).	VPRADO	03/20/2020
	On-road Natural Gas distribution fleet acquired or modernized	The initial number of vehicles provided in the loan contract were underestimated. After a detailed assessment, it was realized the need to purchase additional vehicles. Therefore, the number of vehicles has been adjusted accordingly.	Modify Output	Modify Physical EOP P(a) value - caused by a change in the Physical P(a).	VPRADO	03/20/2020
	RE capacity installed in NPC/BNOCL/newly created entity facilities	Some of the PPP related activities that were in the original loan contract, have been cancelled and the funds reallocated to the RE activity. Therefore, the estimated installed capacity for the Solar PV system has increased from 1.15 MW to 4.1 MW	Modify Output	Modify Physical EOP P(a) value - caused by a change in the Physical P(a).	VPRADO	03/20/2020
	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	Change in Government resulted in late procurement processes which resulted in late contract management.	Modify Output	Modify Financial EOP P(a) value - caused by a change in the Financial P(a).	JANETTEA	03/20/2020

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IMPLEMENTATION STATUS AND LEARNING

Lesson Learned - Categories