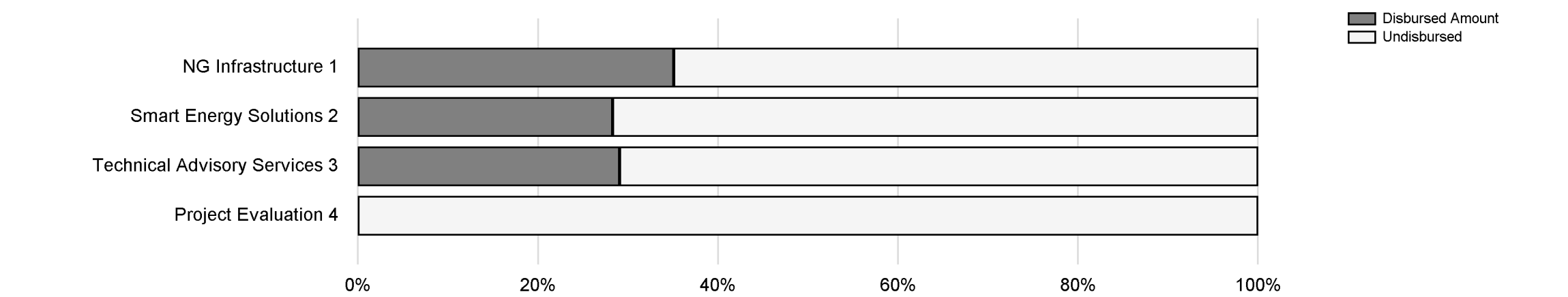


PMR Public Report

Operation Number	BA-L1012	Chief of Operations Validation Date	04/06/22
Year- PMR Cycle	Second period Jan-Dec 2021	Division Chief Validation Date	04/26/22
Last Update	04/05/22	Country Representative Validation Date	04/26/22
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	ENERGY-ENERGY SECTOR REHABILITATION AND EFFICIENCY
Team Leader	ECHEVERRIA, CARLOS BLADIMIR	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									
	Total Cost and Source					Available Funds (US\$)			
Operations	Original IDB	Current IDB	Local Counterpart	Co-Financing / Country	Total Original Cost	Current IDB	Disb. Amount to Date	% Disbursed	Undisbursed Amount
BA-L1012	34,000,000	34,000,000	0	0	34,000,000	34,000,000	15,656,652.8	46.05%	18,343,347.2
Aggregated	34,000,000	34,000,000	0	0	34,000,000	34,000,000	15,656,652.8	46.05%	18,343,347.2
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.

RESULTS MATRIX

General Development Objectives

General Development Objectives 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:

Indicator		Unit of Measure	Baseline	Baseline Year	Expected Year of Achievement	EOP 2023	
0.0	Total GHG emissions resulting from power generation in Barbados	Million tons CO2 equivalent t/year	2	2015	2023	P	1.5
						A	-
Details							

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

**Observations:**

The General Development Objective indicator target is expected to be observed by the operation's "Fully Justified" date in Convergence (CO): No

Pro-Gender	No	Pro-Ethnicity	No	CRF indicator					
Indicator				Unit of Measure	Baseline	Baseline Year	Expected Year of Achievement	EOP 2023	
0.1	Average national electricity tariff in Barbados			US\$/KWh	0.28	2015	2023	P	.25
								A	-
Details									

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

**Observations:**

The General Development Objective indicator target is expected to be observed by the operation's "Fully Justified" date in Convergence (CO): No

Pro-Gender	No	Pro-Ethnicity	No	CRF indicator			

RESULTS MATRIX

Specific Development Objectives

Specific Development Objectives 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	2015	P	511	511	538	575	600	600	600
					A	511	-	-	-	-	-	-

Details

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

Observations:

Evaluation Methodology: -

Pro-Gender	No	Pro-Ethnicity	No	CRF indicator	

Specific Development Objectives 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	2015	P	2	2	2	2	2	2	2
					A	1	-	-	-	-	-	-

Details

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

Observations:

Evaluation Methodology: -

Pro-Gender	No	Pro-Ethnicity	No	CRF indicator	

Specific Development Objectives 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	2015	P	-	-	-	1,500	1,500	6,000	9,000
					A	-	-	-	-	-	-	-

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.

Evaluation Methodology: -

Pro-Gender	No	Pro-Ethnicity	No	CRF indicator	

Specific Development Objectives Nbr. 3: Expected Result 4: Increased operational efficiency in NG transmission and distribution

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	5.2	2015	P	5.2	-	-	-	-	4.3	4.3
					A	5.2	-	-	-	-	-	-

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

Evaluation Methodology: -

Pro-Gender	No	Pro-Ethnicity	No	CRF indicator	

Specific Development Objectives 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	2015	P	-	1	-	-	-	-	1
					A	-	-	-	-	-	-	-
Details												

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

Observations:

Evaluation Methodology: -

Pro-Gender	No	Pro-Ethnicity	No	CRF indicator	

RESULTS MATRIX

OUTPUTS: ANNUAL PHYSICAL AND FINANCIAL PROGRESS

Component Nbr. 1 Component 1: Natural Gas Infrastructure

				PHYSICAL PROGRESS		FINANCIAL PROGRESS	
	Output	Unit of Measure		2021	EOP 2023	2021	EOP 2023
1.01	Monitoring and control systems upgraded/replaced	# of Systems	P	3	7	-	6,241,431.5
			P (a)	1	3	1,767,743	4,300,580
			A	1.4	2.4	1,003,188	3,296,212.88
1.02	Pipelines for transmission and distribution replaced, realigned and/or installed	Km of pipeline	P	1.8	10	1,484,037.16	8,286,400.2
			P (a)	-	12.5	965,639	5,873,206
			A	-	-	610,395	630,366.78
1.03	Natural Gas distribution stations upgraded	# of stations	P	1	1	100,000	250,000
			P (a)	-	1	-	900,000
			A	-	-	-	-
1.04	On-road Natural Gas distribution fleet acquired or modernized	# of vehicles	P	-	12	-	1,500,000
			P (a)	-	22	35,111	829,467
			A	-	22	34,431	776,149.27

Component Nbr. 2 Component 2: Smart Energy Solutions

				PHYSICAL PROGRESS		FINANCIAL PROGRESS	
	Output	Unit of Measure		2021	EOP 2023	2021	EOP 2023
2.01	RE capacity installed in NPC/BNOCL/newly created entity facilities	MW	P	0.3	1.15	1,000,000	4,704,826.05
			P (a)	3.28	9.1	2,846,451	15,253,180
			A	-	0.82	1,725,162	4,793,272.93
2.02	EE and/or RE equipment installed in NPC and/or BNOCL or newly created entity’s operational and administrative facilities	Binary (yes/no)	P	1	1	-	1,360,000
			P (a)	-	1	-	300,000
			A	-	-	-	-
2.03	Technical Feasibility Study developed for Wind facilities in Barbados	# of studies	P	-	-	-	-
			P (a)	-	1	137,818.69	413,455.95
			A	-	-	-	110,254.95

Component Nbr. 3 Component 3: Technical Advisory Services

				PHYSICAL PROGRESS		FINANCIAL PROGRESS	
	Output	Unit of Measure		2021	EOP 2023	2021	EOP 2023
3.01	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	2	4	108,000	1,223,000
			P (a)	1	4	170,901	899,383
			A	1	1	123,703.71	399,716.06
3.02	NPC and/or BNOCL or newly created entity personnel trained in technical and management areas to support Natural Gas expansion	# of persons	P	12	17	-	150,000
			P (a)	-	17	-	55,810
			A	-	-	-	-

Other Cost				
	Program Management, Monitoring and Evaluation	P	444,164.15	2,523,083.39
		P (a)	901,627.33	5,174,918.05
		A	206,065.98	1,801,448.61
Total Cost				
	Total Cost	P	3,136,201.31	33,594,203.09

	Total Cost	P (a)	6,825,291.02	34,000,000
		A	3,702,945.69	11,807,421.48

CHANGES TO THE MATRIX					
Section	Name	Type of Change	Sub type	Modified By	Entered in System
Output	EE and/or RE equipment installed in NPC and/or BNOCL or newly created entity's operational and administrative facilities	Modify contribution to CRF Indicator	Flag contribution to CRF indicator	CARLOSEC	3/23/2022
		Modify Output	Modify Financial EOP P(a) value - caused by a change in the Financial P(a).	CARLOSEC	3/9/2022
	Monitoring and control systems upgraded/replaced	Modify Output	Modify Financial EOP P(a) value - caused by a change in the Financial P(a).	CARLOSEC	3/24/2022
	NPC and/or BNOCL or newly created entity personnel trained in technical and management areas to support Natural Gas expansion	Modify Output	Modify Financial EOP P(a) value - caused by a change in the Financial P(a).	CARLOSEC	3/24/2022
	On-road Natural Gas distribution fleet acquired or modernized	Modify Output	Modify Financial EOP P(a) value - caused by a change in the Financial P(a).	CARLOSEC	3/24/2022
	Pipelines for transmission and distribution replaced, realigned and/or installed	Modify Output	Modify Financial EOP P(a) value - caused by a change in the Financial P(a).	CARLOSEC	3/24/2022
	RE capacity installed in NPC/BNOCL/newly created entity facilities	Modify contribution to CRF Indicator	Flag contribution to CRF indicator	CARLOSEC	3/23/2022
		Modify Output	Modify Financial EOP P(a) value - caused by a change in the Financial P(a).	CARLOSEC	3/24/2022
			Modify Physical EOP P	MYEPEZ	4/5/2022
			Modify Physical EOP P(a) value - caused by a change in the Physical P(a).	MYEPEZ	4/5/2022
			Modify Physical Historical Actual	MYEPEZ	4/5/2022
			Modify Physical P value	MYEPEZ	4/5/2022
	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	Modify Output	Modify Financial EOP P(a) value - caused by a change in the Financial P(a).	CARLOSEC	3/24/2022
			Modify Physical Historical Actual	CARLOSEC	3/14/2022
	Technical Feasibility Study developed for Wind facilities in Barbados	Modify Output	Modify Financial EOP P(a) value - caused by a change in the Financial P(a).	CARLOSEC	3/24/2022

RISKS AND PLANNED RESPONSES

Risk ID	Risk Status		Risk Taxonomy		
2	Materialized		Political Environment		
	Response Actions				
	2.0	Management Strategy		Status	
		-			

Risk ID	Risk Status		Risk Taxonomy		
4	Active		Political Environment		
	Response Actions				
	4.1	Management Strategy		Status	
		MITIGATE		ACTIVE	

Risk ID	Risk Status		Risk Taxonomy		
6	Active		Institutional Environment		
	Response Actions				
	6.1	Management Strategy		Status	
		MITIGATE		ACTIVE	

Risk ID	Risk Status		Risk Taxonomy		
8	Inactive		Institutional Environment		
	Response Actions				
	8.1	Management Strategy		Status	
		MITIGATE		INACTIVE	

Risk ID	Risk Status		Risk Taxonomy		
10	Inactive		Institutional Environment		
	Response Actions				
	10.1	Management Strategy		Status	
		MITIGATE		INACTIVE	



Risk ID	Risk Status		Risk Taxonomy
11	Active		Internal Processes
	Response Actions		
	11.1	Management Strategy	Status
		MITIGATE	ACTIVE

Risk ID	Risk Status		Risk Taxonomy
14	Active		Social Environment
	Response Actions		
	14.1	Management Strategy	Status
		MITIGATE	ACTIVE

Risk ID	Risk Status		Risk Taxonomy
16	Active		Social Environment
	Response Actions		
	16.1	Management Strategy	Status
		MITIGATE	ACTIVE

Risk ID	Risk Status		Risk Taxonomy
17	Active		Institutional Environment
	Response Actions		
	17.1	Management Strategy	Status
		MITIGATE	ACTIVE

IMPLEMENTATION STATUS AND LEARNING

Lesson Learned - Categories
Project Monitoring & Evaluation
Others - Fiduciary Dimensions