



Energy Resilience for Climate Adaptation (GEF/SCCF) (P149522)

LATIN AMERICA AND CARIBBEAN | Belize | Energy & Extractives Global Practice |
Global Environment Project | Investment Project Financing | FY 2017 | Seq No: 10 | ARCHIVED on 14-Feb-2022 | ISR49667 |

Implementing Agencies: Government of Belize, Belize Electricity Limited (BEL)

Key Dates

Key Project Dates

Bank Approval Date: 12-Sep-2016

Effectiveness Date: 06-Dec-2016

Planned Mid Term Review Date: 12-Feb-2021

Actual Mid-Term Review Date: 25-Jan-2021

Original Closing Date: 31-Jul-2020

Revised Closing Date: 31-May-2022

Project Development Objectives

Project Development Objective (from Project Appraisal Document)

The development objective of the proposed Energy Resilience for Climate Adaptation Project is to demonstrate solutions that enhance the resilience of the energy system to adverse weather and climate change impacts. This will be collectively achieved by implementing a wide-ranging and complementary set of activities that include pilot initiatives, infrastructure hardening, and analytical and planning efforts.

Has the Project Development Objective been changed since Board Approval of the Project Objective?

No

Components Table

Name

Component 1: Long-Term Planning and Capacity Building for Adaptation:(Cost \$2.79 M)

Component 2: Demonstration Measures to Enhance Resilience of Energy Sector:(Cost \$8.44 M)

Component 3: Project Implementation Support and Information Dissemination for Knowledge Sharing:(Cost \$0.59 M)

Overall Ratings

Name	Previous Rating	Current Rating
Progress towards achievement of PDO	<input type="checkbox"/> Moderately Unsatisfactory	<input type="checkbox"/> Moderately Unsatisfactory
Overall Implementation Progress (IP)	<input type="checkbox"/> Moderately Unsatisfactory	<input type="checkbox"/> Moderately Unsatisfactory
Overall Risk Rating	<input type="checkbox"/> Substantial	<input type="checkbox"/> Substantial

Implementation Status and Key Decisions

Overall the project implementation has been delayed. The project has contributed to long-term planning and capacity development for adaptation. The project implementation for activities related to demonstrating measures to enhance resilience of energy sector continues to be delayed. Several key activities for transmission network segmentation and strengthening against extreme climate conditions will not be completed within the current closing date. The Project Management Unit has been working on a time bound action plan for the remaining activities.



Risks

Systematic Operations Risk-rating Tool

Risk Category	Rating at Approval	Previous Rating	Current Rating
Political and Governance	<input type="checkbox"/> Moderate	<input type="checkbox"/> Low	<input type="checkbox"/> Low
Macroeconomic	<input type="checkbox"/> Low	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate
Sector Strategies and Policies	<input type="checkbox"/> Moderate	<input type="checkbox"/> Low	<input type="checkbox"/> Low
Technical Design of Project or Program	<input type="checkbox"/> Moderate	<input type="checkbox"/> Low	<input type="checkbox"/> Low
Institutional Capacity for Implementation and Sustainability	<input type="checkbox"/> Substantial	<input type="checkbox"/> Substantial	<input type="checkbox"/> Substantial
Fiduciary	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate	<input type="checkbox"/> Moderate
Environment and Social	<input type="checkbox"/> Low	<input type="checkbox"/> Low	<input type="checkbox"/> Low
Stakeholders	<input type="checkbox"/> Moderate	<input type="checkbox"/> Low	<input type="checkbox"/> Low
Other	--	<input type="checkbox"/> High	<input type="checkbox"/> High
Overall	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	<input type="checkbox"/> Substantial

Results

PDO Indicators by Objectives / Outcomes

Demonstrate solutions that enhance resilience of the energy system to adverse weather and climate				
► Methodologies and procedures to incorporate climate resilience in long-term planning of energy infrastructure and systems developed and adopted (Yes/No, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No	No	No	Yes
Date	01-Nov-2016	03-Jun-2021	25-Jan-2022	31-May-2022
Comments:	The long term planning capacity has been strengthened with adequate hardware and software infrastructure. The on-job training is underway. Data collection for the planning is under progress and will be completed on time.			
► Transmission network segmented and protected against cascading line faults (Yes/No, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No	No	No	Yes
Date	01-Nov-2016	03-Jun-2021	25-Jan-2022	31-May-2022
Comments:	Measures the successful implementation of protections at substations for segmenting key transmission sections linked to each generation node. This would result in: a) isolation of line faults without cascading through the system, b) all 7 generation sources able to dispatch to operational segments, c) up to full			



generation capacity is available for dispatch to operational segments and d) reduce service disruptions to all BEL residential customers, including e) female beneficiaries. Procurement of equipment and installation service to modify two substations of Belcogen and BAPCOL to meet the above results has been underway.

□ Generation sources available for dispatch despite line faults (Number, Custom Supplement)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	5.00	5.00	5.00	7.00

□ Consumers with enhanced security of electricity supply (reduced outages) due to weather events (Number, Custom Supplement)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	274,000.00

□ Electricity consumers with enhanced security of electricity supply (reduced outages) despite weather events, of which, those are women (Number, Custom Supplement)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	139,192.00

□ Generation capacity available for dispatch despite line faults (Megawatt, Custom Supplement)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	82.50	82.50	82.50	110.00

► Weak transmission sections in the system reinforced to be more resilient (Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	160.00

Date	01-Nov-2016	03-Jun-2021	25-Jan-2022	31-May-2022
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Comments: Measures how many new poles have successfully been installed in the weakest sections of the transmission line, resulting in increased resilience in the most vulnerable sections. The consultant to support the procurement of the pilot activities for strengthening of selected existing transmission lines was appointed. However the procurement process for the equipment and installation services has not been initiated.

Overall Comments

The first result indicator is in progress of meeting the target. However, the second and third indicators on pilot transmission network improvement will need additional time to complete the on-going procurement and contract implementation of all pending activities to achieve the end targets.

Intermediate Results Indicators by Components

Component 1: Long-Term Planning and Capacity Building for Adaptation

► Training sessions on energy sector long-term planning conducted (Number, Custom)



	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	4.00	4.00	8.00
Date	01-Nov-2016	03-Jun-2021	25-Jan-2022	31-May-2022
Comments:	The capacity of Ministry of Public Utilities, Energy and Logistics has been strengthened with adequate software and hardware infrastructure. The on-the job training of the key personnel is under progress.			
► Weather monitor stations are installed and functioning (Number, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	6.00	6.00	6.00	35.00
Date	01-Nov-2016	03-Jun-2021	25-Jan-2022	31-Mar-2022
Comments:	Hydrological model for the key river system has been completed and functional. Procurement for the weather stations to collect real time data is near complete but installations of these stations are pending.			
Component 2: Demonstration Measures to Enhance Resilience of Energy Sector				
► Appropriate technologies identified to be used for transmission line design for different terrain types (Yes/No, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No	No	No	Yes
Date	01-Nov-2016	03-Jun-2021	25-Jan-2022	31-Dec-2021
Comments:	A study to identify and evaluate various technology material options to strengthen the transmission line sections/network is near completion. The draft reports with proposed options are under discussion with BEL management.			
► Vegetable management plan for transmission and distribution lines informed with industry good practice (Yes/No, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No	No	Yes	Yes
Date	01-Nov-2016	03-Jun-2021	25-Jan-2022	31-Dec-2021
Comments:	The study on vegetation management practices have been successfully completed to provide BEL with options to consider for implementation.			
► Comprehensive emergency preparedness and recovery plan adopted (Yes/No, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No	No	No	Yes
Date	09-Jul-2020	03-Jun-2021	25-Jan-2022	31-Jan-2022
Comments:	The study to develop the Emergency Preparedness and Recovery Plan is near complete. The draft report and the training development plan are under finalization.			
Component 3: Project Implementation Support and Information Dissemination for Knowledge Sharing				
► Regional stakeholder and citizen engagement conferences held to evaluate and disseminate lessons learned and results achieved in project for enhancing energy resilience (Number, Custom)				



	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	1.00	1.00	1.00
Date	01-Nov-2016	03-Jun-2021	25-Jan-2022	31-May-2022
Comments:	The planned activity is not yet carried out pending results of activities under Component 1 and 2.			

Performance-Based Conditions

Data on Financial Performance

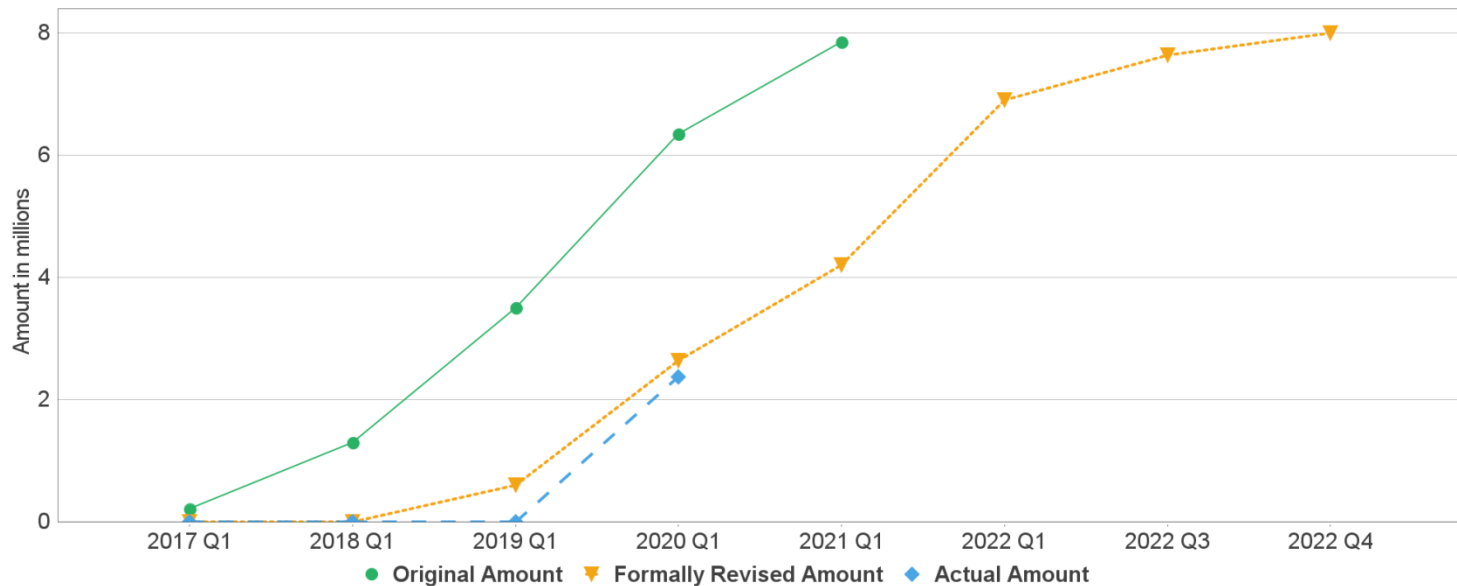
Disbursements (by loan)

Project	Loan/Credit/TF	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	% Disbursed
P149522	TF-A2887	Effective	USD	5.62	5.62	0.00	2.01	3.61	<div><div></div></div> 36%
P149522	TF-A2888	Effective	USD	2.38	2.38	0.00	1.40	0.98	<div><div></div></div> 59%

Key Dates (by loan)

Project	Loan/Credit/TF	Status	Approval Date	Signing Date	Effectiveness Date	Orig. Closing Date	Rev. Closing Date
P149522	TF-A2887	Effective	12-Sep-2016	22-Sep-2016	06-Dec-2016	31-Jul-2020	31-May-2022
P149522	TF-A2888	Effective	12-Sep-2016	22-Sep-2016	06-Dec-2016	31-Jul-2020	31-May-2022

Cumulative Disbursements



Restructuring History

Level 2 Approved on 20-Dec-2018 ,Level 2 Approved on 29-Jul-2020 ,Level Approved on 31-Jul-2020

Related Project(s)

There are no related projects.