



## Increased Access to Modern Energy (P110075)

AFRICA | Benin | Energy & Extractives Global Practice |  
IBRD/IDA | Specific Investment Loan | FY 2009 | Seq No: 13 | ARCHIVED on 30-Jun-2017 | ISR28761 |

Implementing Agencies: Communauté Electrique du Bénin (CEB), Project Coordination Unit hosted with the Ministère de l'Énergie, Société Béninoise d'Énergie Électrique (SBEE), Ministère de l'Énergie, des Recherches Pétrolières et Minières, de l'Eau et du Développement des E R

### Key Dates

#### Key Project Dates

Bank Approval Date:23-Jun-2009

Effectiveness Date:30-Apr-2010

Planned Mid Term Review Date:30-Jun-2013

Actual Mid-Term Review Date:14-Oct-2015

Original Closing Date:30-Jun-2015

Revised Closing Date:30-Jun-2018

### Project Development Objectives

Project Development Objective (from Project Appraisal Document)

The project's objectives are to improve reliability and efficiency of, and access to, modern energy services in Benin.

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

No

Global Environmental Objective (from Project Appraisal Document)

The overall objective of this program is to enhance standards and labels for efficient light bulbs and air-conditioners in Benin, and to introduce efficient light bulbs to households through a bulk procurement scheme and awareness.

Has the Global Environmental Objective been changed since Board Approval of the Project Objective?

No

### Components

Name

Component A1-a: Construction of 161 kV interconnections between Onigbolo-Parakou and Sakete - Porto Novo:(Cost \$14.59 M)

Component A4: Rehabilitation and Reinforcement of the SBEE network. Acquisition of metering equipment.:(Cost \$25.38 M)

Component A5: Improving Lighting and Appliance Efficiency:(Cost \$1.82 M)

Component B1 a: Planning and Development of Modern Energy Services of rural areas.:(Cost \$0.54 M)




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Component B2: Modernizing Biomass Energy Services:(Cost \$1.30 M)

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Component C: Sustainable Energy Services:(Cost \$5.14 M)

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Component B3: Electrification of three priority localities:(Cost \$1.50 M)

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Component D: Project Preparation:(Cost \$4.30 M)

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NEW: Component A1-b: Supply and installation of protection and relaying equipment:(Cost \$1.75 M)

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## Overall Ratings

Name	Previous Rating	Current Rating
Progress towards achievement of PDO	● Moderately Satisfactory	● Moderately Satisfactory
Overall Implementation Progress (IP)	● Moderately Unsatisfactory	● Moderately Satisfactory
Overall Risk Rating	● Low	● Low

## Implementation Status and Key Decisions

The implementation of the project has made substantial progress over the last six months.

**Component A - *Electrical Network Upgrading*.** The rehabilitation/strengthening of the SBEE's distribution network has been completed and the large majority of the purchased electricity connection kits were installed. The 30 km medium voltage line between Sakete and Porto-Novo and associated sub-stations were constructed and under operation since June 2, 2017. The remaining major investment is the construction of the 260 km transmission line between Onigbolo and Parakou and associated power stations at Onigbolo and Parakou. The construction had been significantly delayed but resumed with noticeable progress over the last six months.

**Component B - *Electrification and Modern Energy Services*.** The rural electrification investments were realized. An important activity under this component relates to community-based sustainable wood fuel supply systems. The implementation of the plan for 300,000 hectares is ongoing. The implementation of the activities implemented by the Nordic Development Fund also improved.

**Component C - *Sustainable Energy Services*.** The development of safeguard document for the power sector and specific environmental and social impact assessment are completed. The studies related to business development and engineering are also completed. The study for the design of a Project monitoring and evaluation system of CEB was dropped because of the accumulated delay. The funds are reallocated to the engineering supervision of the construction of the transmission line.

**Component D - *Project Preparation*[AB1]** . The preparation of studies to advance future investment in transmission and distribution is underway and expected to be completed before project completion.





**Risks****Systematic Operations Risk-rating Tool**

Risk Category	Rating at Approval	Previous Rating	Current Rating
Political and Governance	--	● Low	● Low
Macroeconomic	--	● Low	● Low
Sector Strategies and Policies	--	● Low	● Low
Technical Design of Project or Program	--	● Low	● Low
Institutional Capacity for Implementation and Sustainability	--	● Moderate	● Moderate
Fiduciary	--	● Low	● Low
Environment and Social	--	● Low	● Low
Stakeholders	--	● Low	● Low
Other	--	● Low	● Low
Overall	--	● Low	● Low

**Results****Project Development Objective Indicators**

## ► Power losses in Benin's transmission network (Gigawatt-hour (GWh), Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	51.00	58.00	58.00	24.00
Date	28-May-2009	05-Dec-2016	05-Dec-2016	30-Jun-2018

## ► Direct project beneficiaries (Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	690,000.00	690,000.00	1,200,000.00
Date	07-Oct-2013	05-Dec-2016	05-Dec-2016	30-Jun-2018


**▲ Female beneficiaries (Percentage, Custom Supplement)**

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	25.00	25.00	50.00

**▶ People provided with new or improved electricity service (Number, Corporate)**

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	2,700,000.00	3,315,000.00	3,315,000.00	3,900,000.00
Date	07-Oct-2013	05-Dec-2016	05-Dec-2016	30-Jun-2018

**▲ People provided with access to electricity by hhold connections-Grid (Number, Custom Breakdown)**

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	2,700,000.00	3,390,000.00	3,390,000.00	3,900,000.00
Date	07-Oct-2013	05-Dec-2016	05-Dec-2016	30-Jun-2018

**▶ Electricity losses per year in the project area (Percentage, Custom)**

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	22.00	24.00	24.00	20.00
Date	07-Oct-2013	05-Dec-2016	05-Dec-2016	30-Jun-2018

**▲ Total net injected generation (Megawatt hour(MWh), Custom Supplement)**



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

#### ▲ Electricity losses per year in the project area- Technical (Percentage, Custom Supplement)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	11.00	12.00	12.00	10.00

#### ▲ Electricity losses per year in the project area- Non-Technical (Percentage, Custom Supplement)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	11.00	12.00	12.00	10.00

#### ► Benin transmission network responds to (N-1) criteria (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No	No	No	Yes
Date	28-May-2009	05-Dec-2016	05-Dec-2016	30-Jun-2018

Overall Comments

### Global Environmental Objective Indicators



► Efficiency standards for appliances developed and applied (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No standards developed	Standards for CFLs and air conditioners developed and applied	Standards for CFLs and air conditioners developed and applied	Standards developed and applied
Date	23-Jun-2009	30-Jun-2016	30-Jun-2016	30-Jun-2016

► Compact fluorescent light bulbs installed (Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	350,000.00	350,000.00	350,000.00
Date	28-May-2010	05-Dec-2016	05-Dec-2016	30-Jun-2016

Overall Comments

### Intermediate Results Indicators

► Component A4: Distribution-level voltage fluctuations less than 7 percent in the project's network area in key cities in Benin. (Yes/No, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	N	Y	Y	Y
Date	28-May-2009	05-Dec-2016	05-Dec-2016	30-Jun-2018





► Component B3: Number of people provided with access to electricity under the project by household connections through the electrification of new localities (Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	3,000.00	3,000.00	3,000.00
Date	07-Oct-2013	05-Dec-2016	05-Dec-2016	30-Jun-2016

► Component D - D2: Preparation of studies for transmission and distribution project completed (Yes/No, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	N	N	N	Y
Date	07-Dec-2013	05-Dec-2016	05-Dec-2016	30-Jun-2018

► Component D - D1: Adjarala ESIA and RAP updated (Yes/No, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	N	Y	Y	Y
Date	07-Oct-2013	19-Jun-2015	19-Jun-2015	30-Jun-2016

► Component A4: Number of prepayment meters installed (Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	15,000.00	40,500.00	45,000.00
Date	07-Oct-2013	05-Dec-2016	16-Jun-2017	30-Jun-2018



► Transmission lines constructed or rehabilitated under the project (Kilometers, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	310.00
Date	07-Oct-2013	05-Dec-2016	05-Dec-2016	30-Jun-2018

▲ Transmission lines constructed under the project (Kilometers, Custom Breakdown)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	310.00
Date	07-Oct-2013	05-Dec-2016	05-Dec-2016	30-Jun-2018

► Component C - C4. Environmental and social safeguards regularly monitored and mitigation measures implemented (Yes/No, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	N	Y	Y	Y
Date	28-May-2009	05-Dec-2016	05-Dec-2016	30-Jun-2018

► Component A4. Reduction of Benin's peak load and energy savings (in MW/GWh) (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	9.7/14	9.7/14	9.7/14
Date	28-May-2009	05-Dec-2016	05-Dec-2016	30-Jun-2018



► Component A5: Efficiency standards for appliances developed and applied (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No standards	Standards for CFLs and air conditioners developed and applied	Standards for CFLs and air conditioners developed and applied	Standards for at least 2 appliances
Date	28-May-2009	05-Dec-2016	05-Dec-2016	30-Jun-2016

► Component B1: Rural electrification fund (REF) established and fully operational (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	REF not functional	REF fully functional.	REF fully functional.	REF fully functional
Date	28-May-2009	03-May-2016	03-May-2016	30-Jun-2015

► Component B2: Number of decentralized, stand-alone generation systems set up (Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	4.00	4.00	4.00
Date	29-May-2009	03-May-2016	03-May-2016	30-Jun-2015

► Component B2: Area of managed forest in the context of setting up a community-based sustainable woodfuel supply system (in ha) (Hectare(Ha), Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	150,000.00	150,000.00	300,000.00
Date	28-May-2009	05-Dec-2016	05-Dec-2016	30-Jun-2018



► Component B2: Number of new workers trained in production of efficient wood stoves, and increased use of energy efficient wood stoves. (Number, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	300.00	300.00	450.00
Date	28-May-2010	05-Dec-2016	05-Dec-2016	30-Jun-2018




► Component C - C1: Energy Sector Master Plan completed and endorsed (Text, Custom)

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No current Master Plan	Master plan prepared and endorsed	Master plan prepared and endorsed	Master Plan endorsed
Date	28-May-2009	05-Dec-2016	05-Dec-2016	30-Jun-2018

## Overall Comments

## Data on Financial Performance

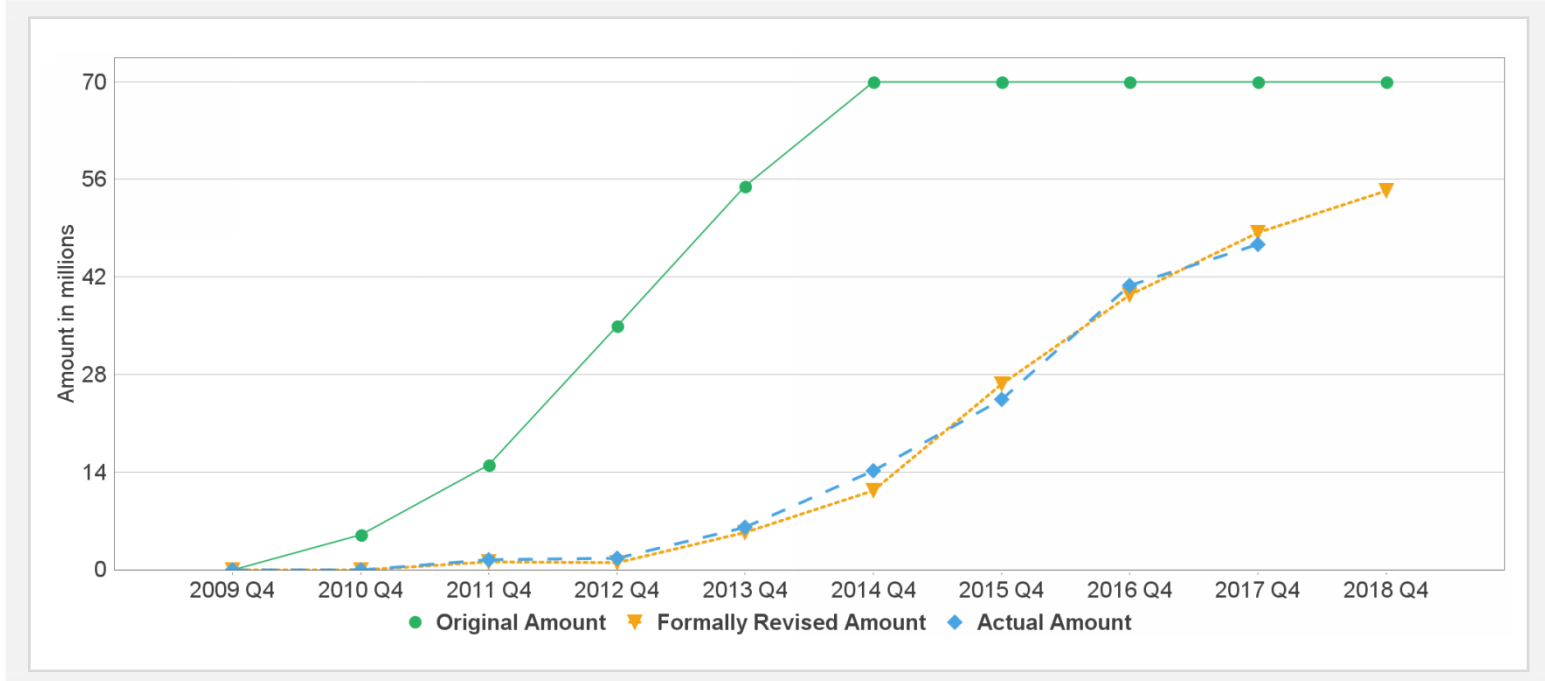
### Disbursements (by loan)

Project	Loan/Credit/TF	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	Disbursed
P110075	IDA-45870	Effective	USD	70.00	54.38	15.62	43.32	9.98	 80%
P110075	TF-94664	Closed	USD	1.82	1.57	0.24	1.57	0.00	 100%
P110075	TF-99823	Closed	USD	2.00	1.79	0.21	1.79	0.00	 100%

### Key Dates (by loan)

Project	Loan/Credit/TF	Status	Approval Date	Signing Date	Effectiveness Date	Orig. Closing Date	Rev. Closing Date
P110075	IDA-45870	Effective	23-Jun-2009	13-Jul-2009	30-Apr-2010	30-Jun-2015	30-Jun-2018
P110075	TF-94664	Closed	13-Jul-2009	13-Jul-2009	13-Jul-2009	30-Jun-2015	30-Jun-2016
P110075	TF-99823	Closed	09-Nov-2011	09-Nov-2011	09-Nov-2011	30-Sep-2012	31-Dec-2013

### Cumulative Disbursements



## Restructuring History

Level Approved on 12-Oct-2011 ,Level Approved on 06-Nov-2013 ,Level 2 Approved on 26-Jun-2015 ,Level 2 Approved on 13-May-2016

## Related Project(s)

P115064-Benin GEF Energy Efficiency Program