



## 1. Project Data

<b>Project ID</b> P125565	<b>Project Name</b> SN - Electricity Sector Support (FY12)	
<b>Country</b> Senegal	<b>Practice Area(Lead)</b> Energy & Extractives	
<b>L/C/TF Number(s)</b> IDA-51450,IDA-58920	<b>Closing Date (Original)</b> 30-Sep-2016	<b>Total Project Cost (USD)</b> 148,188,502.60
<b>Bank Approval Date</b> 26-Jul-2012	<b>Closing Date (Actual)</b> 30-Jun-2022	
	<b>IBRD/IDA (USD)</b>	<b>Grants (USD)</b>
Original Commitment	85,000,000.00	0.00
Revised Commitment	154,991,728.27	0.00
Actual	148,188,502.60	0.00

<b>Prepared by</b> Ichiro Toda	<b>Reviewed by</b> Dileep M. Wagle	<b>ICR Review Coordinator</b> Ramachandra Jammi	<b>Group</b> IEGSD (Unit 4)
-----------------------------------	---------------------------------------	----------------------------------------------------	--------------------------------

## 2. Project Objectives and Components

### a. Objectives

The original Financing Agreement (FA) dated August 3, 2012, on page 5 stated that the project development objectives were “to contribute to (i) reducing SENELEC’s technical and commercial losses; and (ii) improving reliability of electricity services in selected areas focusing primarily on Greater Dakar”. The statement of the original PAD dated July 1st, 2012 on page 11 was identical to the one in the FA.

The PDOs were changed as a part of the second project restructuring in 2020. As per the Second Amendment to the Financing Agreement (FA) on page 1, the project development objectives were “to



contribute to (i) reducing SENELEC's technical and commercial losses ("Updated PDO 1"); and (ii) improving the access to and reliability of electricity services ("Updated PDO 2." The Updated PDO 1 remained the same from the original PDO 1, while the element of access was added and the focus on Greater Daker area was eliminated in the Updated PDO 2 compared to the original PDO 2. The statement of the second restructuring paper dated 2020 on page 13 was identical to the one in the FA and was unchanged until the project closure.

The assessment of project performance will include the parsing of PDO 2 in two sub-objectives as follows:

(ii) (a) To improve the access to electricity services, and (b) To improve the reliability of electricity services

**b. Were the project objectives/key associated outcome targets revised during implementation?**

Yes

**Did the Board approve the revised objectives/key associated outcome targets?**

Yes

**Date of Board Approval**

01-Oct-2020

**c. Will a split evaluation be undertaken?**

No

**d. Components**

At appraisal, the project had three components, which were revised through three restructurings in August 2018, October 2020, and March 2022 as described below[1]:

**Component 1: Upgrade and modernization of the transmission and distribution network. Cost at appraisal: US\$43 million, increased to US\$155.7 million under the Additional Finance (AF), and increased to US\$159.3 million at completion.** At appraisal, this component targeted the Greater Dakar area to finance the upgrade, rehabilitation, or replacement of existing transmission lines and substations, upgrade of the distribution network from 6.6 kV to 30 kV in at least two substations, installation of at least 15 remotely controlled medium voltage/low voltage (MV/LV) distribution substations, extension and densification of the distribution network, and extension of the grid to reach isolated secondary consumption centers.

- **Revised Component 1:** When the AF was approved in 2016, the scope of Component 1 was expanded so that the component targeted selected activities of SENELEC's Priority Action Plan to strengthen the utility's T&D network and increase capacity to manage the network, so as to reduce losses and improve network availability, reliability, and safety. These included the following: (i) rehabilitation of 13 existing MV/LV substations, update and standardization of SENELEC's electrical protection systems,[2] rehabilitation of the radio system and telecommunications of SENELEC's network, and network expansion with a third bay transformer of 40 MVA/30 kV in Touba's substation; (ii) installation of remote control for switching (circuit breaker and disconnecter) devices in 90 MV substations; (iii) creation of 61 MV/LV substations, installation of 100 km of MV lines, and



installation of 34 km of LV lines; and (iv) creation of 40 MV/LV substations, installation of 464 km of MV lines, and installation of 93 km of LV lines.

**Component 2: Improving SENELEC's commercial performance. Cost at appraisal: US\$33.0 million, increased at AF to US\$77.0 million; and increased to US\$72.9 million at completion.** At appraisal, this component aimed to reduce the cost of billing, increase bill collection, and reduce commercial losses through a reduction of arrears. Investments include the installation of prepaid and smart meters, a remote meter reading system, and a new electricity customer management system for SENELEC.

- **Revised component 2:** The AF expanded the scope so as to focus on investments to improve SENELEC's commercial performance by increasing bill collection and reducing nontechnical losses through fraud reduction, including the following investments: (i) Additional prepayment meters; (ii) Internal wiring for selected LV customers; (iii) Development of communication and marketing on SENELEC's prepayment system; and (iv) Support to improve the quality of services provided by SENELEC's customer call center, including expansion of call center facilities and the purchase of associated equipment."

**Component 3: Long-term strategic outlook. Cost at appraisal of US\$8.25 million, increased at AF to US\$16.3 million; and increased to US\$13.1 million at completion.** At appraisal, this component was dedicated to technical assistance and support to conduct studies so that the Government of Senegal (GoS) could develop a medium- and long-term strategy for the energy sector in exploring options for (i) energy diversification (into coal, gas, renewable energies, and regional integration), (ii) energy sector governance (strengthening sector efficiency, transparency, and accountability) and private sector participation, and (iii) financial restructuring of SENELEC and review of electricity tariffs.

- **Revised Component 3:** Under the AF, Component 3 included support to implement recommendations from strategic studies conducted under the parent project, including the following: (i) Support for improvement of SENELEC internal governance; (ii) Support for sector reform, through technical assistance; and (iii) Support for sector and project planning.

**Component 4: Project implementation, communication, and monitoring & evaluation. Cost at appraisal: US\$3.5 million, increased at AF to US\$11.5 million, and increased to US\$ US\$16.1 million at completion.** At appraisal, this component aimed to finance support for project coordination, supervision, financial management, communication and outreach, procurement, supervision of implementation of the Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF), monitoring and evaluation (M&E) of the project, training, and goods and audit services. The recruitment of owner's engineers (OEs) to support SENELEC in the supervision of project works was to be financed through this component as well as specific expertise as needed to support the Permanent Secretariat for Energy and the fiduciary function within SENELEC.

- **Revised Component 4.** Under the AF, the component continued to support project supervision-related activities, including the following: (i) support to the Project Implementation Unit (PIU) through the provision of technical assistance, training, operational costs, support for project coordination, supervision, financial management, communication and outreach, procurement, and audit services; (ii) In terms of M&E, a beneficiary survey, including baseline and end-of-project surveys to understand the project's impact, including gender-related impacts; and (iii) studies, communication



activities, and technical assistance to ensure that the project safeguard measures are systematically carried out throughout the life of the project.

[1] Excluding the activities to be financed by EIB.

[2] With the installation of antitheft units for up to 50,000 households.

#### e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

**Project Cost, Financing, and Borrower Contribution:** At appraisal, the total project cost was estimated at US\$93.5 million, to be financed by an IDA credit of US\$85 million and a borrower (Government of Senegal) contribution of US\$8.5 million. Under the AF, the total project cost increased to US\$261.4 million, to be financed by an IDA credit of US\$155 million, EIB financing of US\$93.9 million, and the Government of Senegal's own contribution of US\$12.5 million. Through the restructuring, there was a reallocation among Components 3 and 4 for the portion to be funded by the IDA credit. At closing, 95.6% of the IDA financing was disbursed (US\$148,188,503 out of US\$155,000,000). The ICR does not indicate that the resources from the GoS and EIB which had been actually disbursed.

**Dates:** The project was approved on July 26, 2012, and became effective on January 1, 2013. The AF was approved in July 2016. The project went through three restructurings as follows: (i) The first restructuring took place on August 7, 2018, and brought about changes in the Financing Plan and reallocation between disbursement categories; (ii) the second restructuring took place on October 1, 2020, with changes in Project Development Objectives, Results Framework, Components and Cost, Loan Closing Date(s), Safeguard Policies Triggered and Implementation Schedule, and Reallocation between Disbursement Categories; and (iii) the third restructuring took place on March 17, 2022 and brought about a change in the Loan Closing Date. A medium-term review was completed on January 8, 2015, and the project was closed on June 30, 2022, 5 years and 9 months later than the original closing date (September 30, 2016) and 8 months later than the closing date defined by the AF proposal.

### 3. Relevance of Objectives

#### Rationale

**Country Context:** By the time when the project was approved in 2012, Senegal had been enjoying the stable political climate over the previous years, while the economy was had been affected by a series of domestic and external shocks, with slowing GDP growth, rising inflation, widening fiscal deficit, and increasing current account deficit. In this context, the development of energy infrastructure represented a key component of the Government's strategy to support economic development, and the government had been conducting several institutional reforms and investing significant financial resources aligned with the "Letter for Energy Sector Development Policy (LPDSE)". However, the electricity sector had been facing a major crisis over the previous four years, resulting in widespread load shedding and stagnant revenues and performance of SENELEC. In order to address the crisis and the widespread load shedding, the GoS undertook an electricity sector diagnostic and developed an Emergency and Recovery Plan for 2011-2015,



aiming at (a) removing the electricity supply bottlenecks and (ii) addressing SENELEC’s cash-flow and financing constraints.

**Alignment with the County and Bank Strategy:** The objective of the project was and continues to be fully aligned with the development challenge of the electricity sector in Senegal. At approval, the project was consistent with the Government’s LPDSE, and the 2011-2015 Electricity Emergency and Recovery Plan, which included addressing SENELEC’s cash-flow and financing constraints as one of the key objectives (PAD paragraphs 12 and 15). In addition, the AF was provided under the broad strategy of the 2014 Emerging Senegal Plan (PSE), which included the pillar of “higher and sustainable growth by increasing the quality of electricity supply (AF PAD paragraph 7).” The AF PAD also mentioned that the project responded to the Government’s efforts to relaunch the electricity sector reform, which was originally launched in 2011.

The PDOs of the project were also aligned with the Bank’s latest strategy. The latest Country Partnership Framework (CPF) FY20-F24 included lowering energy cost and the carbon footprint and optimization of the energy mix among the key objectives under the focus area of “Boosting competitiveness & and job creation through private sector led-growth.” The CPF document identified the need to improve the quality of electricity service, such as reduction of losses. It also specifically mentioned that the PASE project would contribute to the reduction of SENLEC’s technical and commercial losses and improvement of the reliability of services in the Grater Dakar and Casamance areas, as a part of WBG interventions to support the Government’s reform efforts in the energy sector (CPF Paragraph 69 and 70).

The project’s objectives were almost fully aligned with the strategies of the country and the Bank. The relevance of objectives is rated High.

## Rating

High

## 4. Achievement of Objectives (Efficacy)

### OBJECTIVE 1

#### Objective

To contribute to reduce SENELEC’s technical and commercial losses

#### Rationale

#### Theory of Change:

Through the implementation of some of the inputs and activities under Component 1 “Upgrading and modernization of the transmission and distribution network” – particularly the upgrade, rehabilitation, or replacement of existing transmission lines and substations in the interconnected network, as well as installation of remotely controlled MV/LV distribution substations in Greater Dakar, several major outputs were



expected, including upgrading/replacement of existing transmission lines and substations and upgrading of the distribution network and installation of remotely controlled substations in Greater Dakar. These outputs would lead to the reduction of technical losses and increase of transit capacity.

In addition, through the implementation of the inputs and activities under Component 2 “Improving SENELEC’s Commercial Performance and connecting low-income households” – particularly installment of additional prepayment meters, including standard transfer specification-compliant split prepaid meters, installment of internal wiring of low-income households, development of communication and marketing on SENELEC’s prepayment system, and improvement of the quality of services provided by SENELEC’s customer call center, several major outputs were expected, including connection to the grid of 37,500 low-income households, installation of pre-paid meters, smart meters, and a new customer management system, as well as securing of markets and households anti-fraud equipment. These outputs would lead to the reduction of SENELEC’s commercial losses.

Achievement of outcomes such as the reduction of technical losses and increase of transit capacity as well as the reduction of SENELEC’s commercial losses would lead to the reduction of SENELEC’s technical and commercial losses, the PDO 1. These outcomes would lead to higher level impact such as improvement of SENELEC’s financial and operational viability.

The results of the outputs and outcomes are as follows:

The ICR indicates that among the main PDO indicators for PDO1, the overall SENELEC recovery rate (%) improved but fell short of the target (83.8% delivery rate), whereas the overall bill collection rate (%) improved and achieved the target (104.0% target delivery). The ICR team also added another indicator at ICR, technical losses, and it improved and achieved the target (190% delivery rate) (ICR paragraphs 32 and 33). Although the ICR explained that the commercial losses have been negatively affected by the COVID-19 pandemic, the improvement of the overall bill collection rate indicates improved commercial losses.

According to the PDO Indicator tables in the ICR, construction and rehabilitation of transmission and distribution lines, including those in the Southern Senegal area, fell short of the targets. Despite the fact that two of the main intermediate indicators have fallen short, the fact that most of the overall PDO1 indicators were achieved may indicate the disconnect between these PDO indicators and interim indicators and the lack of attribution of the PDO indicators to the interim indicators.

Regarding the project’s outputs, the ICR does not provide detailed information on the status of each activity. However, it provides the implementation status for key items under the components financed by AF (ICR Table 6) and overall implementation status (ICR Table 7). According to them, activities under Component 1 were almost completed (99% completion rate), including those items that are considered relevant to PDO 1. The ICR also indicates that the key items financed by AF under Component 2 were yet to be completed. The completion rate of those relevant to PDO1 was 78% for securing installation of 50,000 customers in difficult neighborhoods (100% IDA funding) and 23% for securing installations of 20,000 canteens in 9 market (100% IDA funding), indicating that some of the IDA funded activities got delayed, not only EIB funded activities, but they were expected to be completed with EIB fundings. It is expected that all the activities would be completed by the end of 2024.

In summary, the project’s activities under Component 2 were either completed or expected to be completed soon. Intermediate indicators relevant to this PDO1 were also either achieved or expected to be achieved. In addition, the targets of the three PDO indicators were mostly achieved or exceeded, although there is an



attribution issue of PDO indicators to the project activities. Taking these issues into account, the rating is Substantial.

**Rating**  
Substantial

## **OBJECTIVE 2**

### **Objective**

To contribute to improve the access to and reliability of electricity services; (changed from “to contribute to improve reliability of electricity services in selected areas focusing primarily on Greater Dakar”). As the ICR already did, this PDO can be parsed into two outcomes: 2a Improvement of access to electricity services; and 2b improvement of reliability of electricity services.

### **Rationale**

#### **Theory of change:**

Through the implementation of some of the inputs and activities under Component 1 “Upgrading and modernization of the transmission and distribution network” – particularly the upgrade, rehabilitation, or replacement of existing transmission lines and substations in the interconnected network, installation of remotely controlled MV/LV distribution substations in Greater Dakar, several major outputs were expected, including upgrading/replacement of existing transmission lines and substations as well as upgrading of the distribution network and installation of remotely controlled substations in Greater Dakar. These outputs would lead to the reduction of technical losses and increase of transit capacity as well as reduction of outages and voltage drops for greater supply continuity. These would lead to the PDO2b “Improvement of reliability of electricity services” and higher impact “Improved quality and reliability of electricity fostering economic growth.

Through the implementation of some of the inputs and activities under Component 1 “Upgrading and modernization of the transmission and distribution network” – particularly extension and densification of the distribution network, including creation of MV/LV substations, installation of MV/LV lines, as well as extension of the interconnected network to reach isolated secondary consumption centers, including creation of substations and installation of MV/Lines, other major outputs were expected, including extension and densification of the distribution network in Greater Dakar and other regions as well as extension of the interconnected network to reach isolated secondary consumption centers, leading to increase of electricity access. In addition, through the implementation of some of the inputs and activities under Component 2 “Improving SENELEC’s Commercial Performance and connecting low-income households” – particularly installment of additional prepayment meters, other major outputs such as connection to the grid of 37,5000 low-income households were expected, leading also to the increase of electricity access. Increased electricity access would lead to the PDO2a “Improvement of the access to electricity” and higher-level impact “Increased electricity access, contributing to poverty reduction.”

The results of the outputs and outcomes are as follows:

The ICR indicates that among the main PDO indicators for PDO 2a, the results of low-income households provided with access to electricity substantially fell short of the target (only 57.6% target achievement) whereas the results of “Direct project beneficiaries (number of SENELEC’s customers),” exceeded the target



(126% achievement), and the results of Direct project beneficiaries (out of which females, share %) met the target (100% delivery rate). However, the focus on female beneficiaries – being a core indicator - does not specifically contribute to achievement of PDO 2a. Regarding the shortfall of the indicator “Low-income households provided with access to electricity,” the ICR indicates that the remaining households are targeted to be connected by the end of 2024 when the project funded by EIB is completed. ICR mentioned that “As of November 2023, 21,601 households were connected with the reminder expected by the end of 2024 (Table 6) and “the operation is likely to do so (achieve its objectives) in the future (that is, once the EIB-EU funded or activities transferred under EIB-EU supervision are complete).” (Paragraph 37).

Regarding the main PDO indicators for PDO 2b, the results of “Average response time to customer complaints related to backouts and malfunctions (hours)” exceeded the target (121% delivery rate) and other indicators, such as Unserved energy on the interconnected system (GWh/yr), “SAIFI in Greater Dakar and SAIDI in Greater Dakar” mostly achieved the target (Delivery rate of 104%, 96.4%, and 98.9%, respectively). In particular, the levels of reduction of SAIFI and SAIDI were substantial (from 50.44 to 10.00 and from 95.38 to 6.70, respectively).

As outlined in the PDO indicator tables in the ICR, the interim indicator, “Installed capacity of power transformers installed in Southern Senegal under the project” fell short of the targets. Other interim indicators met the targets.

As mentioned in the analysis of PDO1 above, regarding the project outputs, the ICR does not provide detailed information status on each activity under the components. However, it provides the overall implementation status for key items financed by AF under the components (Table 6) and overall implementation status (ICR Table 7). According to it, activities under Component 1 have almost been completed (99% completion rate), including those items that are relevant to PDO2, such as Guediawaye Injector Station (GIS) (100%), “Connection to Kedougou network (100%),” “Marassoum-Tangaori Connection (1% IDA/99%EIB).” The key items related to PDO2 under Component 2 are yet to be completed with the completion rate of 58% for “Connection of 37,500 low-income households (financed by 1% by IDA/99% by EIB).” However, it is expected that all the activities will be completed by the end of 2024.

The project’s activities under Component 2 were either completed or likely to be completed soon. Most of the intermediary indicators relevant to this PDO were also achieved. One of the PDO indicators, “Low-income households provided with access to electricity”, fell short of the target but is expected to be achieved once the relevant activities are completed. It should be reminded, though, that there is an attribution issue of PDO indicators to the project activities. Taking these issues into account, the rating is Substantial.

**Rating**  
Substantial

## OVERALL EFFICACY





### Rationale

The Overall Efficacy is rated Substantial. The World Bank's funding has mostly been disbursed. The remaining activities that were transferred to be funded by EIB and the activities that were originally planned to be funded by EIB, including those aimed to expand the access of energy, are also expected to be completed soon. Accordingly, although most of the intermediate results indicators and the PDO indicators related to the access to energy ("Low income households provided with access to electricity") were not achieved, they are likely to be achieved once the remaining activities are completed. Even though one of the other PDO indicators (Overall SENELEC recovery rate) was not achieved either, the rest of the PDO indicators were achieved. As explained above and in the M&E Design, Implementation, & Utilization section as well, there is the attribution issues of PDO indicators. However, given the relatively large share of facilities supported by the project among SENELEC's overall asset as well as the level of achievements of results, it is reasonable to assume that the activities supported by the project have made a good contribution to the achievement of project's development objectives and achievement of overall development outcome ratings.

### Overall Efficacy Rating

Substantial

## 5. Efficiency

### Economic and Financial Analysis

**Economic analysis.** Assessments of economic analysis, both at appraisal and at completion, were provided by the ICR (paras 39 to 43). At appraisal and for the AF, the project's economic analysis was conducted for those activities directly contributing to PDO 1 (i.e., specifically related to the impact of reduction in the technical loss) and PDO2 (i.e., specifically the impact of reliability of electricity services), composed by Component 1, with focus on the upgrade and modernization of the transmission and distribution network. These activities tend to generate quantifiable benefits for which economic value can be clearly identified. Particularly, the analysis included benefits associated with incremental consumption enabled by lifting T&D supply constraints, incremental consumption enabled by reduction in technical losses, and reduction in unserved energy, where different economic values of electricity were assigned depending on how benefits are derived in each activity. Among the activities contributing to PDO1, reduction of SENELEC's commercial losses was not included in the economic analysis as a benefit because it was considered to be a transfer of welfare from the consumers to the Government, as described by ICR (Paragraph 39). Activities under Components 3 and 4 were not included in the analysis either, which is justifiable because it would be difficult to assess/identify quantifiable benefits for which an economic value cannot be clearly identified and measured.

At appraisal, the economic analyses identified a net present value (NPV) of US\$52 million and an ERR of 22% for the original project as well as an NPV of US\$114 million and an ERR of 23% for the AF. The ICR followed the same methodology used at the appraisal and identified an updated NPV between US\$8 million and US\$17 million, corresponding to an ERR of between 6.5% and 7.0%. The lower NVPs and ERRs at completion were due to the adjustments of a number of shortcomings found in the original analyses. Those shortcomings include an approach to identify fuel costs, higher value of (avoided) operating costs, assumption of constant value for variable costs and benefits, approaches to identify WTP, and exclusion of relevant project costs funded by the GoS and EIB. The lower band of updated ERR, 6.5%, still meets the threshold of the social discount rate of 6%,



although the updated NPVs and ERRs were much lower than those identified at the appraisal for the original loan and AF.

**Financial analysis:** At appraisal, an analysis on SENELEC's financial situation was conducted, including SENELEC's financial forecast that incorporated the expected effect of SENELEC's financial restructuring as a part of the Government's 2011-2015 Emergency and Recovery plan to restore stability in the electricity subsector. The financial restructuring measures included the provision of the necessary subsidies, recapitalization, restructuring of debt, and efficiency gains. As a result of the plan, the level of subsidies for SENELEC was expected to decrease from 117 CFAF billion in 2012 to 20 CFAF billion in 2016. The AF PAD updated the financial analysis of SENELEC. According to the analysis, the level of subsidies actually decreased from 123 CFAF billion in 2012 to 77 CFAF billion in 2014, and it was expected that SENELEC would start producing a positive net profit from 2016. The EBITDA/debt service ratio (excluding subsidies) was also expected to improve from 0.18x in 2015 to 1.42x in 2020. However, as the activities under the project to achieve SENELEC's technical and commercial losses (PDO2) were a part of the overall financial restructuring measures, these expected improvements would not be exclusively attributable to the project. It should be noted that these financial analyses were undertaken to explain the project's context in detail, not necessarily to assess the project's financial impact. As such, these financial analyses did not include the project's expected financial rate of return, and at completion, the ICR did not provide an updated financial analysis of SENELEC either.

### **Operational and Administrative Efficiency**

Although the ICR did not report on the implementation efficiency, IEG made the following observations:

The original project was expected to be implemented from July 2012 to September 2016. By the time the AF was approved in July 2016, the original project was rated Satisfactory for progress (AF PAD paragraph 19), with the disbursement ratio of 56.4% and 90% of available financing had been committed. The AF PAD had an expected closing date in October 2022, although it was extended twice, and the project was finally closed in June 2022. However, three activities under Component 2 in the AF have not been completed yet as of the ICR's preparation. The ICR identified several factors that contributed to implementation delays, including institutional challenges of SENELEC, procurement delays, various contractor issues, poor coordination, project management, communication, shifts in strategy and team composition, co-financing/parallel financing, safeguards, and COVID-19 pandemic disruptions (ICR paragraph 55 to 62). In terms of the budget, the original amount of financing from the World Bank was US\$155.0 million (including both the original loan and AF), and US\$148.2 million was actually disbursed (delivery rate of 95.6%), whereas the ICR did not indicate how the funding from the Government and EIB, totaling US\$102.5 million, has been disbursed.

Based on the updated ERR, which – though it met the social cost of capital threshold - was much lower than projected at appraisal, the lack of an updated financial analysis, and the delay in implementation, the overall efficiency rating is Modest.

### **Efficiency Rating**

Modest

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:



	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	22.00	56.00 <input type="checkbox"/> Not Applicable
ICR Estimate	✓	7.00	56.00 <input type="checkbox"/> Not Applicable

\* Refers to percent of total project cost for which ERR/FRR was calculated.

## 6. Outcome

The overall development outcome of the project is rated Moderately Satisfactory. The project’s development objectives were substantial at approval and remained so during the project implementation. The project’s implementation experienced some delays, particularly the activities related to the expansion of electricity access under Component 2, which remained uncompleted at the Bank’s project completion but were likely to be completed soon. The following all contributed to the delay in the project’s implementation: the overall complexity of the project due to the ambitiously expanded scope under the AF; constraints of the Government agencies’ implantation; coordination issues among the government, the World Bank, and EIB; and the negative effect of the pandemic. Despite the delay both PDOs were mostly achieved evidenced by the PDO indicator results. The project’s efficiency also had shortcomings in terms of lower-than-expected economic return, the absence of ex-post financial return analysis, and implementation efficiency issues.

### a. Outcome Rating

Moderately Satisfactory

## 7. Risk to Development Outcome

**Project implementation:** As many of the activities under Component 2 have not been completed yet (although they are expected to be by the end of 2024), there is some risk of further implementation delay for the project. In addition, even though the rest of the components were completed, there is a risk associated with the maintenance of quality of services, which depends on the capacity of the Government and SENELEC to continuously provide adequate resources for maintenance and upgrade.

**Institutional capacity:** During the implementation of the project, several issues associated with the institutional capacity of SENELEC and the Government of Senegal emerged, which included poor coordination, project management, and communication. Although the Bank has been providing support to address operational and resource capacity issues throughout the project cycle, once the project was completed, unless support is continuously provided through another projects, continued limited capacity of SENELEC and the Government may undermine the maintenance of the facilities developed by the project.

**Financial sustainability of the electricity sector:** According to the ICR, the financial deficit in the electricity sector continues to be an issue. Despite the Government’s ongoing efforts to increase electricity tariff and eliminate subsidies, the electricity sector continues to encounter the issue of payment delays to IPPs and requires investment to improve the resilience of work (ICR paragraph 88). Component 3 of the



project intended to provide the support to strengthen the energy sector, including implementation of recommendations from the studies to improve strategic outlook of SENELEC.

## 8. Assessment of Bank Performance

### a. Quality-at-Entry

Issues related to the project quality-at-entry are discussed in the ICR in the paragraphs 51-54, and 77-80. IEG's own assessment on the Bank performance in this area, including key features, are discussed below.

The project, including modifications made through the AF and three restructurings, was relevant to the strategies of GoS, such as the third Poverty Reduction Strategy Paper (PRSP III), the new Priority Action Plan, and Plan Senegal Emergent (PSE), as well as a series of Bank Group CPF, which called for the recovery and expansion of the overall power system. The PDOs (both the original and revised ones), which included reduction of SENELEC's technical and commercial losses as well as improvement of electricity services' reliability, fully intended to address the objectives outlined in GoS' strategies and the WBG's CPFs.

As regards the project's design, the project was composed of comprehensive capital expenditures programs for the (i) the upgrade and modernization of the transmission and distribution network; (ii) improvement of SENELEC's commercial performance; (iii) technical assistance to studies on long-term strategy outlook; and (iv) support for project implementation, communication, and monitoring and supervision. While keeping these original four components, activities to be undertaken under each component were substantially expanded as a result of the AF. These components were comprehensive, covering the broad spectrum of transmission and distribution networks, with the purpose of addressing both PDOs simultaneously.

The original PAD identified the overall implementation risks as Substantial based on substantial stakeholder risks and implementing agency risks, whereas the overall project risk was rated Moderate. These risks were mostly adequately identified. The PAD also identified the risks associated with the sustainability of GoS' financing subsidies. However, regarding the implementing agency risk, the PAD mainly focused on the procurement and financial management capacity risk in general, but it fell short of drawing attention to the overall broad scope of the project and resultant complexities of implementing the project. Although the ICR claims that the risk assessments were adequate and described thoroughly in both the original PAD and the AF PAD, highlighting potential mitigation factors on fiduciary, E&S, or M&E arrangement, such assessments were not explicitly found in the original PAD or AF PAD. In fact, the ICR also identified that project preparation and appraisal were insufficient given the large scope of activities and low implementation capacity. This design issue and lack of recognition of it as a risk is considered one of the factors which affected the actual project implementation.

Another shortcoming identified was the quality of the economic analysis undertaken at the original appraisal and the AF appraisal, which included exaggeration of some of the benefits and omission of some of the costs., such as the costs of supplying the incremental demand through reduction in



outages. These shortcomings undermined to certain extent the quality of assessments based on which the approval decision was made for the project, as commented by the ICR.

Finally, when the PDOs and the corresponding indicators were revised at the time of AF approval in 2016 and the second project restructuring (2020), some of the revised indicators were defined in such a way that it became difficult to fully attribute the results of those indicators to the project because they were at the overall system and SENELEC levels, which were also subject to other investments undertaken during the period (as mentioned also in the quality of M&E section).

The overall quality-at-entry was Moderately Unsatisfactory due to shortcomings arising from the optimistic assumption of the implementation capacity of GoS, including SENELEC, given the project's complexities, quality of economic analysis, and challenges of attributing several of the indicators' results to the project.

### **Quality-at-Entry Rating**

Moderately Unsatisfactory

#### **b. Quality of supervision**

Key developments related to the quality of supervision were discussed in the ICR in paragraphs 55-62 and 81-84. IEG's own assessment, including key issues found, are summarized below.

The project faced a number of issues that affected its implementation. They included the following: institutional challenges for SENELEC; procurement delays (including processing and implementation of the contracts); various contractor issues; poor coordination; project management; and communications among PIU, SENELEC, and other entities; co-financing/parallel financing changes for EIB financing; safeguard related issues; and COVID-19 pandemic disruptions (ICR paragraph 55 to 62). The ICR states that the World Bank team undertook a proactive and collaborative approach to support PIU, the presence of local TTL complemented by frequent project supervision missions, and just-in-time and proactive project implementation support (paragraph 81-84). The ICR does not provide much specific information on the actual support provided. However, as highlighted by the project team in the meeting with IEG, Implementation Status and Results Reports (ISRs) documented instances where key sources of delays were flagged and subsequently addressed, such as inclusion of operating expenses in the authorized financing category at the first restructuring, design of an action plan closely tracked by Bank management at CMU, issuance of a threat of suspension to address the delay in safeguard action plan implementation, hiring of senior procurement consultant to support PIU, and recruitment of additional staff in PIU and more frequent field missions after the first fatality.

Although, as observed in the ICR, it would seem that more support was provided to the PIU relative to SENELEC, it was clarified by the Bank team that it also had a close working relationship with both entities, with frequent management updates. The project team also engaged with other government bodies, such as the Ministry of Petroleum. From a safeguards perspective, while there were some failures in implementing safeguards instruments for Component 1 and slow clearance of the ESMP before the launch of civil works, the Bank did take swift actions to address them, including the preparation and implementation of the Safeguard Action Plan (paragraph 83).



A review of recent ISRs suggests that the project team provided sufficient attention to the project's implementation and development outcome, by providing objective descriptions and candid reporting. By way of example, good explanations were provided on the issues associated with the project implementation delay, factors contributing to those delays, and measures to address them. The ratings on progress towards achievement of PDOs and overall implementation progress in recent ISRs also showed the project team's measured assessment of project status.

The Bank team adequately processed the appraisal and approval of AF as well as three rounds of project restructuring, which included responding to the increasing strategic priorities of the project and adapting to the evolving situations of project implementation.

As required, the Bank team prepared 21 ISRs in total, commencing semi-annually from 2013 to 2018, then increasing the frequency to three reports per year from 2019. A total of 25 missions were undertaken on a regular bi-annual basis, evidenced by mission Aid Memoires produced, with weekly meetings with the PIUs also being undertaken. The mid-term review (MTR) was prepared in January 2015 and several restructuring papers were produced. During the period 2015-2022, the TTLs, who were energy sector specialists, were locally based, which facilitated closer dialogue and collaboration with government counterparts and relevant stakeholders. (ICR paragraph 81 and 82).

Overall, the Bank team utilized all of the Bank instruments available and effectively collaborated with the relevant stakeholders. The quality of supervision is rated Satisfactory.

### **Quality of Supervision Rating**

Satisfactory

### **Overall Bank Performance Rating**

Moderately Satisfactory

## **9. M&E Design, Implementation, & Utilization**

### **a. M&E Design**

Constructing the M&E framework for this project would have been challenging because there is no clear one-to-one correspondence between the PDOs and components, where activities under Components 1 and 2 would contribute to both PDOs. In addition, the PDOs are not mutually exclusive. For example, reduction of SENELEC's technical loss would also mean improved reliability of the electricity service.

That said, although the PAD for the original loan did not contain a theory of change, the second restructuring paper in 2020 had a theory of change, which reflected the expanded scope of the project. Although the theory of change in the second restructuring paper adequately represented the project's overall logic, it was a little confusing, because the items under the Outputs, PDO outcomes, and Impacts dimensions were not fully aligned with the activities under the components, intermediary outcome indicators, PDO outcome indicators, and actual PDO defined in the PADs. Particularly, the output "Connection to the grid of 37,5000 low-income households" cannot be found in the PAD narratives, except a short reference in the second restructuring paper, which only stated "Moreover, PASE is financing the



connection of 37,500 low-income households to the grid under Component 2” making it challenging to fully understand how this indicator was going to be achieved. Therefore, the readers would need to reconcile the theory of change under PAD and the narratives. In addition, as indicated by the ICR, most of the PDO indicators are at the overall SENELEC and system levels (although SAIFI and SAIDI indicators were limited to the Greater Dakar area), creating an attribution issue. The ICR commented that the T&D development would cover 30% of SENELEC’s the entire system.

Regarding the institutional arrangement for M&E, SENELEC has been given overall responsibility for the monitoring and evaluation of the results and outcomes, including the preparation of the project report every semester (PAD paragraph 73 and 74). Many of the PDO indicators were what SENELEC was going to monitor anyway as a part of its regular performance assessment based on its system. The project’s Component 4 also intended to provide support for M&E activities (PAD paragraph 64).

### **b. M&E Implementation**

There were a few shortcomings in SENELEC’s reporting, including SENELEC’s failure to constantly provide semesterly report and the failure of the project’s Steering Committee to meet regularly and implement systems to properly track priorities (ICR paragraph 65). Despite these issues, the Bank team has been adequately monitoring the project, which includes reporting on the results through Implementation Status and Results (ISR) Reports and project supervision missions (ICR paragraph 66).

### **c. M&E Utilization**

The ICR claimed that the project team closely documented project supervision and implementation and used the project management tools to draw project stakeholders’ attention to critical issues and seek managerial and higher government support. The ICR also mentioned that the Results Framework and project indicators were revised throughout implementation to adequately reflect project developments, maintain ambitious targets, and include new indicators (Paragraph 67). Due to the shortcomings of M&E design associated with the attribution issues as well as the institutional capacity constraints described in the supervision section above, it is assumed that there were some limitations for monitoring of results to be fully helpful in preventing the impact of project complexity, delay, and institutional and project management issues, as pointed out by the ICR (paragraph 68). At the same time, the project team also confirmed that the M&E data and experience in the project directly informed the previously planned gas to power project and subsequently ongoing access projects, such as the focus on the indicators capturing only the results directly associated with the projects to address attribution issue.

Due to the shortcomings in the M&E design, implementation, and utilization, the M&E Quality is rated Modest.

### **M&E Quality Rating**

Modest

## **10. Other Issues**



## **a. Safeguards**

The project was assigned a Category B rating (partial assessment) and triggered the Bank's safeguard policies on Environmental and Assessment (OP/BP 4.01) and Involuntary Resettlement (OP/BP 4/12). An ESMF (Environmental and Social Management Framework) (including a draft ESMP – Environmental and Social Management Plan) and RPF (Resettlement Policy Framework) were prepared, as the specific sites were not yet selected, in June 2012. Later, based on the ESMF, individual ESAs and ESMPs for known sections of the transmission lines were prepared and publicly disclosed in 2017 (ICR Paragraph 70 and 71). In the 2020 restructuring, a change in the safeguard policies was triggered with three additional safeguards policies: Natural Habitats (OP 4.04), Forest (OP 4.36), and Physical Cultural Resources (OP4.11).

During the project's implementation, the safeguard compliance issue under Component 1 was identified in 2016. The Bank took several actions, including a Safeguard Action Plan, independent E&S audits, an ESIA and RAP for the Hann-CDB Line, and a project suspension threat. However, at completion, the project was still not in compliance with the World Bank policies and the resettlement actions under the Hann-CDB RAP (Resettlement Action Plan) were still pending; however progress was made in terms of the resettlement of households and affected businesses (ICR Paragraph 61, 69-74).

## **b. Fiduciary Compliance**

### **Financial Management**

Project financial management focused on addressing SENELEC's capacity constraints through the appointment of a competent financial management officer and preparation of the Project Implementation Manual, among other measures. Despite the overall satisfactory submission of accounting and audit reports, the residual risk was indicated as Substantial (ICR paragraph 75).

Regarding the financial covenants, there were three covenants related to (i) tariff adjustments and compensation for SENELEC, (ii) management of SENELEC's accounts receivable, and (iii) maintenance of EBITDA over debt service ratio. The project team confirmed that, for (i), the regulator, in general, calculated the allowed revenue requirement and informed the government and SENELEC of the compensation needed. In addition, for (ii) and (iii), the project team confirmed that the project partly complied with, although sometimes after delay, throughout the years. Regarding the auditor recommendations, there was one audit recommendation pending, which was recommending Ministry of Finance to require SENELEC to reimburse counterpart funding used for a different purpose from the original purpose. The team also confirmed that the auditor opinions were unqualified and external audits were conducted on a timely basis.

### **Procurement**

Procurement was overall Unsatisfactory. Despite the efforts to mitigate various risks associated with the procurement activities, such as recruitment of additional dedicated staff, building procurement capacity in SENELEC, and support to improve contract management capabilities, there were persistent delays in the procurement and implementation of the contract during project implementation, including the delays in the uploading and sharing of documents in the Systemic Tracking of Exchanges in Procurement (STEP). As discussed by one of the lessons, one of the main causes of the delay was the complexity of national





procurement procedures, including many layers of approvals, processing time required for various contracts, and lack of proper oversight by a higher authority (ICR Paragraph 76 and 91). The team confirmed that the World Bank procurement guidelines were followed and there was no instance of mis-procurement.

**c. Unintended impacts (Positive or Negative)**

The activities under Component 3 included the following: “Long-term strategic outlook included Studies on financial restructuring of utility and long-term sector strategy and governance (original loan),” “MT/LT strategic studies (integration of renewables, distribution masterplan, etc.),” and “Studies on sector governance (SENELEC’s unbundling, electricity tariffs, performance contract, etc.)” Although these activities under Component 3 were expected to contribute, rather indirectly, to PDO1 and PDO2, they were also expected to contribute to higher and broader levels of outcome, such as the energy sector’s overall development in the medium and long term. As briefly mentioned in the Risks to Development Outcome section above, the energy sector still faces various issues, including financial deficit. However, due to the lack of specific indicators and challenges to attribute sector level performance to specific projects (with smaller project size), the results of Component 3 and its contribution to the higher-level outcome are difficult to measure.

**d. Other**

---

**11. Ratings**

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Moderately Satisfactory	Moderately Satisfactory	
Bank Performance	Moderately Satisfactory	Moderately Satisfactory	
Quality of M&E	Modest	Modest	
Quality of ICR	---	Substantial	

**12. Lessons**

The ICR identified several lessons and recommendations arising from the experience of project implementation, and the most salient lessons are paraphrased as follows;

**Joint or co-financing with other donors needs to benefit from careful design to avoid creating a context of additional administrative burden.** The PoC with EIB took 2–3 years to negotiate and there was still no clarity on practical coordination or approach to simplify review and clearance. In future, it would be more efficient to ensure regular donor coordination meetings and agree for all



donors to rely on one's supervision to avoid parallel processes adding an additional layer and significantly higher risks of delays.

**Simplified national procedures should be discussed and arranged during project preparation and arrangements should be made to accommodate more efficient processing for the project.**

Procurement delays were quite significant and there were many layers of approval, review, and then registration for the various contracts with processing times that were neither swift nor consistent. Given the number of contracts to be processed and the importance of relying on existing systems, it would have been useful to have determined clear procedures and reliable timing for the various steps to be monitored by a higher authority within the ministry responsible for oversight.

**Project indicators should be selected carefully to ensure that these can be fully attributed to the project and capture the results adequately.** While there may be common indicators used, the design and scope of the project, the simplicity and flexibility of the indicators, and the ability to capture data that is specifically relevant for the project (and not just the sector) are key to ensure that the project can demonstrate tangible and qualitative impacts. In this case, the losses indicator and quality of service indicators were relevant but had attribution issues, so there is scope to explore alternative measures. There should also be consideration for further reinforcing and building the M&E capacity of the PIUs.

### 13. Assessment Recommended?

No

### 14. Comments on Quality of ICR

Overall, the ICR was well written, providing a comprehensive picture of the project's implementation, which went through several restructurings, as well as objective views on the issues and challenges that the project faced, including the project's complicated design, executing agencies' capacity constraints, and attribution and results framework's attribution issues. It also provided valuable lessons. However, there were some shortcomings, such as limited elaboration on the implementation of Component 3, lack of analysis on implementation efficiency, and unclear descriptions under Components 1 and 2. Despite these shortcomings, the ICR's quality is considered to be overall Substantial.

**a. Quality of ICR Rating**  
Substantial

