

**PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE**

Report No.:AB7409

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Project Name	Taiba Ndiaye Independent Power Producer Project
Region	Africa
Country	Senegal
Sector	Thermal Power Generation (100%)
Lending Instrument	Partial Risk Guarantee
Project ID	P143605
Parent Project ID	N/A
Borrower(s)	Republic of Senegal
Guarantor	IDA
Project Sponsor	Tobene Power SA
Beneficiaries of the PRG	SENELEC, Tobene Power SA
Environmental Screening Category	{X}A { }B { }C { }FI
Date PID Prepared	November 20, 2013
Estimated Date of Appraisal Completion	
Estimated Date of Board Approval	December 19, 2013
Decision	

I. Country Context

1. Senegal aspires to be a high middle income country by the next decade but has been in a low-growth equilibrium since 2006. With a population of about 13 million and a per capita GDP of about US\$1,100, Senegal has not shared the rapid growth experienced by many other Sub-Saharan African countries over the last decade. Compared to an average growth rate of 6 percent in the rest of Sub-Saharan Africa (SSA), growth in Senegal averaged only 4 percent between 2000 and 2010, and only 3.3 percent since 2006, with population growth at 2.5 percent. On the fiscal front, the expansion of current spending over the last seven years (from 13.8 to 17.5 percent of GDP between 2005 and 2012) has significantly reduced the government's fiscal space. The deficit went from 3.0 percent in 2005 to 6.7 percent in 2011, while total debt is back to pre-Multilateral Debt Relief Initiative levels.

2. Natural disasters such as droughts and flooding have slowed growth and increased the vulnerability of the whole economy. Like many other countries, Senegal is suffering from a rise in the incidence of natural disasters. Senegal is vulnerable to four main natural hazards: drought, locust invasion, flooding, often with associated epidemics, and a sea level rise associated with coastal erosion. The food crisis subsided in 2013 after a good harvest, but the security situation worsened due to the war in Mali, while the energy reform agenda is ongoing and resolution is only expected in the medium-term. Flooding during the 2012 rainy season, notably in the outer suburbs of Dakar, resulted in significant loss of life and temporary displacement of residents, creating a further challenge for the government.

3. Overall, the private sector's ability to stimulate the economy has been limited due to a weak investment climate and external shocks, underpinned by weak governance systems and poor implementation follow up. Senegal's private sector activity has struggled since the mid-2000s. Senegal is ranked 113 out of 144 countries in the 2013 Global Competitiveness Index as inadequate physical and human infrastructure, weak institutions (business environment), and governance continue to constrain the country's growth. Senegal urgently needs to restore the competitiveness of its economy to meet its growth objectives. The high costs and questionable reliability of electricity supply has been a key constraint to the country's competitiveness.

4. Senegal's Human Development Index (HDI) is 0.459, ranked 155 out of 187 countries with comparable data, compared to a SSA average of 0.463 in 2012. Overall, Senegal spends, as a share of GDP, resources that are comparable to its peers, but the intra-sectoral distribution of resources is inefficient, leading to poor outcomes. While the size of the government has grown from 24.1 percent of GDP in 2005 to 29.7 percent in 2011, access to improved services and the quality of services have not always increased. Overall, a lack of clear governance and accountability systems is undermining performance in the social sectors. Senegal needs to implement policies that improve governance, increase resilience to external shocks and are conducive to accelerating inclusive and sustainable growth, creating jobs, and improving service delivery to protect the poor and vulnerable.

5. The new Government has developed an ambitious program to escape the low equilibrium growth trap. The 2012 *Stratégie Nationale de Développement Economique et Social* (SNDES) is intended to address past short-comings by increasing the productivity of Senegal's whole economy, public and private. Recognizing the importance of the energy sector for Senegal's progress, the SNDES aims at reducing the costs of electricity production and expanding access to modern energy in the country.

II. Sectoral and Institutional Context

6. Senegal's electrification rate has doubled since 2000 and currently stands at approximately 50 percent. This is well above the average electrification rate of 30 percent for SSA. Access however remains uneven, with only about 25 percent of rural population electrified.

7. Responsibility for the sector lies with the Ministry of Energy which is assisted by the Permanent Secretariat for Energy. The national electricity utility (*Société Nationale d'électricité du Sénégal* – SENELEC) is a state owned enterprise which has a monopoly for transmission and distribution. It also owns about half of the generation capacity, with the remainder being owned by Independent Power Producers (IPPs) which generate electricity and sell it exclusively to SENELEC. An independent Electricity Regulatory Commission (*Commission de Régulation du Secteur de l'Electricité* – CRSE), was established in 1998 -- its responsibilities are to approve revenue requirements for the sector and overall regulation.

8. Senegal experienced rapid electricity demand increase in the past decade due to economic growth. During 2012, peak electricity demand reached 466 MW, almost double the 234 MW of 2000. Overall, electricity supply has not kept on with the demand growth. The cost of electricity generation in Senegal is also highly sensitive to the price of oil, as 90 percent of electricity in Senegal is generated using oil based products. As a result, the electricity sector has been facing major shocks in the past decade due to the dramatic surge in oil prices. Government budget slippages resulted in disruptions of fuel supply to SENELEC in 2009 and 2010. During 2010-

2011, the supply crisis peaked - a result of capacity and fuel shortages - causing widespread load shedding and social unrest.

9. To react to the power crisis, in 2010, the GoS carried out a diagnostic exercise of the sector, which highlighted an increasing gap between fast growing demand and insufficient, costly, and unreliable supply of electricity, as well as SENELEC's persistent financial difficulties, characterized by a significant operating deficit and high indebtedness. To tackle both technical and financial imbalances, the GoS developed a 2011 – 2015 electricity emergency plan, outlining the overall policy framework and strategy to steer the sector towards a sustainable path and ensure SENELEC's financial and operational sustainability over the long run.

10. In October 2012, the GoS adopted a Letter of Development Policy for the Energy Sector. The Letter of Development Policy outlines the sector policy objectives of the newly elected government to improve the sector's performance in the medium term. The main axis of the Letter of Development Policy for the Energy Sector are: (a) Ensuring energy security and increasing the energy access for all; (b) Developing a policy mix combining thermal generation, bio-energy, coal, gas, and renewables and seizing the opportunities of regional interconnections; (c) Continuing and accelerating the liberalization of the energy sector by encouraging independent production and institutional reform of the sector; (d) Improving the competitiveness of the sector in order to lower the cost of energy and reduce sector subsidies; and (e) Strengthening the regulation of the sector.

11. The proposed IDA and IFC operation is part of a suite of WBG instruments supporting the energy sector in Senegal, which is anchored in strong sector dialogue with the authorities. The WBG supports the GoS's goals to improve and implement its sector policy framework, to improve SENELEC's commercial performance, and to diversify its energy mix.

III. Project Development Objectives

A. Proposed Development Objective

12. The Project Development Objective is to increase the power generated by Independent Power Producers.

B. Key Results

13. Progress towards achieving the Project outcomes will be measured by the following indicators by IDA: i) Amount of electricity generated by the Project (GWh/year); and ii) Indirect Project beneficiaries¹ (number). IFC will be tracking a series of development impact indicators within IFC's Development Outcome Tracking System (DOTS). See Annexes 1a and 1b for more details.

¹ Direct Project Beneficiaries has been substituted with indirect project beneficiaries based on the nature of the proposed operation.

IV. Project Description

14. The proposed operation, which combines various WBG instruments, will benefit from the complementarity of IDA's and IFC's instruments. IDA will be providing a Partial Risk Guarantee (PRG) back-stopping certain payments under a Power Purchase Agreement (PPA) between SENELEC and Tobene Power SA (TP), the Project Company responsible for implementing the TP Project. The proposed IDA PRG (up to US\$40 million) consists of a credit enhancement mechanism to mitigate the risks of the low creditworthiness of SENELEC as a sole power off-taker, thus enabling private investment in the Project. IFC, which has been developing the Project together with the Sponsor through IFC InfraVentures will (i) have the right to convert its development expenses into equity in TP prior to financial close and, on or after financial close, will have the right to invest additional equity under the same conditions as the Sponsor for a final shareholding of up to 10% in TP, for an amount of up to EUR 3.5 million; (ii) provide an up to EUR 30 million A Loan and an up to EUR 55 million B Loan to TP, (iii) mobilize an up to EUR 16.4 million equivalent in local currency in parallel loans to TP, and (iv) provide an interest rate swap with a Loan Equivalent Exposure of up to US\$ 5.5 million.

The Tobene Power Project (TP Project)

15. The TP Project consists of the construction of a new power plant, with an installed capacity of 96MW (contractually 70MW guaranteed at 91 percent availability), to be located in Taiba Ndiaye, about 90km north east of Dakar. The Sponsor decided to design a larger plant to ensure it meets the rather high contractual required availability. The works will involve: i) the construction and installation of a combined cycle facility consisting of 5 X 18 V48/60 – 500rpm gensets (running on HFO with a provision for future conversion to operate on natural gas), and a steam turbine generator (adding about 7MW and allowing for higher fuel efficiency); ii) construction of network facilities to interconnect to the existing 220kV substation; and iii) fuel storage facilities. Commissioning is envisaged to take place about 18 months after the start of construction.

16. The TP Project will be developed as an IPP on a Build, Own, and Operate (BOO) basis, which will include design, finance, supply, construction, commissioning, operation, and maintenance. It will sell power to SENELEC under a 20-year PPA, which was signed in October 2011. Initially, the PPA was structured as a power availability (also known as tolling plant) arrangement, where SENELEC would be responsible for the supply of fuel and TP would undertake the obligation to supply energy at agreed efficiency rates. However, the PPA is currently being amended to reflect new fuel supply arrangements, and a new payment security structure. Under the new fuel supply arrangements, TP will undertake the responsibility of sourcing fuel and associated logistics responsibility, and pass related costs to SENELEC. Consequently, TP will enter into a Fuel Supply Agreement (FSA) with SAR. The financial closing of the Project is expected to take place by April 2014 with the full commissioning of the power plant expected in July 2015. In order to advance rapidly and meet the aggressive timetable, the Sponsor is expected to start construction before financial close.

17. The Project will be developed by TP, a special purpose vehicle incorporated under the laws of Senegal. At least 90 percent will be owned by Melec PowerGen Inc. (BVI) (MPG) an affiliated Company of the Matelec Group of Lebanon, and, subject to the completion of the

proposed IFC equity investment, up to 10 percent by IFC. IFC has been contributing to the development of the Project through IFC InfraVentures and has the right to convert the development costs incurred into equity in TP. At financial close, IFC has the option to subscribe for further shares enabling IFC to maintain its up to 10% shareholding. The Matelec Group is also the Sponsor for another IPP in Senegal: Kounoune Power (Board Report No: 30320-SN), which was also financed by IFC with a EUR 17 million A Loan in 2005. The Matelec Group is a fast growing south-south investor in the Africa region; most recently in 2012, the World Bank Group (IDA, IFC and MIGA) supported the Thika power project in Kenya (Board Report No: 66363-KE) which was also sponsored by the Matelec Group. Annex 2 includes further details on TP and the Sponsor.

V. Financing

Sources of funds	Euro million	%	Uses of funds	Euro million	%
<i>Equity:</i>			<i>Hard costs:</i>		
MPG	28.5	22.5%	EPC	93.2	73.5%
IFC	3.2	2.5%	Construction Management	1.0	0.8%
Total Equity:	31.8	25.0%	Land and other set-up	0.8	0.7%
<i>Senior Debt:</i>			Import duties/taxes/stamp		
IFC A Loan	28.4	30.0%	<i>Soft costs:</i>		
IFC B Loan	50.0	45.0%	Development costs	4.2	3.3%
EAIF	25.0	26.0%	Financing costs	6.3	4.9%
FMO	25.0	26.0%	DSRA	5.5	4.3%
Parallel Loan –BOAD	16.4	18.0%	Working capital/fuel	7.7	6.0%
Total Senior Debt:	94.9	75.0%	Contingencies	5.0	4.1%
Total	126.7	100%	Total	126.7	100%

VI. Implementation

18. The project will be implemented through Tobene Power (TP), a Special Purpose Company set to undertake Taiba Ndiaye project. TP will have overall responsibility for the design, finance, construction, operation, and maintenance of the plant for the duration of the PPA.

19. The main contracts governing the Taiba Ndiaye Project are the Power Purchase Agreement (PPA); the Engineering, Procurement and Construction (EPC) contract; the Operation & Maintenance (O&M) agreement; and the Fuel Supply Agreement (FSA).

VII. Applicable Performance Standards

6. Applicable Performance Standards	Yes	No	TBD
PS 1: Assessment and Management of Environmental and Social Risks and Impacts	X		
<p>The power plant is of substantial production capacity (87MW) and will be located in a place close to residential areas. The main foreseen environmental and social adverse risks and effects are related to: (i) noise over the acceptable standards for residential areas; (ii) air pollution and contribution to greenhouse gas emission from the plant smokes; (iii) liquid waste (used oil) generation inducing the pollution of surrounding area and underground water ; (iv) occupational health and safety risks in case employees are not equipped with appropriate protective materials; (v) explosion and any other machinery accidental risks; etc. Yet, due to its nature and scale (medium-big size power plant), the project is classified Environmental category A and as Classified Industrial Infrastructure Type 1, under the national environmental legislation (Law 2001-01 of January 15, 2001). The Bank Group classification at this stage is also category A and, the IFC performance standards 1, 2, 3 and 4 apply. Especially the ongoing environmental and social impacts assessment (ESAI), launched on August 27, 2012, will have to come out with accurate propositions for: (i) nuisances (air pollution and noises) prevention and control; (ii) an emergency preparedness plan; (iii) a sound environmental and social management system (ESMS) to be set in by the owner/operator; (iv) the strengthening of the national capacity on environmental norms and standards in the sector.</p>			
PS 2: Labor and Working Conditions	X		
<p>. The developer will be employing various categories of direct workers (temporary, permanent) and contracted workers throughout the lifecycle of the project. Therefore, the establishment of internal rules to comply with any eligible legislation related to labor and working conditions and rights should of important. The ESMS will recommend guidance to incorporate in the environmental and social action plan (ESAP) to be endorsed by the developer.</p>			
PS 3: Resource Efficiency and Pollution Prevention	X		
<p>The project development and operation will generate some externalities which can result in acute pollution if mishandled: production of wastewater, used oil and sludge; emission of greenhouse gases; noises. Also, the permanent transportation, storage and treatment of quantities of heavy fuel oil (HFO), as well as the handling of any other hazardous materials may be source of risks which need to be monitored. The ESIA will propose pollution prevention mechanisms and actions as part of the ESMS.</p>			
PS 4: Community Health, Safety, and Security	X		
<p>Regarding the nature of the project inputs, the suspected sources or risks are related to accidental spill of oil or polluted water, accidental fire occurrence during operation, and work accidents causing severe harm to workers. Occupational health issues may also be of concern. Thus, in addition to an Emergency Preparedness and Response guidelines to be endorsed under the ESAP, the ESMS will further provide safety measures to implement during the construction.</p>			
PS 5: Land Acquisition and Involuntary Resettlement	X		
<p>The project site is declared to be a property of the SENELEC and will be sold to the project developer; but, the environmental assessment will have to bring out the evidence (undisputed title detained by SENELEC), and conclude that the site is currently not in use or occupied by a tierce-party.</p>			
PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources		X	
<p>There is no vegetation coverage in the project site location. The current land occupation picture shows human settlements and degraded land in the surrounding areas.</p>			
PS 7: Indigenous Peoples		X	
<p>There are no indigenous people living in the project area.</p>			
PS 8: Cultural Heritage		X	
<p>There is no information mentioning the Taiba Ndiaye zone to be part of an ancient kingdom or city likely</p>			

6. Applicable Performance Standards	Yes	No	TBD
to host archeological artifacts/wealth or cultural heritage. Public consultation during the ESIA reporting process may raise the existence of sacred sites or resources and, should this happen, the IFC Performance standard 8 will apply and recommendations proffered in the ESMS.			

VIII. Contact point

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