

**PROJECT INFORMATION DOCUMENT / INTEGRATED SAFEGUARDS DATA SHEET  
(PID/ISDS)  
CONCEPT STAGE**

Report No.: 106141

**Date Prepared/Updated:** 23-Feb-2016

**I. BASIC INFORMATION**

**A. Basic Project Data**

<b>Country:</b>	Senegal	<b>Project ID:</b>	P153826
		<b>Parent Project ID (if any):</b>	
<b>Project Name:</b>	Senegal Solar Energy Development Through IPPs Project		
<b>Region</b>	AFRICA		
<b>Estimated Appraisal Date:</b>	04/30/2016	<b>Estimated Board Date:</b>	11/01/2016
<b>Practice Area (Lead):</b>	Energy & Extractives	<b>Lending Instrument:</b>	IDA Guarantees
<b>Sector(s):</b>	Other Renewable Energy (100%)		
<b>Theme(s):</b>	Infrastructure services for private sector development (100%)		
<b>Borrower(s)</b>	Government of the Republic of Senegal		
<b>Implementing Agency</b>	Private sponsors (TBC)		
<b>Financing (in USD Million)</b>			
	<b>Financing Source</b>		<b>Amount</b>
	Borrower		0.00
	IDA Guarantees		68.00
	Total		68.00
<b>Environmental Category</b>	B-Partial Assessment		
<b>Concept Review Decision</b>			
<b>Is this a Repeater project?</b>	No		
<b>Is this a Transferred project? (Will not be disclosed)</b>	No		
<b>Other Decision (as needed)</b>			

**B. Introduction and Context**

**Country Context**

1. 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. Electricity access improved from 37% of households in 2001 to 58% in 2011, while over 75% of the population had access to piped water in 2011, up from 64% in 2001. However, with the wealthiest 20% of the country's 14.3 million population enjoy almost 45% of its total wealth, many inequalities persist. The challenges to significant improvement in the social sectors include poor inter-sectoral allocation of government spending and a lack of clear accountability that continues to undermine performance.

2. Although Senegal benefits from political stability, it is one of the few countries in Sub-Saharan Africa that has not seen any per-capita income growth since independence. The absence of significant commodity exports (other than groundnuts), a tradition of strong government intervention in key sectors and areas of the economy, limited productivity in the agricultural sector, as well as a protected economic elite have traditionally constrained growth opportunities.

3. In 2014, President Sall launched his new vision for Senegal, *Plan Sénégal Emergent* (the Plan for an Emerging Senegal, PSE), which set a target annual growth rate of 7.1% for the period 2014-2018. The plan acknowledges past economic shortcomings which have hampered poverty reduction, and identifies several priority areas for growth, namely: (i) structural transformation of the economy for growth; (ii) human capital and social protection; and (iii) governance and institutions. The PSE also highlights the energy sector as the foundational factor underpinning its success in achieving emergence, with specific reference to the need for additional power supply to meet growing – and often unmet – demand.

4. Despite progress, many challenges remain. Key structural reforms that are heavily influenced by the political economy and yet to be enacted center on supporting private sector investment in agriculture, lowering the cost of generating and delivering energy, and creating the conditions for growth in services and manufacturing centers. The World Bank Group, the IMF and other donors are actively engaging with the government on this structural reform agenda to help it move forward in a transparent manner.

### **Sectoral and Institutional Context**

5. Senegal's energy sector is overseen by the Ministry of Energy and Development of Renewable Energies. The national electricity utility (*Société Nationale d'électricité du Sénégal* – SENELEC) is a state owned enterprise which has a monopoly for transmission and distribution. SENELEC 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 the utility. An independent Electricity Regulatory Commission (*Commission de Régulation du Secteur de l'Electricité* – CRSE), was established in 1998 with the responsibility of approving revenue requirements for the sector and overall regulation, including licensing and leading IPP tender processes. The sector also includes the rural electrification agency (Agence de Services d'Electrification Ruraux – ASER). About 90 percent of electricity in Senegal is generated using oil products. Imported crude oil is processed and refined by Senegal's only refinery, Société Africaine de Raffinage (SAR). Refined oil products are also imported directly, as SAR's processing capacity covers less than 40 percent of the market. Although majority owned by the private sector, SAR still operates like a public sector company.

6. Energy costs in Senegal remain high and the average end user tariff is US\$ 0.20/kWh, above the US\$ 0.16/kWh average in SSA. The high costs are mostly caused by an expensive energy mix, including 90% thermal generation fueled by diesel distillate and Heavy Fuel Oil (HFO). The sector is therefore highly exposed to oil price volatility and has faced major shocks in the past decade. In particular, a spike in oil prices caused widespread load shedding and social unrest as recently as 2011.

7. SENELEC's overall performance has improved slowly but steadily. In May 2013, the GoS and SENELEC signed a performance contract outlining performance targets and indicators for incremental sector improvements. Operationally, and while transmission and distribution bottlenecks remain, the utility is scaling-up its program to reduce relatively high transmission and distribution losses to increase revenue. In addition, an investment program for the installation of

about 200,000 new meters that allow for prepayment and about 15,000 intelligent meters for high-consumption customers should result in significant improved commercial operations by end of 2015. Financially, annual GoS subsidies to SENELEC dropped from about XOF120 billion in 2012 to XOF77 billion in 2014 aided by lower international oil prices. As a result of the continued oil price drop, no subsidies for tariff compensation are expected in 2015.

8. Total installed generation capacity connected to the grid is about 587 MW (including about 92 MW of emergency rental power), while off-grid isolated centers provide a further 47 MW. Current demand is estimated at 530MW today, however demand forecasts suggest that this could reach 1,020MW by 2020 as a result of 10%+ annual increases in demand associated with implementation of the *Plan Sénégal Emergent*.

9. The GoS's policy is to increase its generation capacity and shift its energy generation mix, progressively reducing its share of expensive oil based thermal generation. This includes the rehabilitation of existing power plants, reducing its reliance on short-term rental capacity, new construction of efficient power plants, and imports of electricity.

10. IPPs under preparation cover various technologies. Several coal projects under development have seen significant implementation delays and considerable difficulties in securing the necessary financing. Development of renewables, natural gas, and regional power trade offer a complementary and significant potential to reduce costs and promote a steady supply if well managed.

11. Variable renewable energy technologies, such as wind and solar PV, today enjoy a high level of political support in Senegal. The country has actively pursued policies to promote renewable energy, resulting in the adoption of two laws aiming at increasing the cumulative share of renewable energy and biofuels to at least 20% energy mix by 2020. In particular, decree No. 2011-2013 outlines the rationale to be used by the regulator when determining the acceptable solar energy price for a tender at a given point in time. A number of variable renewable energy are currently under development, with varying degrees of certainty and advancement

### **C. Proposed Development Objective(s)**

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12. The proposed development objectives are to increase competitive and sustainable power generation capacity leveraging private sector investments.

#### **Key Results**

13. Progress towards achieving the PDOs will be measured by monitoring the following indicators:

- Quantity of electricity generated from solar PV plants constructed (GWh/year);
- Indirect project beneficiaries (number);
- Private sector capital mobilized (amount, US\$).

14. The proposed Project's direct beneficiaries are both public and private. SENELEC and the GoS will benefit from an increased power supply at competitive prices that is expected to partially displace the need for expensive rental or HFO thermal power. In addition, the project sponsors and lenders will benefit from the loan and payment guarantees. Finally, the GoS will attract private capital to increase Senegal's electricity generation capacity with solar PV plants which will

diversify a generation mix that is currently heavily dependent on fossil fuel imports increase electricity supply reliability.

15. The ultimate and indirect beneficiaries of the project include all current and future SENELEC customers who use the country's interconnected power grid and who will benefit from improved reliability and price stability for their electricity.

### **Concept Description**

16. The proposed operation comprises IDA guarantees to enable private investment and subsequent development of approximately up to 100 MW of solar PV generation capacity through one or more IPPs depending on identified project needs. The Bank received a request from the GoSN for such guarantee support on June 4 2015. Specifically, IDA guarantees will serve to mitigate the risks to private investments associated with SENELEC as a sole power off-taker with low creditworthiness and termination of the relevant concession(s) by GoS. The size of the project could also be scaled during preparation at the Government's request should it be determined that the grid is able to absorb additional variable renewable energy.

17. The project will be supported by a suite of WBG services and instruments under a new program called Scaling Solar. The Scaling Solar approach is a "one-stop-shop" that aims to support the open, competitive and transparent development of privately and public/private financed utility-scale solar PV projects in sub-Saharan Africa within two years and at competitive tariffs. When implemented across multiple countries, the program will create a new regional market for solar investment. To achieve this, it offers a package of advisory services (IFC), contracts, financing (IFC), guarantees (World Bank) and insurance (MIGA). This enables governments and utilities to procure solar power transparently and at the lowest possible cost.

18. The project will include two types of guarantee instruments: i) payment guarantee and ii) loan guarantee. Payment guarantees would backstop SENELEC to provide a security of an amount to be agreed by GoSN. The security could be either via an escrow account or via a Letter of Credit (LC). The LC is the most likely option given its lower cost for GoSN. Without World Bank guarantees, SENELEC would not be able to find long term LCs. The guarantees will also reduce the cost to SENELEC of issuing these LCs. The loan guarantees would be offered to commercial banks that would extend debt finance to the solar IPPs. Through the loan guarantees, the Bank will backstop the IPP repayment risks to their respective commercial banks in case of the government or SENELEC failing to meet their obligations. As a result, the commercial banks would be incentivized to lend to the project, provide longer tenors, and lower interest rates given the improved credit risk rating.

## **II. SAFEGUARDS**

### **A. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)**

The expected site(s) for the project have yet to be determined.

### **B. Borrowers Institutional Capacity for Safeguard Policies**

The proposed implementation agency is expected to have adequate capacity to implement energy sector projects in compliance with World Bank policies.

### **C. Environmental and Social Safeguards Specialists on the Team**

Ruma Tavorath, Environmental Specialist, GENDR  
 Alexandra C. Bezeredi, Lead Social Development GSU01

#### D. POLICIES THAT MIGHT APPLY

<b>Performance Standards (please explain why)</b>	<b>Yes</b>	<b>No</b>	<b>TBD</b>
<b>PS 1: Assessment and Management of Environmental and Social Risks and Impacts</b>	<b>X</b>		
<p>Environmental impacts related to expansion of solar PV generation and connectivity could be related to civil works at access roads, substations, distribution lines and distribution networks. The project is expected to have moderate, localized and site-specific impacts. Construction activities lead to temporary air emissions (dust and vehicle emissions), noise related to excavation, construction and vehicle transit, transportation of materials, solid waste generation and wastewater generation from temporary building sites and worker accommodation. Where projects have construction worker-accommodation camps, basic requirements related to water supply, sewage and garbage disposal must be addressed. In case of CSP plants or clusters of PV plants, there may be higher requirements of water, which would require proper management especially in arid areas; Measures related to chance finds and cultural heritage will need to be well addressed in the safeguards documents.</p>			
<b>PS 2: Labor and Working Conditions</b>	<b>X</b>		
<p>This PS is triggered due to the labor intensive nature of the project activities. Issues related to discrimination, equal opportunity, compliance with labor laws, prevention of child or forced labor will need to be well managed. In addition, occupational health and safety (OHS) is an issue that needs to be properly managed during construction in order to minimize the risk of preventable accidents leading to injuries and/or fatalities.</p>			
<b>PS 3: Resource Efficiency and Pollution Prevention</b>			<b>X</b>
<p>This PS focuses on project activities which could have adverse impacts on environment and human health, and use of natural resources. However triggering of this PS will be determined during the environmental and social risks and impacts identification and assessment process.</p>			
<b>PS 4: Community Health, Safety, and Security</b>	<b>X</b>		
<p>This PS is triggered because project activities, and the movement of equipment and installation of infrastructure can increase community exposure to risks and impacts.</p>			
<b>PS 5: Land Acquisition and Involuntary Resettlement</b>			<b>X</b>
<b>PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources</b>			<b>X</b>
<b>PS 7: Indigenous Peoples</b>		<b>X</b>	
<b>PS 8: Cultural Heritage</b>			<b>X</b>

#### E SAFEGUARD PREPARATION PLAN

**Tentative target date for preparing the Appraisal Stage ISDS:**

October 31, 2016

The WBG's Operational Policy OP 4.03: Performance Standards for Private Sector Activities will be applicable to this project, which defines the roles and responsibilities of the private parties for managing the environmental and social risks and impacts of their projects. Once site identification has been completed, the private party will undertake the necessary assessments and identify and implement the mitigation measures. SENELEC will screen the individual projects and prepare site-specific safeguards instruments and monitoring plans to assess consistency with the WBG Performance Standards. Three Performance Standards are triggered with another four standards still to be determined based on site selection (see table D). The private parties will undertake a process of stakeholder consultation and disclosure and also establish a grievance mechanism to receive and facilitate resolution of concerns and grievances from the project affected communities about the client's environmental and social performance.

Once site identification has been completed and private sponsors have been selected, the sponsors will undertake the necessary assessments, identify and implement the mitigation measures, and develop an appropriate monitoring framework to ensure that the solar PV power plants supported by the guarantee operation are in compliance with Bank performance standards.

Land acquisition resulting in economic and/or physical displacement will need to be determined.

### **III. Contact point**

#### **World Bank**

Name: Manuel Berlengiero  
Title: Sr. Energy Specialist  
Email: mberlengiero@worldbank.org

Name: Christopher Saunders  
Title: Energy Specialist  
Email: csaunders@worldbank.org

#### **Borrower/Client/Recipient**

Name: Government of Senegal, Ministry of Energy  
Contact: Mor Ndiaye Mbaye  
Title: Chief of Staff, Ministry of Energy  
Email: dc\_meder@cmesn.net

#### **Implementing Agencies**

Name: TBD  
Contact:  
Title:

**IV. For more information contact:**

The InfoShop  
The World Bank  
1818 H Street, NW  
Washington, D.C. 20433  
Telephone: (202) 458-4500  
Fax: (202) 522-1500  
Web: <http://www.worldbank.org/infoshop>

## V. Approval

Task Team Leader(s):	Manuel Berlingiero & Christopher Saunders & Arnaud Braud	
<i>Approved By:</i>		
Safeguards Advisor:	Name: Maman-Sani Issa	Date: 05/11/2016
Acting Practice Manager:	Name: Sameer Shukla	Date: 05/17/2016
Acting Country Director:	Name: Greg Toulmin	Date: 05/31/2016

<sup>1</sup> Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.