



SCALING SOLAR | SENEGAL

The Scaling Solar program was launched in June 2015 as a World Bank Group initiative to rapidly expand private investment in utility-scale solar photovoltaic (PV) power in Sub-Saharan Africa, which suffers from the world's lowest connectivity rates. Scaling Solar offers governments a comprehensive support package, from site selection to securing a qualified sponsor through a competitive international tender, including financing and guarantees. Scaling Solar's goal is to increase transparency and reduce risks and costs. The program uses a templated approach to procurement, including standard form bidding and project documents.

Senegal was the second country to join the Scaling Solar program with IFC signing a mandate with the Government of Senegal in February 2016 to attract private investors to finance the development of a series of grid-connected photovoltaic power plants. Based on comprehensive due diligence, two project sites located in Kael (30 hectares) and Kahone (36 hectares) were selected to accommodate a total capacity of 60 MWac.

This series provides an overview of public-private partnership stories in various infrastructure sectors, where IFC was the lead advisor.

IFC
Public-Private Partnerships
2121 Pennsylvania Ave. NW
Washington D.C. 20433
ifc.org/ppp

Before the Scaling Solar program, the lowest solar energy price in Senegal had been 10-euro cents/kWh. After a competitive tender, the government announced the Engie/Meridiam consortium as winning bidder for both projects in April 2018, with the consortium offering record-low prices, down to 3.8-euro cents/kWh. Commercial close was reached on November 13, 2018 when the consortium signed the Power Purchase Agreements (PPAs) with SENELEC. Financial close was reached in July 2019 and the first plant is expected to be operational in 2021.

IFC's advisory work was undertaken with financial support from USAID's Power Africa program, the Private Infrastructure Development Group, the Ministry of Foreign Affairs of the Netherlands, the Ministry of Foreign Affairs of Denmark, and the UK's Department for International Development.

BACKGROUND

Senegal's power sector is heavily reliant on costly fuel imports, with 90 percent of its energy mix oil-based and the remainder coming from hydroelectricity. The country's oil-based power plants are inefficient and old, leading to recurring power outages and high generating costs that have hindered economic development and weakened the financial position of the national electricity utility, SENELEC. This resulted in severe underinvestment in electricity infrastructure and high energy tariffs for homes and businesses despite substantial government subsidies. To tackle the technical and financial imbalances, the government designed a recovery plan (2011-2015) that aimed to intensify the investment needed to overhaul the energy sector, including its operational turnaround and the financial restructuring of SENELEC.

In line with the government's effort, Scaling Solar supported the power sector's recovery by reducing the country's reliance on expensive imported fuel and reducing electricity generation costs over the medium to long-term. On February 9, 2016 the Government of Senegal, represented by the Ministry of Energy (MoE) and the Ministry of Finance (MoF), mandated IFC as the lead transaction advisor to attract private investors to finance and develop a series of grid-connected photovoltaic power plants with an installed capacity ranging from 50 to 200 megawatts in nominal power (MWac).

IFC'S ROLE

IFC assisted a dedicated government steering committee presided over by the electricity sector regulator (CRSE), and comprising SENELEC, the relevant ministries, as well as major multilaterals and donors. IFC's mandate included:

- ▶ Helping the Government of Senegal assess various sites for the project from technical, environmental, and social viewpoints.
- ▶ Conducting complete due diligence, including detailed legal, technical and environmental and social investigations.
- ▶ Implementing a transparent, streamlined, and competitive bidding process.
- ▶ Proposing a bankable set of project contracts and documents.

Through the Scaling Solar program, IFC, the World Bank, and MIGA, also offered stapled financing terms and additional credit enhancement mechanisms.

TRANSACTION STRUCTURE

The Project is based on the business model of a traditional solar Independent Power Producer (IPP) that leverages private investment and the expertise and negotiation power of a reputable private developer that helps lower costs with Engineering-Procurement-Construction (EPC) contractors and equipment manufacturers, as well as its operational expertise to efficiently manage construction and operation risks.

Additionally, the Scaling Solar approach provides SENELEC with long-term visibility and certainty as the transaction assumes a pre-determined tariff level over a 25-year time frame. Moreover, the Scaling Solar standard risk allocation provides a breakthrough combination of risk mitigation mechanisms and optional credit enhancement instruments, using a range of World Bank resources and services in a "one-stop shop" package:

- ▶ IFC Advisory Services to provide guidance to the government throughout project development and procurement process.
- ▶ Multilateral Investment Guarantee Agency (MIGA) Political Risk Insurance to insure the private investor up to specified amount for losses due to unforeseen political risks (e.g. expropriation, transfer restriction, war/civil disturbance, contract breach).
- ▶ World Bank Partial Risk Guarantees to reduce the off-taker credit risk with upfront term sheet limited to amount needed for bankability.
- ▶ IFC stapled financing with detailed project finance term sheet offered to all prequalified bidders.

BIDDING

On April 5, 2018 the ENGIE/MERIDIAM Consortium was awarded the two projects having offered the lowest bids at 3.80 euro cents per kilowatt hour for the solar plant located in Kahone, and 3.98 euro cents per kilowatt hour for the solar plant located in Kael; the lowest tariffs in Sub-Saharan Africa to date. This represents a price cut of 60 percent from the previously lowest solar tariff in Senegal. Engie and Meridiam will together hold 80% of the project company, while the Senegalese sovereign fund (FONSIS) holding the remaining 20 percent.

Together, the projects entail private investments of about US \$50 million, reduced greenhouse gas emissions of approximately 58,000 metric tons per year, and increased access to electricity to nearly 170,000 residential users.

This transaction was the first competitively tendered independent power generating project in Senegal, and paves the way for other affordable, renewable, climate-friendly, solar energy projects.

EXPECTED POST-TENDER RESULTS

- ▶ Estimated \$50 million mobilized through private operator's debt and equity financing
- ▶ 58,321 metric tons per year of reduced greenhouse gas emissions
- ▶ Overall, about 168,818 residential users with increased access to electricity