



# Public-Private Partnership Stories

## Scaling Solar Zambia 1



The Republic of Zambia has experienced strong economic growth of an average of 6.5% over the last decade, along with a population increase of 30% to 17 million. This has significantly increased demand for power, but only about a fifth of the population has access to electricity. With over 90% of Zambia’s energy coming from hydro power, the energy shortage has been worsened in recent years by drought.

To increase its energy generation capacity and diversify its energy mix, the Zambian government signed a Scaling Solar mandate in 2015 to bring affordable, clean energy to the country. The competitive tender process for two solar projects carried out under the program resulted in a record-low solar tariff of 6.015 cent/kWh fixed over 25 years – the lowest solar tariff in Sub-Saharan Africa at the time. The two projects will bring a total of 76MW to the country’s grid and are the first renewable IPPs in Zambia – and the fastest IPPs to reach commercial close in sub-Saharan Africa outside South Africa.

*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

*IFC’s advisory work on Scaling Solar was undertaken with financing support of USAID’s Power Africa, the Private Infrastructure Development Group company, DevCo, the Ministry of Foreign Affairs of the Netherlands, the Ministry of Foreign Affairs of Denmark, and the UK Department for International Development.*

## BACKGROUND

In Zambia, electricity demand had been growing at an average of about 3% per annum, mainly due to the increased economic growth - GDP growth averaged 6.5% over the past 10 years. By 2015, Zambia was struggling with an electricity supply deficit of 560 MW (approximately ¼ of Zambia's installed capacity), which, without substantial investment in generating capacity, would only increase as electricity demand grew.

The insufficient supply of reliable power was severely affecting the country's ability to maintain its economic growth, and the electricity supply deficit was resulting in 12 hour/day load shedding across the nation and power cuts of 30% to the mining industry – a key driver of Zambia's growth.

To add the urgently needed power to its grid and help diversify its energy mix, Zambia became the first country to sign up to the World Bank Group Scaling Solar program in August 2015. Scaling Solar represents a standardized approach to IPP procurement, including standardized project documents and bidding processes. It provides governments with a complete set of templated, bankable, tender documents. Scaling Solar also provides governments with advisory services for project and country specific due diligence and project structuring, along with offers of IFC financing, World Bank guarantees and MIGA insurance to any winning bidders if requested.

## IFC'S ROLE

IFC was the lead transaction advisor for the Industrial Development Corporation of Zambia ("IDC") for the development and tendering of two utility-scale projects. The mandate included assisting IDC with all the upfront development work, running a two-stage tender to select two winning developers, and all steps required to financial close. Upfront development activities, conducted by IDC with assistance from IFC's PPP and Energy & Water teams, included:

1. Site selection, including all necessary studies to establish how much capacity can be accommodated on the Zambian grid
2. Full due diligence on all legal and regulatory, environmental and social, tax and accounting and insurance matters relating to the projects
3. 'Localization' (country-based adaption) of the key Scaling Solar template documents and drafting of a Shareholder's Agreement for IDC minority stake investment in the projects.

## TRANSACTION STRUCTURE

This was the first in a series of projects to be tendered in Zambia using the Scaling Solar approach, with a total target capacity of 600 MW. The initial projects consisted of designing and tendering two solar PV plants of up to 50 MW each located at the Lusaka South Multi Facility Economic Zone<sup>1</sup>. It was decided by

IDC that, to promote competition in the sector and to diversify the risk to the sector of non-performance by a single developer, the proposed projects be situated on separate sites and developed by different private sector sponsors. The tender was for an 80% stake in the projects, while IDC would partner with the private sector and retain the remaining 20%.

## BIDDING

The tender was launched in October 2015, and the qualification criteria included a legal component, a technical component (based on past project experience) and a financial component. The project received 48 applications with 11 bidders being pre-qualified, and in May 2016 seven bids were received for each project. Neoen / First Solar bid the lowest non-indexed tariff in sub-Saharan Africa of just USc 6.015 per kWh for the 25-year operation of a 47.5MW plant. Enel Green Power offered USc 7.84 kWh – the second lowest bid – for the development and operation of a 28.2MW power plant.

## EXPECTED POST-TENDER RESULTS

- Improved power access for over 130,000
- Renewable capacity to be built: 75.7MW
- \$82 million in private investment in Zambia's energy sector
- GHG emissions reduced by 1.868 metric tons/year
- Scalable design: Based on the success of the project, Zambia has already signed a second mandate for a total of 500MW under Scaling Solar. Senegal, Ethiopia and Madagascar have also signed up for the program. In addition, Scaling Solar is expanding to new regions with countries in Asia, Latin America, and the Middle East in discussions to join the program.

<sup>1</sup> <http://www.lsmfez.co.zm/>