

Scaling Solar in Africa

Jordan Bintcliffe

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Three years on from the launch of the International Finance Corporation's (IFC) Scaling Solar scheme in Zambia, the programme is gaining traction. Four other African countries are now running procurements – and Zambia is coming back for another helping. Between them, they account for over 1.2GW of capacity.

The Scaling Solar initiative emerged as a means to fill the gap in helping to structure and simplify the process of developing grid-connected solar projects. The programme uses a template process and standardised documentation, with the IFC participating as lead arranger and potentially as a lender or equity provider.

The IFC has had success in signing up a number of host countries to tender solar photovoltaic (PV) projects using the scheme. Zambia started tendering the first batch of Scaling Solar projects in 2015 – with the first of these projects reaching close in late 2017 – and has since begun a second round of the programme. Senegal and Ethiopia are both running programmes under the initiative – as is Madagascar, which is tendering for PV with associated battery storage.

Zambia rounds one, two... and three?

Zambia's Industrial Development Corporation (IDC) in July 2015 signed an agreement with the IFC to explore development of two PV projects under Scaling Solar. After a tender process, Neoen and First Solar won the 47.5MW Bangweulu project, while Enel Green Power Africa won the 34MW Ngonye project.

Neoen and First Solar offered to sell electricity from Bangweulu at a fixed price of \$0.06015/kWh under the PPA with state utility and offtaker ZESCO – a competitive tariff, making the average price \$0.047/kWh over the lifetime of the contract. Enel won Ngonye with a bid of \$0.0784/kWh.

The Bangweulu project reached [financial close](#) in December 2017 – reaching a significant milestone for Scaling Solar as the first to be tendered, developed and financed under the programme. Bangweulu will finish construction in September (2018).

For Bangweulu, IFC arranged a debt package comprising an IFC senior A-loan of \$13.3 million, alongside an IFC-Canada Climate Change Program senior loan of \$13.3 million and OPIC senior loan of \$13.3 million.

The IFC provided an interest rate swap on the deal with another World Bank Group member – the International Development Association – providing a partial offtaker payment guarantee.

Enel's Ngonye project will reach close in Q2 2018, according to a recent report, some way behind Bangweulu despite lining up a [debt package](#) from the IFC and European Investment Bank (EIB) in October last year (2017). Enel declined to comment on a request for more information at the time of publication.

The Ngonye and Bangweulu projects are both located in the Lusaka South Multi-Facility Economic Zone in the south of the country.

Prior to the close of round one, Zambia's government began pursuing a second round of Scaling Solar. An RFQ was issued in April 2017 for a further 180MW of capacity with [12 consortia prequalified](#) in June that year:

- Access Energy with Eren and JGC
- Acciona Energy with Swicorp and Enara Bahrain
- EDF Energies Nouvelles
- Enel Green Power
- Engie
- Globeleq with Fotowatio Renewable Ventures

- Mitsui & Company
- Nareva Holding
- Neoen and First Solar
- Scatec Solar
- Tata Power Company
- Total Mulilo Zambia consortium

In the same month, IDC announced that it is planning a [third round](#) of the programme. Procurement was to start before the end of 2017, but so far the IDC hasn't announced progress.

Madagascan does Scaling with a storage flavour

Madagascar issued an RFQ in October 2017 for 25MW of solar capacity with associated battery storage – both to be procured under the Scaling Solar initiative. Details on the battery storage requirements have not been released, however.

Madagascar has just 540MW of generation capacity and only 15.4% of the population have access to electricity. The island nation suffers from frequent power outages, substantially increasing the difficulty of doing business. The programme could later be expanded to 40MW of solar capacity.

Six consortia have been [prequalified for the project](#), including:

- Acciona Energia
- Al Nowais Investment with Aldwych Power Holdings
- Globeleq Africa Holdings
- GreenYellow with Omnicane
- Mulilo Group with Voltalia
- Ormat Technologies

Senegal awards two of three

Senegal is looking to procure a total of 200MW under the Scaling Solar programme. The country has around 620MW of total installed capacity, with 56.5% of the population having access to electricity.

The country's Electricity Sector Regulatory Commission kicked off the programme with a tender for 90MW of capacity. French developer Engie in consortium with fund manager Meridiam managed to scoop two of the projects – 60MW of capacity – with bids of \$0.038016/kWh and \$0.039831/kWh, respectively.

The prices are about 60% lower than other solar contracts agreed in the country, the IFC said.

The third project was absent from any announcement about the [winning bids](#) – the State of Senegal decided not to go ahead with the project, sources said at the time.

Ethiopia opts for largest Scaling round

Ethiopia is the fourth and most recent country to sign up to the IFC's Scaling Solar initiative – and it's offering the largest amount of capacity with two projects of 235MW each. Ethiopian Electric Power (EEP) issued an RFQ in October 2017 for 250MW of capacity and [prequalified 12 consortia](#) in March this year (2018):

- Access and Total
- Acciona and Swicorp
- Actis and Mulilo
- Acwa Power
- Al-Nowais, Aldwych and Alten
- EDF and Masdar
- Enel Green Power
- FRV, Globeleq and Belayab

- KoSPCo and KEPCO
- Mitsui
- Nareva and Adani
- Scatec Solar

The country has an energy shortfall of around 500MW, with over 70% of its energy produced by hydropower. Some 41% of Ethiopian's have access to electricity.

The use of solar power will enable Ethiopia to better manage its water resources. The country has faced numerous droughts in recent years.

Scaling Solar beyond Africa

Nigeria's government [expressed an interest](#) in the Scaling Solar programme in August 2016, *IJGlobal* reported at the time. (The report also noted that Ethiopia was interested in the initiative – the country launched its programme in the following year.)

There is also the possibility that Scaling Solar could be expanded into other regions in need of electrification. Iraq has been in discussions to sign up to the programme, a source said. The country has already had a stab at solar development with a plan in March 2017 for a 30MW solar tender.

That project seems to have fallen by the wayside, however, after the country's Ministry of Electricity was offering a fixed tariff of \$0.035/kWh – which some market participants branded "insane".

"\$35/MWh sounds insane – particularly for 30MW," a financial adviser active on solar projects in the region said at the time, noting the project may not have the scale to achieve such a cheap price.

"I would assign a probability of zero to that happening at anything close to that price," he added.

Iraq may be able to obtain cheap development finance institution (DFI) funding offered at a concessionary rate – but it would likely be unable to support the tariff.

Another source – at a global DFI actively financing solar in the region – put it more concisely: "No way."

With Iraq's home grown efforts to procure solar under a fixed tariff apparently remote, Scaling Solar could offer a new direction for PV development in the country.

Cover image: Solar panels in the village of Mpanta, Zambia. © United Nations Industrial Development Organization

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