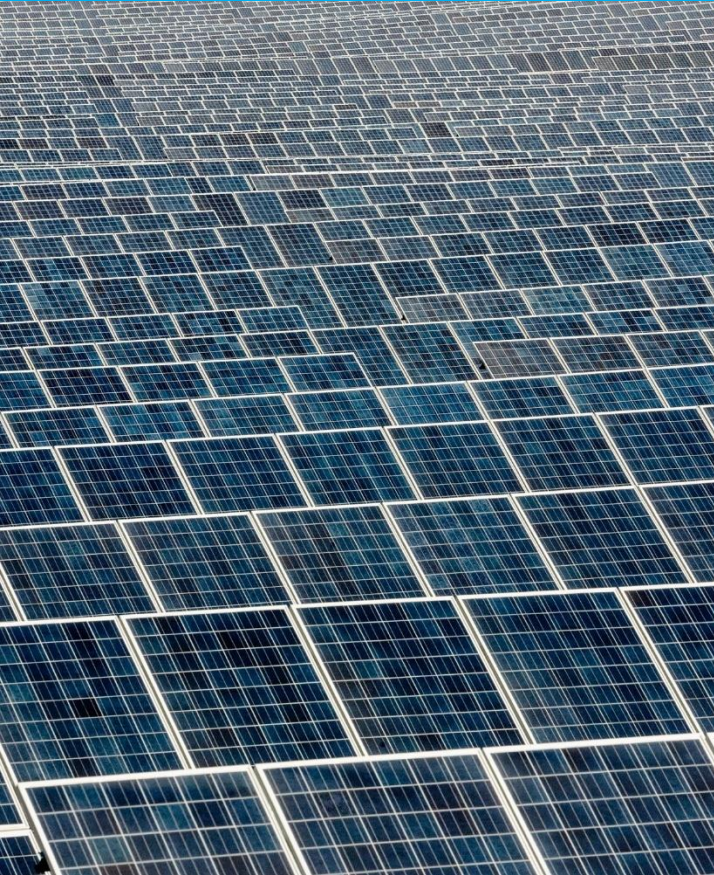


Scaling Solar



AN INNOVATION OF
WORLD BANK GROUP



Scaling Solar:

A World Bank Group solution to
accelerate private investment
in utility-scale solar PV

Solar PV – a Great Solution for Emerging Markets

- Prices of crystalline silicon PV cells have dropped below **\$0.35/W*** (from 76.67 \$/W in 1977)
- Many developing countries benefit from **excellent irradiation levels**
- Short construction periods of **3-9 months** vs. 2-10 years for thermal, hydro & geothermal
- There is a need for **diversification** of electricity generation source in many countries to avoid fuel price/ hydrology volatility

*As per BNEF market outlook of November, 2017

A Challenge for Developing Countries to Benefit

- Limited institutional capacity
- Lack of market scale
- Lack of competition
- High transaction costs
- High perceived risks and cost of capital

The Solution: Scaling Solar

Scaling Solar is a “one stop shop” program for governments to rapidly mobilize privately funded grid connected solar projects at competitive tariffs. The program brings together a suite of World Bank Group services under a single engagement based on a templated approach to create viable markets for solar power in each client country.

What Scaling Solar Delivers

A “One-Stop-Shop” Approach

- Whole WBG in one packaged solution:
 - Advice
 - Tendering expertise
 - Documentation
 - Competitive financing and insurance
 - Risk management and credit enhancement
- Designed with both government and developers in mind
- WBG expertise and lessons learned worldwide embedded

A Focus on Standardization

- Fully developed documentation quickly tailored to local needs drives speed
- Consistency across countries creates a single, ‘virtual’, large scale market to attract the largest and best global bidders

De-risking to lower tariffs and ensure success

- Coordinated delivery to address both public and private sector constraints
- Projects substantially developed to lower risk for developers and government
- WB debt, insurance and guarantee products to lower investor risk and required returns

The Process: Potential for Generation in 2 Years



1. Project Preparation

- Technical and economic analysis
- Site investigation
- Legal & regulatory analysis

2. Bid Preparation

- Template tender and project documents
- Attachment of financing, insurance, and credit enhancement

3. Tender Process & Award

- Request for qualification
- Bidder consultation
- Request for proposals
- Proposal review and award
- Signing of project documents

4. Financial Close

- Finalization of contracts
- Final project approvals
- Finalization of loan agreements, insurance, and risk management

5. Construction & Operation

- Construction
- Commissioning
- Operations

The Benefits of Scaling Solar

Governments and Utilities

- Speed
- Customized process
- Certainty
- Competitive fixed-rate tariffs

Project Developers and Investors

- Market creation
- Reduced development time
- Level playing field
- Regional scale

International Donors & Development Partners*

- Reach
- Leverage
- Transparency
- Impact

*Opportunities for donors include: funding transaction advisory (steps 1-3) or provision of capital grants to all bidders to lower tariffs and improve affordability

Scaling Solar Mandates

Zambia

Round 1

- Project size: 2 projects for a total of 75.7 MWac
- Bids: 48 applicants at qualification, 11 prequalified
- Tariff: Record-low 6USct/kWh achieved
- Status: First project under construction

Senegal

- Project size: 100 MWac under procurement
- Bids: 28 applicants at qualification, 12 prequalified
- Tariff: 4.7USct/kWh
- Status: Awaiting financial close

Ethiopia

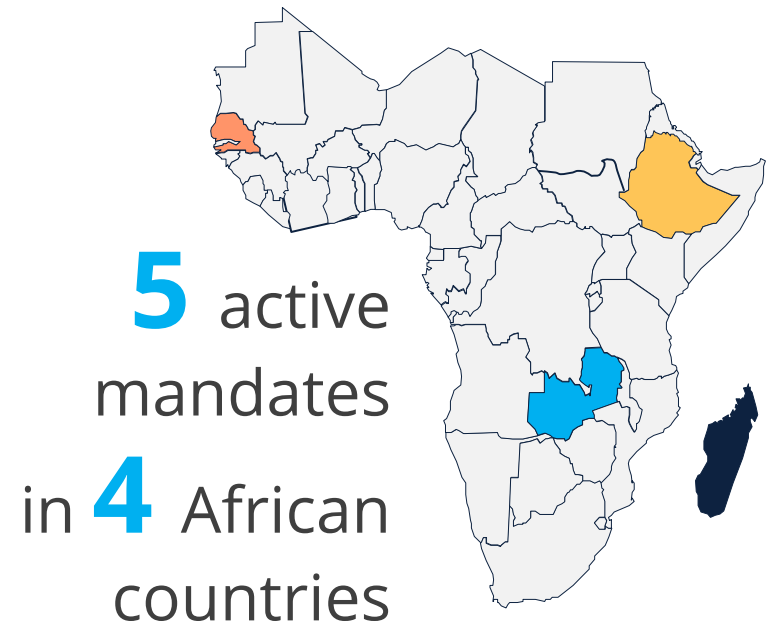
- Project size: Round 1 of 250MWac under procurement
- Status: Pre-qualified bidders selected

Madagascar

- Project size: 25 MWac under procurement
- Status: Pre-qualified bidders selected

Round 2

- Project size: 300 MW under procurement
- Bids: 21 applicants at qualification, 12 prequalified
- Status: In preparation for request for proposal



Scaling Solar Tender Results in Zambia

9 months: Project preparation, tender delivery and award

Top 6 bids for the West Lunga Site | Mosi-oa Tunya Site

- Neoen | First Solar: **6.015USc/kWh*** | 6.135USc/kWh
- ENEL Green Power: 7.799USc/kWh | **7.839USc/kWh***
- Access | EREN Zambia 1: 8.288USc/kWh | 8.951USc/kWh
- MULILO Zambia PV1 Consortium: 8.400USc/kWh | 8.400USc/kWh
- EDF Energies Nouvelles: 10.040USc/kWh | 9.985USc/kWh
- SEP | AVIC Intl: 10.600USc/kWh | 10.600USc/kWh

6.0USc/kWh non-indexed is equivalent to an average in current dollars over contract life of **4.8USc/kWh**

*Winning bids

Scaling Solar Tender Results in Senegal

60% tariff reduction achieved in Senegal.¹

Top 6 bids for the Kahone | Touba Site

- | | | | |
|---|--------------------|--|--------------------|
| • ENGIE MERIDIAM: | 3.802€/kWh* | | 3.983€/kWh* |
| • Nareva Holding Abu Dhabi Future Energy Company PJSC "Masdar": | 3.890€/kWh | | 3.990€/kWh |
| • Access Infra Africa Total Eren S.A. | 4.390€/kWh | | 4.390€/kWh |
| • Actis Energy 4 Mulilo Group Holdings Proprietary Limited: | 4.504€/Kwh | | 4.889€/kWh |
| • Scatec Solar: | 4.600€/kWh | | 4.630€/kWh |
| • Acciona Energia S.A.: | 5.793€/kWh | | 5.164€/kWh |

3.8€/kWh (4.7USc/kWh) indexed at 1.2% is equivalent to an average in current dollars over contract life of **4.3USc/kWh**

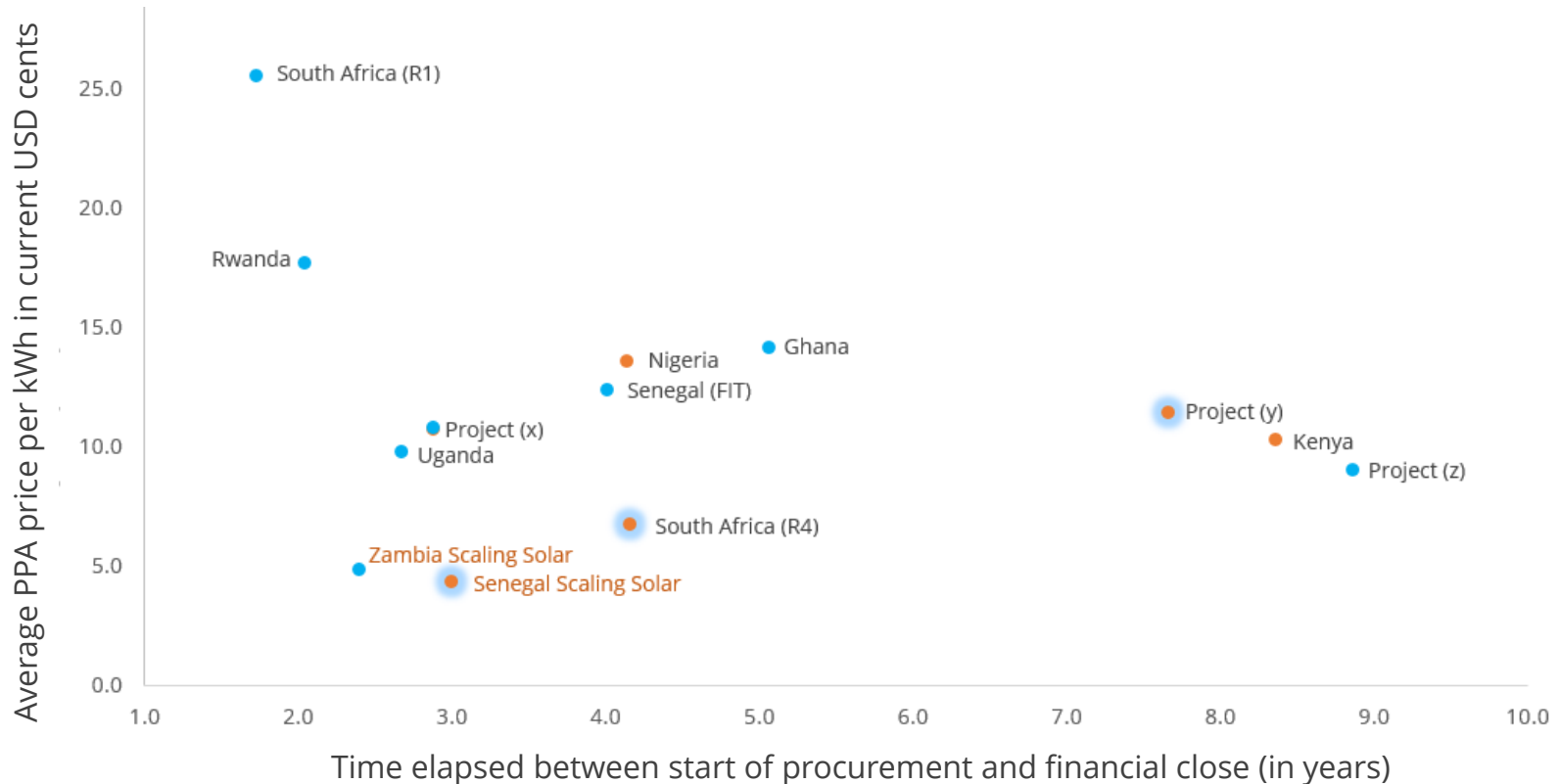
¹Based on previous solar PPAs | *Winning bids

Participating Developers Included:



Scaling Solar vs. Regional Benchmarks

Sub-Saharan Solar PV: Comparison of Tariff and Time to Market



● Projects past financial close ● Ongoing projects as of May, 2018 ● Expected time to financial close

Note: Anonymous projects x, y and z are in different countries throughout sub-Saharan Africa

Next steps for interested governments

- Receipt of an Expression of Interest from Government
- Discussions to confirm and agree:
 - Suitability of Scaling Solar in country context
 - Sufficiency of stakeholder support (MoE, MoF, Utility, Regulator)
 - Identification of a government champion to drive the project
 - A timeline from mandate to selection of a Preferred Bidder
- Signing of a mandate with the World Bank Group to:
 - Conduct technical studies
 - Run a competitive tendering process complete with standardized documents and stapled financing
- Make initial payment for advisory services as per the engagement letter
- WBG team to run due diligence process and, after consultation and agreement from Government, tendering process

6-12 months: Expected timeline from mandate to selection of preferred bidder



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