Scaling Solar:
A World Bank Group solution to accelerate private investment in utility-scale solar PV
Benefits of Solar in Emerging Markets

• Prices of crystalline silicon PV cells have dropped below $0.4/W (from 76.67 $/W in 1977)

• Many emerging markets benefit from some of the best irradiation levels on the planet

• Short construction periods of 3-6 months vs. 3-10 years for thermal, hydro & geothermal

• Need for diversification in many countries
The Challenge

- Limited institutional capacity
- Lack of market scale
- High transaction costs
- High perceived risks and cost of capital
- Lack of competition and high tariffs
South Africa Case Study

- Large, repeat allocation (4 rounds with a total of 1,900MW solar PV power)
- Strong competition
- Inclusive framework
- Program expansion

→ Capacity build-up
→ Tariff decrease (-76% for PV projects over the 4 rounds)
→ Proven bankable
→ High investor interest, increasing selectivity in bidders
The Solution: Scaling Solar

Scaling Solar is a “one stop shop” program supporting 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 standardized approach to create viable markets for solar power in each client country.
The Process

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
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 tariff of 6ct/kWh achieved
- Status: Pending Financial Close

Round 2
- Project size: 300 MW under procurement
- Bids: 21 applicants at qualification, 12 prequalified
- Status: In preparation for request for proposal

Senegal
- Project size: 70 MWac under procurement
- Bids: 28 applicants at qualification, 12 prequalified
- Status: Request for Proposals ongoing

Ethiopia
- Project size: Round 1 of 250MWac under procurement
- Status: In Pre-Qualification stage

Madagascar
- Project size: 25 MWac under procurement
- In Pre-qualification stage

5 active mandates in 4 African countries
Participating Developers Included:
Scaling Solar Tender Results in Zambia

9 months: Project preparation and tender preparation and execution

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

- Neoen / First Solar: 6.0150c/kWh* | 6.1350c/kWh
- ENEL Green Power: 7.7989c/kWh | 7.8390c/kWh*
- Access / EREN Zambia 1: 8.2879c/kWh | 8.9509c/kWh
- MULILO Zambia PV1 Consortium: 8.4000c/kWh | 8.4000c/kWh
- EDF Energies Nouvelles: 10.0400c/kWh | 9.9850c/kWh
- SEP / AVIC Intl: 10.6000c/kWh | 10.6000c/kWh

6.0c/kWh non-indexed is equivalent to an average in current dollars over contract life of 4.7c/kWh

*Winning bids
Scaling Solar vs. Regional Benchmarks

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

Average PPA price per kWh in Current USD cents vs. Time Elapsed between Start of Procurement and Financial Close

- Projects past financial close
- Ongoing projects as of November 16, 2017
Lessons Learned / Challenges Faced

• Institutional capacity
• FOREX / arbitration / offshore accounts / tax incentives
• Land acquisition
• Technical and E&S surprises
• Level of effort required
# The Benefits of Scaling Solar

<table>
<thead>
<tr>
<th>Governments and Utilities</th>
<th>Project Developers and Investors</th>
<th>International Donors &amp; Development Partners*</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Speed</td>
<td>• Market creation</td>
<td>• Reach</td>
</tr>
<tr>
<td>• Customized process</td>
<td>• Reduced development time</td>
<td>• Leverage</td>
</tr>
<tr>
<td>• Certainty</td>
<td>• Level playing field</td>
<td>• Transparency</td>
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<tr>
<td>• Competitive fixed-rate tariffs</td>
<td>• Regional scale</td>
<td>• Impact</td>
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</tbody>
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*Opportunities for donors include: funding transaction advisory (steps 1-3) or provision of capital grants to all bidders to lower tariffs and improve affordability