

Scaling Solar



AN INNOVATION OF
WORLD BANK GROUP



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

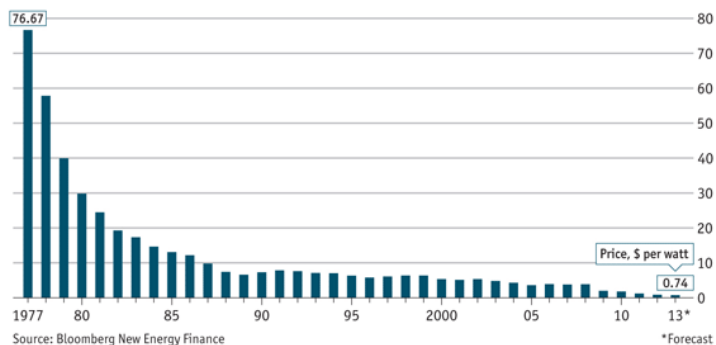
Rome - Italy
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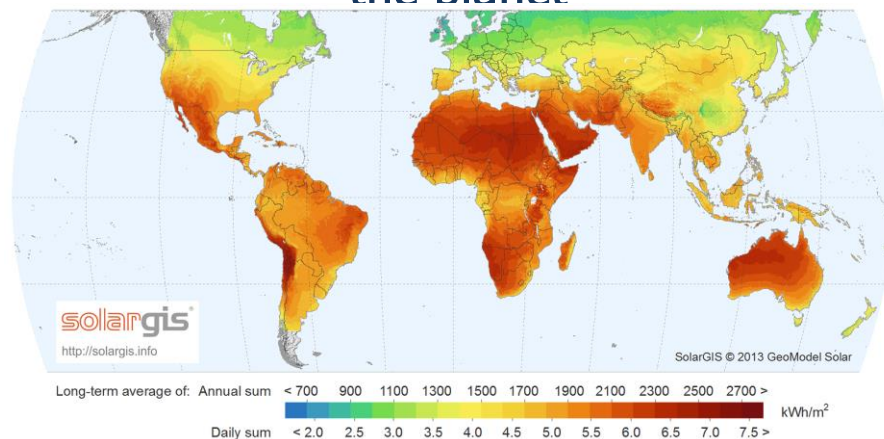
Solar power generation has reached a *tipping point*

The economics of utility-scale solar PV power have reached a tipping point...

Price of crystalline silicon PV cells, \$/W

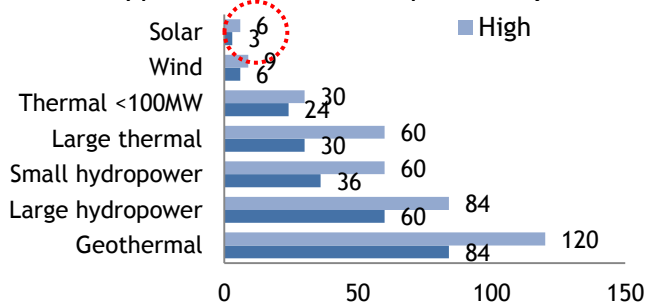


...and many IFC markets benefit from some of the best irradiation levels on the planet



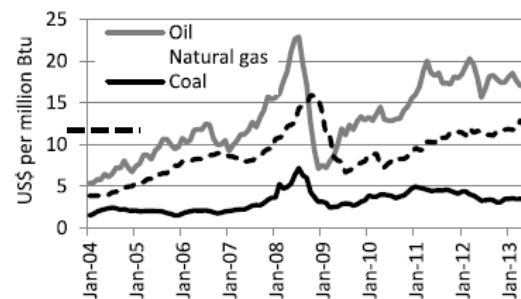
Solar power can be built in 3-6 months vs. 3-10 years for thermal, hydro & geothermal.

Typical construction periods (months)



...and many countries need to diversify away from a dependency on HFO and fossil fuels

Evolution of oil, gas and coal prices since 2004

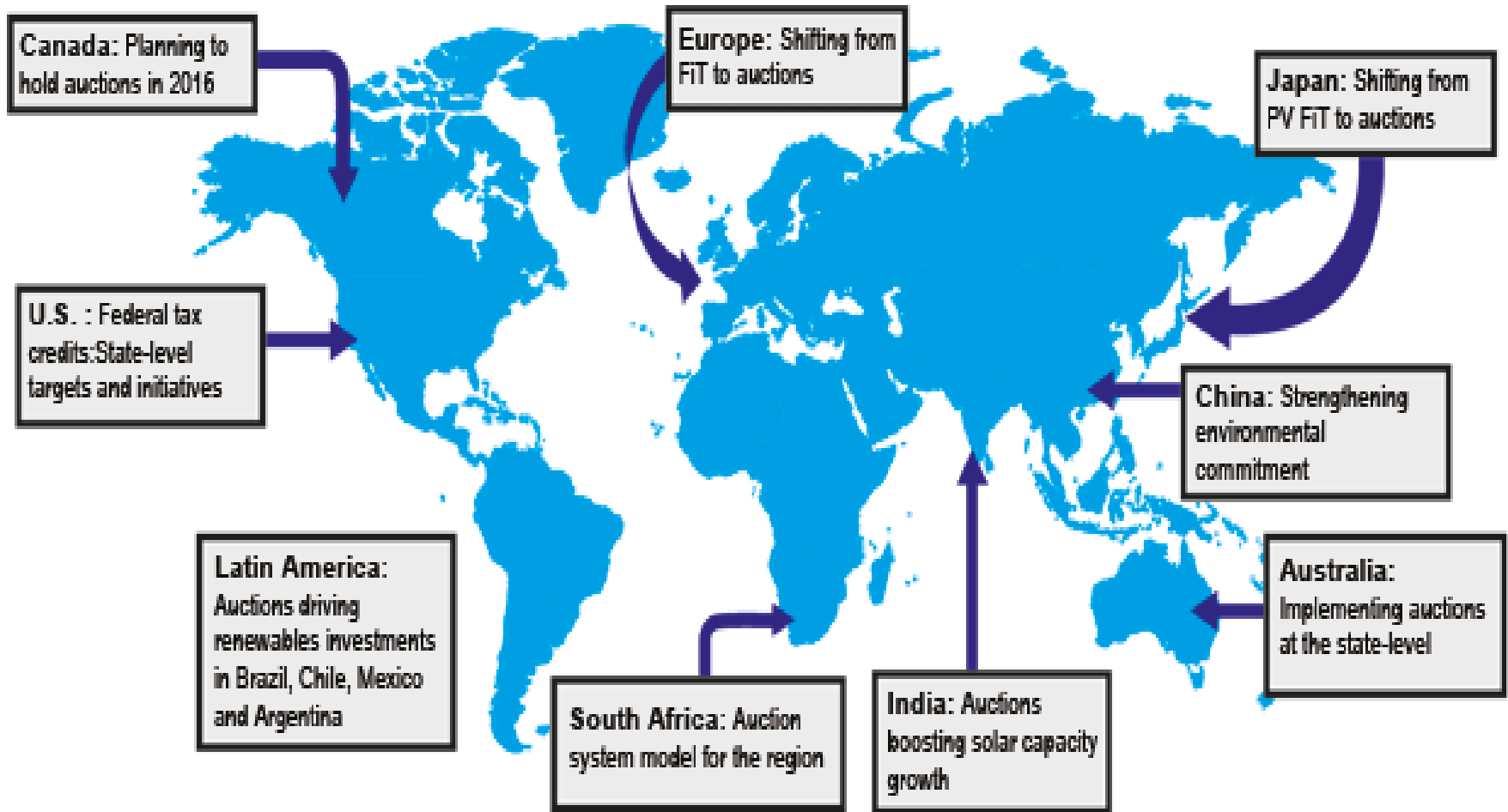


But investment in solar PV is slow...

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

Renewables Auctions Becoming Widespread

Select Renewable Energy Policies Globally



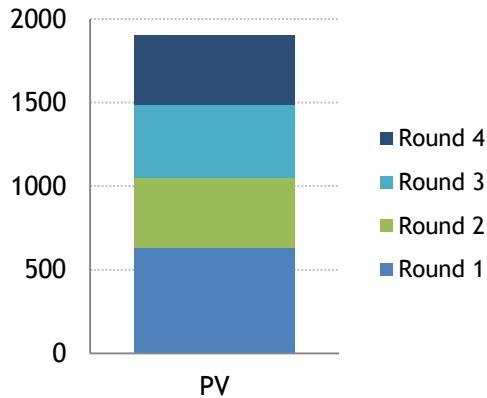
Source: REN21, BMI

Scale, standardization & competition are needed

Case Study: Dramatic tariff reductions have been achieved in South Africa

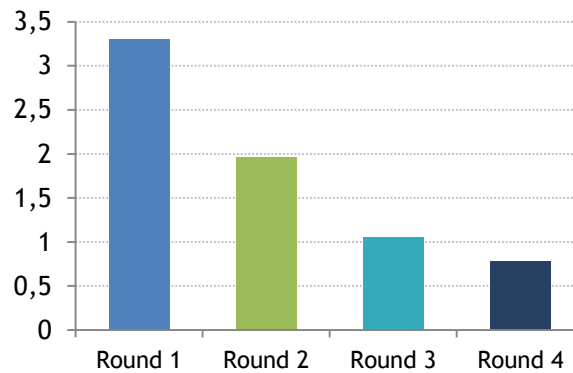


Capacity allocated per round (MW)



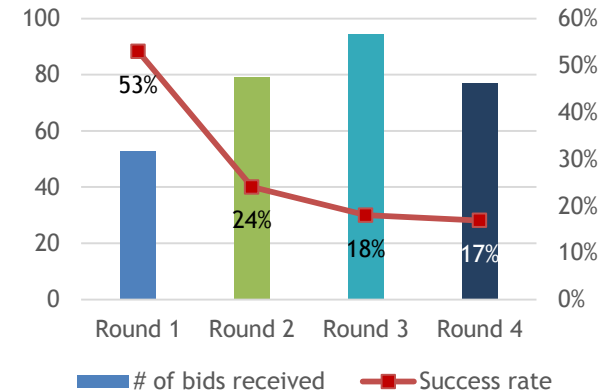
✓ +1,900 MW of solar PV power

Tariffs per round (ZAR/kWh)



✓ Tariff drop of -76% for PV projects over the 4 rounds

Number of received bids and success rate (includes wind)



✓ Surge in investor interest and increasing selectivity in bidders afforded

The WBG solution: A “One-Stop-Shop”

Scaling Solar is a “one-stop-shop” for Governments to rapidly mobilize competitive privately funded grid connected solar projects within 2 years of engaging our team.



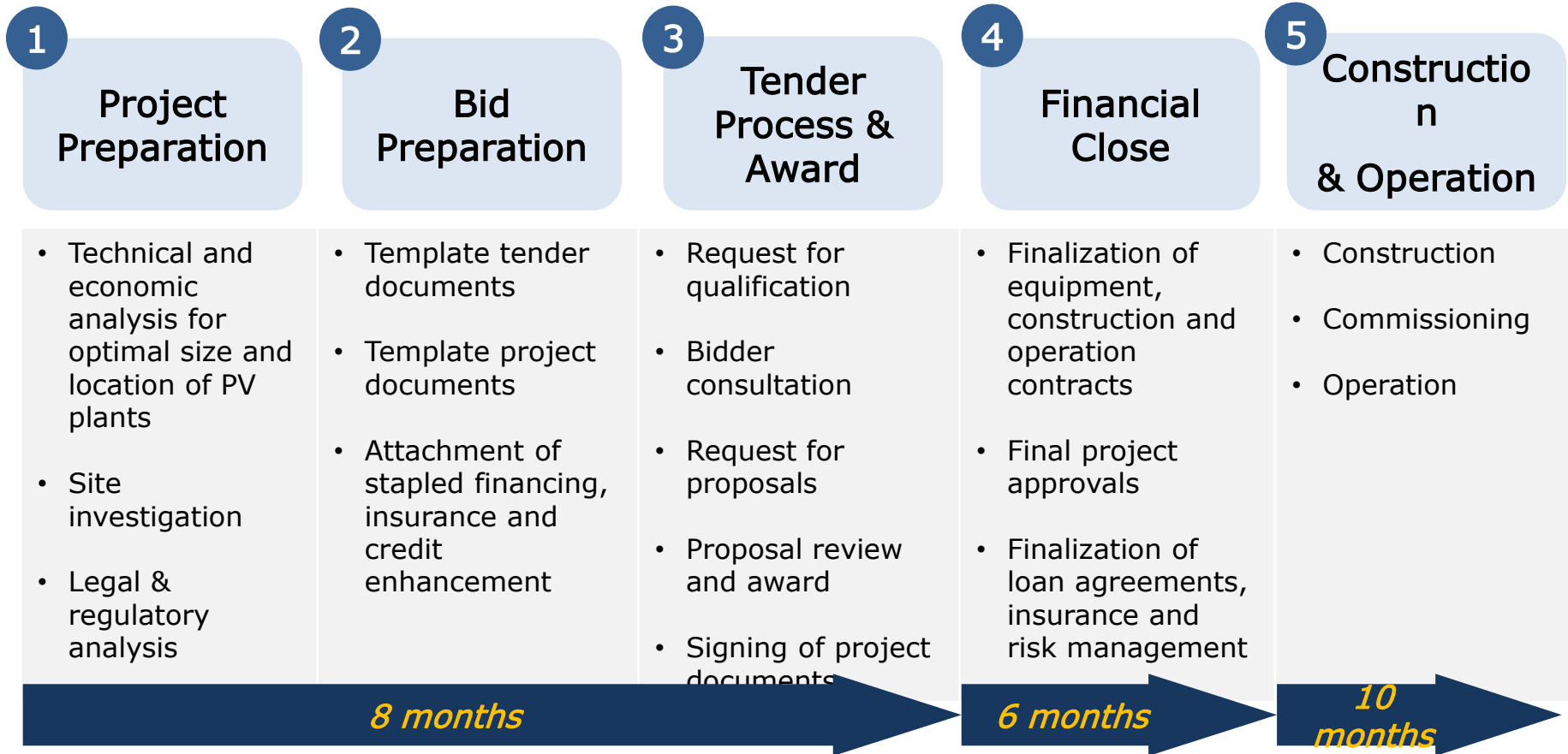
Scaling Solar brings together several World Bank Group services under a single engagement:

- ✓ Advice to assess the right size and location for power plants in grid.
 - ✓ Simple and rapid **tendering** to ensure strong competition from committed industry players.
 - ✓ Standardized, balanced **project documents** to eliminate drafting and negotiation delays.
 - ✓ **Competitive financing and insurance** attached to tender and available to all bidders.
 - ✓ **Risk management and credit enhancement products** to lower financing costs and deliver power tariffs
- ⇒ *Scaling Solar’s comprehensive package delivers speed and certainty and addresses barriers at every stage of the development life cycle to deliver solar power at record speed and at the lowest possible prices.*
- ⇒ *As it is implemented across multiple countries, Scaling Solar will also deliver market scale, allowing smaller countries to enjoy the purchasing power of bigger and more developed economies.*

How will it work? Scaling Solar's 5 steps



- Several WBG instruments brought together under a single product offering
- Client governments would engage in a single mandate to access the “one-stop-shop”



What's new about this?

1 Delivery Speed & Efficiency

- ✓ Templates (RFQ, RFP, PPA, GSA) support rapid & low cost tender preparation
- ✓ Balanced docs and stapled financing avoid negotiation

2 Optimization & Risk Mgmt

- ✓ Site selection & development minimize uncertainty and optimize for grid
- ✓ Stapled PRI and off-taker credit enhancement lower risks & so tariffs

3 Economies of Scale

- ✓ Standardization across multiple countries creates large regional market
- ✓ Delivers benefits of economies of scale

Government Support Agreement (GSA)

- **Scaling Solar designed for countries without IPP track records, so Government support is critical to attract investment**
- **Many Governments dislike overarching sovereign guarantees ... so Scaling Solar does not require one**
- **Primary credit enhancement is an escrow account / LC maintained by the utility – Government's financial obligation is limited to a buy-out obligation in the event of repeated non-payment and exhaustion of escrow / LC**
- **Other areas of Government support:**
 - **General commitment to the project**
 - **Permits**
 - **Direct Agreement and Legal Opinion**
 - **Non-discrimination and protection from harassment**
 - **Bank accounts and transferability, convertibility, and availability of currency**

Not all countries are suitable for Scaling Solar

Key characteristics of suitable countries:

- ✓ Solar should be justifiable considering competing options
- ✓ Government interested to scale up solar quickly
- ✓ Alternatives (negotiated deals or FiT) have not worked
- ✓ Power market: regulated with limited/no IPPs and single buyer
- ✓ Weak off-taker
- ✓ Grid able to absorb at least 30 MW; multiple sites OK

Looking forward

- ✓ **Zambia: winning bidders selected for Round 1 (100 MW); Round 2 (200 MW) starting**
- ✓ **Next:**
 - ✓ **Senegal, Madagascar and Ethiopia;**
 - ✓ **West Bank scoping study;**
 - ✓ **Afghanistan early discussions**
 - ✓ **South East Asia**
 - ✓ **Exploring opportunities in Eastern Europe & Central Asia**

Scaling Solar tender results in Zambia

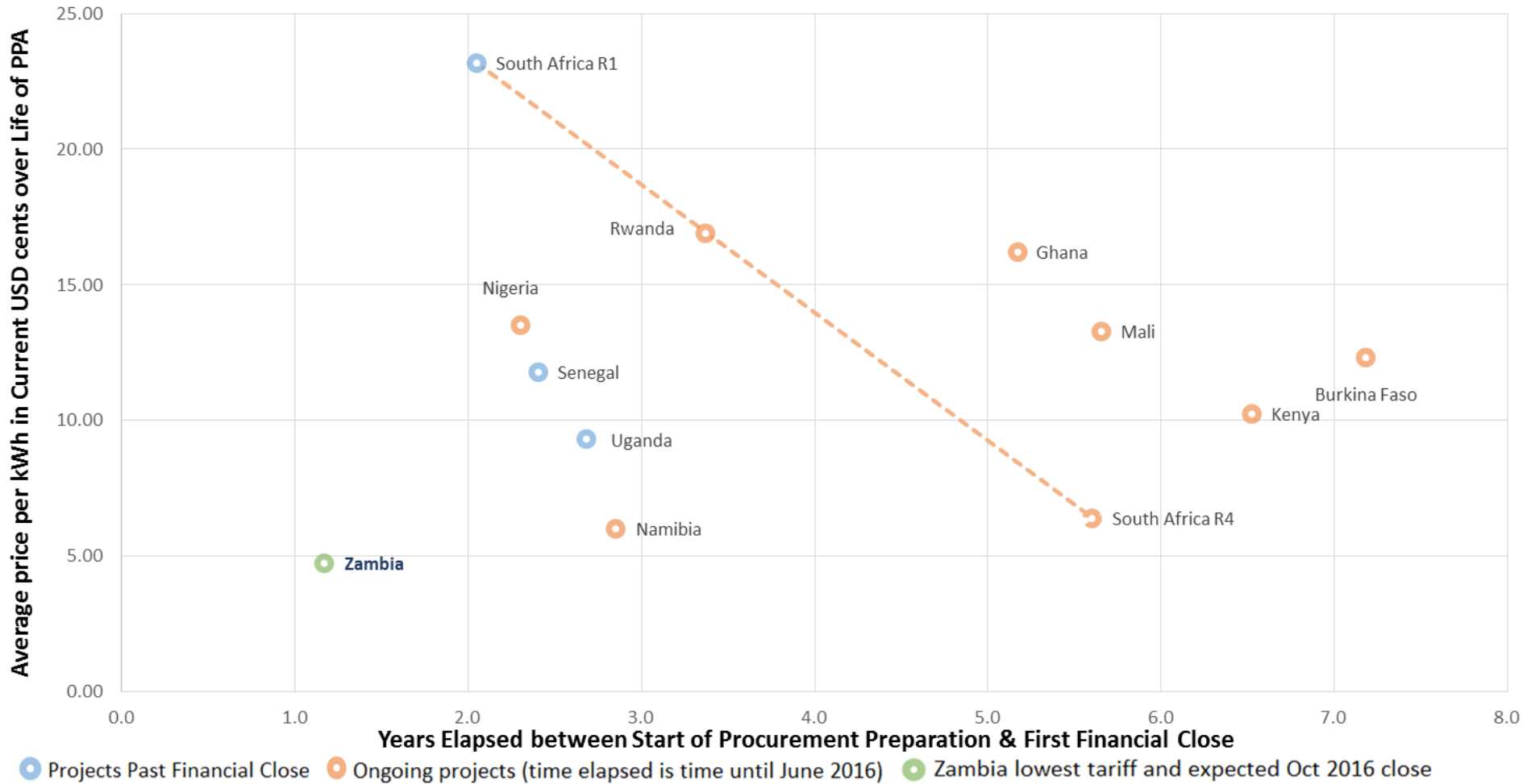
Projects were developed and tender was prepared and executed to conclusion in 9 months

	West lunga Site	Mosi-oa Tunya Site
Neoen / First Solar	6.0150	6.1350
ENEL Green Power	7.7989	7.8390
Access / EREN Zambia 1	8.2879	8.9509
MULILO Zambia PV1 Consortium	8.4000	8.4000
EDF Energies Nouvelles	10.0400	9.9850
SEP / AVIC Intl	10.6000	10.6000

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

Scaling Solar in Zambia relative to regional benchmarks

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



Developers that have participated in Scaling Solar tenders



What are the benefits?

1. For Governments:

- ✓ Speed
- ✓ Reduced cost
- ✓ Certainty
- ✓ Competitive fixed-rate tariffs

2. For Project Developers:

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

3. For Donors*:

- ✓ 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

Questions or Interest? Please contact us

Webpage: www.scalingsolar.org

Contact: scalingsolar@ifc.org

