Public-Private Partnership Stories

India: Rewa Solar Park PPP

India has about 300 million people without access to electricity. Rapidly scaling up power generation is a critical priority of the Government of India, but doing this in an environmentally sustainable manner is equally important. That is why India launched its National Solar Mission in 2010 with the goal of adding 100GW of solar power by 2022. With solar seen as more expensive than fossil fuels by utilities, progress has been slow. With only 20GW installed by February 2018, meeting the 100GW solar power goal by 2022 would require investments of about USD 13 billion annually and a large scale sign up by utilities to purchase solar power and by investors/lenders to massively increase investment.

The Government of India introduced new policies and processes to speed up solar power development in the country. IFC was mandated by India's Madhya Pradesh state government and REWA Ultra Mega Solar Limited (RUMSL) in 2016 to structure and tender a 750MW solar park auctioned as three 250MW projects on a single site. At just 4.4 US cents a unit, the Rewa Ultra Mega Solar PPP achieved the lowest tariff ever awarded for a solar project in India without viability gap funding, and brought the price of solar power on par with coal. Project agreements were signed in April 2017 with the three winning bidders, Mahindra Renewables, Acme Solar, and Sprng Energy.

This series provides an overview of public-private partnership stories in various infrastructure sectors, where IFC was the lead advisor.

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This project was implemented with financial support from Sustainable Development Investment Partnership (SDIP) of the Department for Foreign Affairs and Trade (DFAT) of the Government of Australia.

BACKGROUND

The Government of India introduced the concept of establishing solar parks, which were conceived as concentrated zones with ready availability of land parcels, internal evacuation infrastructure, and external transmission links, to facilitate the quick development of solar power projects by private developers. In this context, in January 2016, the Government of Madhya Pradesh (GoMP) and RUMSL engaged IFC as the lead transaction advisor to help structure a 750MW solar park PPP that would mobilize private investment for three 250MW solar projects within the Rewa Solar Park and be supported by a World Bank loan for the public evacuation infrastructure.

IFC'S ROLE

IFC's PPP Transaction Advisory team conducted in-depth due diligence, prepared a financial model to simulate a bankable project finance structure, and recommended solutions for key commercial, legal, regulatory, technical, and system operations related issues. In addition, IFC supported consensus building among multiple project participants and decision makers, and helped negotiate bankable project agreements with procurers, developers, and lenders prior to the auction. To mitigate greenfield risks, IFC went beyond the traditional PPP structuring role and teamed up with the World Bank to support RUMSL in preparing the project with coordinated progress on public financing and contracting for solar park infrastructure.

IFC also helped redesign the online auction process, allowing unprecedented flexibility to bidders while ensuring thorough competition. IFC worked with its client and its service provider to get the online procurement platform to codify the redesigned auction process.

TRANSACTION STRUCTURE

RUMSL provided 1,550 hectares of land to develop the Rewa Solar Park, and committed to building the last mile evacuation infrastructure to connect the park to the national grid substation. The selected developers would be responsible for developing the solar power projects within the solar park in accordance with the Implementation Support Agreement to be signed with RUMSL. Unlike comparable bids at the national level, the project did not offer viability gap funding (subsidy) to developers.

IFC designed a unique power scheduling arrangement with Delhi Metro Rail Corporation (DMRC) that enabled DMRC to take energy straight from the solar project to power its rail service. This is a first for India. The projects are expected to supply about 76% of energy to Madhya Pradesh Power Management Corporation (MPPMCL) for state utilities and about 24% to DMRC, which will run its trains using open access regulations to procure power directly from the solar park and bypassing its local power distribution company. To enable this, the Coordination Agreement specifies an innovative protocol for scheduling power supply to the two developers.

BIDDING

Twenty bids totaling 7500 MW were submitted, including by international bidders such as Softbank (Japan), Engie (France), Enel (Italy), Canadian Solar, Soleenergi (backed by pension funds), and Sembcorp (Singapore), which participated for the first time in a State led bid. All 20 bidders passed the qualification criteria and their e-tender stage financial bids were opened through an online Tender Opening Event, with Mahindra Renewables, Acme Solar, and Sprng Energy each selected for one 250 MW solar project.

In April 2017, the project agreements were signed with the selected bidders. At just 4.4 US cents a unit, the Rewa Ultra Mega Solar PPP achieved the lowest tariff ever awarded for a solar project in India without viability gap funding, and brought the price of solar power on par with coal. The project will generate $575 million in private investment. Once completed, it will help India avoid a million tons of greenhouse gas emissions per year and bring it closer to its goal of 100 GW of solar energy by 2022.

Financial closure was achieved in February 2018. In a separate transaction, the winning bidders signed a mandate with IFC's Investment team, which funded about $128 million on its own account and mobilized about $309 million in parallel loans from other lenders.

EXPECTED POST-TENDER RESULTS

- **US $575 million** in private sector investment in a low-income state.
- **Grid parity.** Solar tariff equivalent to new coal power plants.
- **GHG emissions** reduced by **1 million tons** per year.
- For the first time in India, renewable energy project agreements affirmed as **internationally bankable**—enabling low cost and longer tenor financing.
- Ministry of New & Renewable Energy adopted several structuring features in its **national solar bidding guidelines**.
- Inter-State open access provisions of the Electricity Act 2003 **operationalized for solar power.**