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MAY 2016

IMPACT STORY

PPIAF Support Transforms Odisha's Enabling Environment to Tackle Climate Change through 1,000 MW Solar Park

PPIAF support was instrumental in transforming the enabling environment in the State of Odisha to scale-up renewable energy and catalyze the development of a 1,000 megawatt (MW) solar park through public-private partnerships (PPPs). The technical assistance (TA) grant provided by PPIAF's dedicated Climate Change Trust Fund for Infrastructure (CCTFI) was critical in removing key barriers for private-sector participation (e.g., land acquisition) while helping build the local institutional capacity (e.g., operationalization of the Green Energy Development Corporation [GEDCOL]). As a result, the State of Odisha was recently included in the National Solar Park Development initiative's Shared Infrastructure for Solar Parks Project. This enables the state to qualify for concessional financing through bilateral/multilateral development banks as well as for additional funding through the Government of India (GoI). The World Bank and GoI aim to collectively provide Odisha with a portion of the $400 million funding from the Shared Infrastructure for Solar Parks project. This funding will help prepare the initial solar-park infrastructure required to attract private-sector developers to build the 1,000 MW solar park. The planning and policy decision made by the Government of Odisha (GoO) to shift from its current energy-supply mix (dominated by fossil fuels (e.g., coal)) to include more renewables is a "game changer." Such efforts will actively contribute to meeting energy demand through innovative private-sector solutions while reducing the state's greenhouse gas (GHG) emissions to address climate change over the coming decades.

Odisha is one of India's poorest states and is extremely vulnerable to climate change. The state is highly dependent on the agriculture sector and prone to frequent floods and droughts, while its 487 kilometer coastline is periodically affected by cyclones and coastal erosion (due to sea-level rise). The direct impacts of climate change are expected to deepen the poverty in Odisha and undermine the state's current growth strategy. The state's GDP is growing between seven and eight percent per year and creating an increase in energy demand, which currently has to be met mostly through coal-based power plants.

The state's vulnerability to climate change, coupled with growing levels of GHG emissions from coal power plants, created a powerful incentive for Odisha to make the transition to using more renewable energy. As a result, in 2010, Odisha, with the help of the World Bank, prepared its first-ever Climate Change Action Plan (CCAP). To help implement the CCAP, the Green Energy Development Corporation (GEDCOL) was established in 2012. However, due to GEDCOL's limited capacity, the GoO, GEDCOL and the Department of Energy (DoE) requested support from PPIAF through the World Bank to develop the renewable-energy policy and institutional framework needed to execute Odisha's CCAP.

At the national level, the GoI set an ambitious target in 2014 to install 175 gigawatts (GW) of renewable energy capacity by 2022. 100 GW of this capacity is expected to come from solar photovoltaic (solar PV) sources. A fifth (20 GW) of this capacity is expected to be developed in individual states through the use of utility-scale solar parks based on independent statewide targets and policies. To take advantage of this national initiative to develop solar parks, PPIAF's TA support to GEDCOL focused on creating a "climate-smart enabling environment" that leveraged private investment and expertise to develop Odisha's first 1,000 MW solar park through innovative PPP models.

PPIAF SUPPORT

PPIAF's grant for $291,000, funded through the dedicated CCTFI, was able to leverage international and sector expertise in order to operationalize GEDCOL and to assist the state with the development of the renewable-energy policy framework. More specifically, the PPIAF-supported activities are as follows:

1) Development of a state policy for renewable energy: PPIAF support, coordinated with the World Bank, helped Odisha to hire international consultants and develop its first comprehensive renewable-energy policy framework covering the period up to 2022. The framework clearly outlines the long-term vision and includes a road map with incentive structures needed to attract private-sector participation to develop solar parks according to international standards.

2) Development of a land bank for renewable energy: Land procurement has been one of the biggest challenges faced by private developers because of its potential to cause delays and cost overruns on projects. Odisha has non-agricultural government land that can be utilized for renewable-energy development. However, due to the lack of availability of site information, it has been difficult for private-sector developers to tap into such resources in a cost-effective manner. PPIAF's support helped to conduct a landbank assessment and identify key sites. This was paramount in removing major barriers for private-sector participation and also helping to expedite planning for large-scale solar-park development in Odisha.

3) Support for the preparation of standardized documents for renewable parks: PPIAF, in collaboration with the World Bank team, is coordinating with the International Finance Corporation (IFC) to help the GoO and GEDCOL prepare procurement guidelines and a standardized set of documents needed to develop solar parks through PPP models.

OUTCOMES

A draft renewable-energy policy for the state, created with the input of government entities as well as members of the general public, is awaiting the state cabinet's approval. It sets a challenging target—to add up to 2,927 MW of renewable-energy capacity by 2022. The majority of this added capacity (2,377 MW) will come from solar energy, and 1,600 MW of that amount will be generated through solar parks developed either by GEDCOL or by private-sector developers.

Thanks to the land-bank development, a potential 250 MW solar park has been identified in Bahagana and another 400 MW solar park has been identified in Bhograi, in the Balasore district. Both of these have been proposed to GEDCOL, which has led to detailed site assessments that have looked at, among other things, solar radiation, solar technology, potential energy yields, infrastructure plans, and cost estimates. As a result of this land-bank work, the Ministry of New and Renewable Energy has included the GoO in the National Solar Park Development initiative and given Odisha the "green light" to develop a 1,000 MW solar park. This is a significant achievement, because it puts Odisha alongside larger and more developed states (such as Gujarat) that are also developing such parks; this is something that was not even envisioned in Odisha five years ago. The IFC is expected to help secure private-sector engagement in Odisha's solar parks once the necessary infrastructure has been set up.

PPIAF's support to Odisha has been instrumental in creating a climate-smart enabling environment and transforming the energy sector to curb GHG emissions by catalyzing large-scale renewable-energy infrastructure projects through innovative PPP models. It has also led to the creation of an institutional framework, including the operationalization of GEDCOL, that can help the state to capitalize on such investments in the near future.

DONOR COORDINATION

The U.K.'s Department for International Development (DFID) played a very important role in 2010, channeling technical assistance through the World Bank to help develop the Climate Change Action Plan for the State of Odisha. This resulted in close coordination between the World Bank, PPIAF and DFID.