



MOVING TO THE Second Stage

Over the course of 2014, several of the AfDB CIF portfolio's early-mover projects advanced to a more mature second stage with active procurement, infrastructure creation, and engagement of the private sector and other new stakeholders. These projects remain leaders in advancing transformation and in shifting the learning curve toward effective climate-smart development. Two of these projects are highlighted here.

Morocco Noor II and III: Innovating Energy With CSP

In Morocco, the Moroccan Solar Energy Agency (MASEN) is building the Noor Solar Complex as a keystone of its plan to develop 2 GW solar power by 2020 and create transformational impact on Morocco and the region.

With the project's first phase (Quarzazate I) under implementation, CTF, AfDB and the World Bank are now funding the next phase — the NOOR CSP Next Program. The NOOR Program is made up of two path-breaking Independent Power Producer (IPP) projects to design, finance, construct,

The project will help diversify Morocco's energy mix, enhance energy security, contribute to industrial development, and help create an estimated 11,000 jobs.

operate and maintain thermal solar power plants: Noor II, a 200 MW CSP parabolic trough CSP plant, and Noor III, a 100 MW CSP tower plant. The Noor Solar Complex is one of the largest planned CSP plants in the world, and is estimated to

Lessons Learned from the First Phase

- **Optimized technical design:** The Noor technical specs are more flexible than the first phase, specifying the minimum amount of peak hour generation needed and leaving it to bidders to propose an optimized plant design.
- **Accelerated schedule:** Based on delays in the first phase, MASEN will include legal agreements in the upfront procurement documents to shorten negotiations
- **Accelerated environmental and social impact assessments:** MASEN has included consultant terms of reference during the procurement process, speeding up the timeframe for project start.

reduce CO₂ emissions by 700,000 tons per year and supply power to 1.1 million Moroccans.

The project is also built on an innovative financing structure. MASEN has instituted a bidding process to bring on board a consortium of IPPs which will sell the power generated by the plant back to the government in a Public-Private Partnership (PPP) arrangement. The project's financing support mechanism, including the CIF \$238 million, will bring down the capital cost of CSP to levels comparable with traditional technologies and the wholesale cost of power in Morocco, and can be expected to reduce the CSP global cost curve by 3%. Financial closure is expected in April 2015, and plant construction would begin after that with commissioning in mid-2017.

Kenya Menengai Geothermal: Full Steam Ahead

Kenya, Africa's largest geothermal producer, is scaling up the search for steam to produce at least 5,000 MWe by 2030. As a keystone of that plan, the **Menengai Geothermal Project** is moving full-steam ahead. Menengai, a SREP early starter with SREP \$25 million and AfDB \$120 million to develop the Menengai geothermal steam field, is now paving the way for significant private sector engagement, with funding to support exploration and drilling risks. The project should lead to 150 MW power generated by IPPs, serving as a test pilot for a replicable investment and project structure.

The Menengai project, the first to be approved by SREP, is leading the CIF portfolio in terms of CIF disbursements. To date, the project has disbursed a total of \$2.3 million loans and \$4.8 million grants.

"The success of Menengai is an indication of how good policies and support from the government and donors can bring change and hope."

Ben Kubo
GDC Area Manager, Central Rift, and Manager Environment, Safety & Community Liaison



"Menengai will be the fastest developed field in the world to produce in just less than five years,"

Dr. Silas Simiyu
GDC Managing Director

Operationally, the project is on track to generate 150 MW of power by 2017. As reported by the government-funded **Geothermal Development Company (GDC)** that is running the project, drilling is ongoing. The steam field has water systems, an elaborate road network and a basecamp. The environment section is running a tree nursery, with seedlings given to local communities to support afforestation. More indigenous trees are being planted within the caldera to improve depleted tree cover. GDC is also operating automatic weather stations at the site to monitor daily weather in the area.

In addition, the SREP and AfDB funding is helping leverage new forms of private financing. Building on the CIF-funded project, AfDB is funding a project to create a **Partial Risk Guarantee (PRG)** to catalyze private sector investment and help mitigate risks associated with government offtake obligations on Power Purchase Agreements (PPAs) and fuel supply agreements, as well as political risk, expropriation, and foreign exchange risks.