

# NOOR 1 – WORLD'S LARGEST CSP PLANT

IN JUNE 2013, AN ACWA POWER-LED CONSORTIUM ACHIEVED FINANCIAL CLOSE OF THE NOOR 1 CSP (CONCENTRATED SOLAR POWER) PROJECT, WHICH AT 160MWE WITH THREE HOURS OF THERMAL STORAGE IS THE LARGEST CSP IN THE WORLD, IN THAT CATEGORY. BY **THIERRY TARDY**, DIRECTOR, AND **YUNHE LU**, ASSOCIATE, ACQUISITIONS AND PROJECT FINANCE, **ACWA POWER**.

**M**ASEN (Moroccan Agency for Solar Energy) is acting as the offtaker and the lender. In this article we have revisited this journey with a focus on key lessons learnt.

The ACWA Power consortium, which included minor shareholdings from TSK and Aries of Spain, submitted its final bid in March 2012. Its bid tariff (LCOE) of circa 19 US cents per KWh was almost 30% lower than the next bidder, which was a remarkable achievement given that it was ACWA Power's first foray into renewable IPPs.

Even more important for ACWA Power was the tariff savings to the offtaker (on a NPV basis) of close to US\$250m (Dh2bn) over the 25 operational years period. The ensuing reduction of the required annual solar subsidy from the Moroccan government will ultimately accrue to the benefit of the Moroccan economy.

The Noor 1 project was successfully closed in a short time-frame with the power purchase agreement (PPA) being signed in November 2012; just two months after the ACWA Power-led consortium was declared the preferred bidder. This was closely followed by financial close in June 2013 and construction starting thereafter.

Approximately 80% of the total project cost is funded by debt arranged by MASEN under on-lending facilities from international financial institutions (IFIs), with highly competitive commercial terms. The IFIs, through the MASEN on-lending arrangement, provided the 25-year financing at competitive pricing.

The IFIs that have committed the on-lending to MASEN are African Development Bank, the Agence Francaise de Development, the European Union, the European Investment Bank, with the International Bank for Reconstruction and Development acting as an implementing entity of the World Bank Clean Technology Fund and the Kreditandsalt fur Wiederaufbau, the German Development Agency.

The senior loan is around US\$800m equivalent, split into three tranches for US dollars, euros and Moroccan Dhiram respectively. The loan has a 25-year door-to-door tenor with an all-in interest rate of 3.5% pa that is fixed for the entire duration of the loan. The loan amortisation profile was sculpted to meet the requirement for a flat minimum DSCR of 1.2x. The 20% equity is being funded on a pro rata basis by the shareholders with 25% by MASEN, 70% by ACWA Power, and 2.5% each by Aries Ingenieria Y Sistemas SA and TSK Electronica Y Electricidad SA.

The senior loan and equity is injected on a pro rata basis to finance the project costs during construction period. The IFIs are the beneficiaries of an amortising financial guarantee in the form of a stand-by letter of credit to protect against the timely risk of failure of the developer shareholders to fulfil the pro rata equity injection obligation.

Given the complexities involved, some of which are recapped below, achieving financial close in a relatively short time-frame was an achievement that was made possible by the team work and co-operation of MASEN (the offtaker), the international financial institutions (IFIs), the developer consortium (led by ACWA Power) as well as the EPC contractor consortium.

The typical security package of a non-recourse financing ensures a balanced allocation of risks



between the offtaker, the developer, the EPC contractor and the finance parties. The key feature of this is the back-to-back coverage of the risks to ensure that the residual risk borne by each party is commercially acceptable. Noor 1, however, posed a unique challenge in this regard as the IFIs required 100% guarantee support in the form of bank guarantees as against a fraction of these being the norm in other project financed transactions.

Furthermore, corporate guarantees were not acceptable unless they were issued by a corporate having an at least Single A- rating (by S&P or an equivalent rating from Moody's). In the CSP industry, most of the developers and EPC contractors are not rated in the first place; therefore the only other option was to seek a bank guarantee. However, this would have amounted to almost three-quarters of a billion US dollars of bank guarantees from an at least Single A- rated institution, which would have all but rendered the underlying project to be uneconomical.

In order to minimise this drag, the completion support was re-negotiated to be a complex mix of early warning signals on deteriorating EPC financial health, credit enhancement through higher levels of performance guarantees from Single A- rated banks and limited amount of developer support, again structured through Single A- rated bank LCs. Such complex structuring of completion support mechanism is unprecedented in the regional project finance market.

Another challenge was to come to terms with the unique aspects of the on-lending scheme whereby MASEN could only fund Noor 1 upon receipt of IFI funding. To ensure uninterrupted senior loan drawdowns, the parties devised two sets of CPs that are being satisfied on an ongoing basis by MASEN to the IFIs and the project company to MASEN. To address the risk of the project company lacking visibility on the CP submission from MASEN to

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the IFIs, MASEN has agreed to promptly notify if the unforeseen scenario of a delay in drawdown were to arise.

A related issue was to converge the diverse information requirements from the respective IFIs as they generally prefer to bilaterally negotiate their terms. Eventually, and with the co-operation and support of MASEN, the IFIs coordinated their requirements and enabled the parties to agree on a common list of practical and reasonable requirements while avoiding any duplications.

To conclude, the Noor 1 IPP represents an important milestone for ACWA Power and its ambition to replicate its successful track record in the renewables sector. This paves the way for ACWA Power and its competitors to pursue an attractive deal pipeline including: a) launch of Noor 2 and Noor 3 CSP renewable bids (c300MWe) in Morocco, for which teams including ACWA have already been prequalified; b) the renewables programme of South Africa, where ACWA Power closed the 50MWe Bokpoort CSP with 9.3 hours of thermal storage earlier this year, which is now under construction; and c) Saudi Arabia's 42GW of renewable projects expanding over 20 years.

Citi Bank acted as MASEN's financial advisor. The legal counsel for MASEN and the sponsors were Norton Rose and Ashurst, respectively. Aries Ingenieria y Sistemas acted as the technical advisor of the sponsor and Alatec was the technical advisor to MASEN. ■

FIGURE 1 - CONTRACTUAL STRUCTURE

