



## 1. Project Data

**Project ID**

P122028

**Project Name**

MA-Ouarzazate Concentrated Solar Power

**Country**

Morocco

**Practice Area(Lead)**

Energy &amp; Extractives

**L/C/TF Number(s)**

IBRD-80880,TF-10916

**Closing Date (Original)**

30-Jun-2021

**Total Project Cost (USD)**

1,438,000,000.00

**Bank Approval Date**

17-Nov-2011

**Closing Date (Actual)**

05-May-2015

**IBRD/IDA (USD)**
**Grants (USD)**

Original Commitment

200,000,000.00

97,000,000.00

Revised Commitment

500,000.00

97,000,000.00

Actual

469,865.36

97,000,000.00

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## 2. Project Objectives and Components

### a. Objectives

The project development objective (PDO) as set out in the Loan Agreement is “to support Morocco in the development of the 500 Megawatt Ouarzazate solar power plant by financing the first phase (160 Megawatt gross) through a public private partnership (PPP), to increase power generation from solar power, and mitigate greenhouse gas emissions and local environment impact.”

### b. Were the project objectives/key associated outcome targets revised during implementation?



No

**c. Will a split evaluation be undertaken?**

No

**d. Components**

**Component 1. Financing the Initial Investment of Noor I** (project cost at appraisal: US\$ 1,235 million; at completion: US\$ 853 million.) This component included a US\$97 million loan from the Clean Technology Fund (CTF), focused on the development and construction of the first 160 MW phase of the 500 MW Noor-Ouarzazate Complex located 10km northeast of the city of Ouarzazate, Morocco. Noor I was implemented through a PPP and constructed by the privately-owned ACWA Power Ouarzazate (APO) that was competitively selected using the World Bank procurement rules. This plant featured a three hours thermal energy storage system to be able to provide dispatchable energy, especially during the peaking hours at night when electricity is most valuable to the national power system.

**Component 2. Cost Mitigation Mechanism** (project cost at appraisal: US\$ 200 million; at completion: US\$ 0.5 million). This component consisted of US\$200 million loan from the International Bank for Reconstruction and Development (IBRD) to support the acquisition of kilowatt-hours produced by the project company by partially covering the difference in the price at which MASEN (Moroccan Agency for Solar Energy), would buy the electricity generated by the plant and the price at which MASEN would sell such electricity to the utility, ONEE (Office National de l'Electricité et de l'Eau Potable.) This facility was to serve the purpose of a credit line for GoM, to resort to this concessional financing when necessary, instead of State financing, when economic and fiscal conditions warranted it.

Component 2 was cancelled as part of the May 2015 restructuring, contemporaneously with the effectiveness of a new IBRD loan under Noor-Ouarzazate Solar Complex Project (P131256). The new loan provided, and continued to provide the same support as the cancelled one, but is expected to have more advantageous terms that will allow MASEN to better time its disbursements to meet its financial needs for the entire Noor-Ouarzazate CSP (Concentrated Solar Power) Complex (Noor I, II and III).

**e. Comments on Project Cost, Financing, Borrower Contribution, and Dates**

**Project, cost, financing, and borrower contribution.** The final project cost was US\$855 million, about 59 percent of the appraised cost of US\$1,435 million. This substantial reduction was partly due to shifting component 2 (US\$200 million) to a contemporaneous loan as mentioned in para 2d above. The World Bank disbursed only US\$0.5 million from its planned loan (component 2) of US\$200 million, while its trust fund grant of US\$97 million was fully disbursed.

The African Development Bank (AfDB) and KfW (*Kreditanstalt Fur Wiederaufbau*) each fulfilled over 98 percent of their commitments (US\$233 million out of US\$236 million; and US\$103 million out of US\$136 million respectively.) *Agence Française de Développement* (AFD) and the European Investment Bank (EIB) each covered about 77 percent of their commitments (US\$103 million out of US\$136 million; and US\$120 million out of US\$156 million respectively.) The borrower covered 35 percent of its planned



contribution – US\$168 million out of US\$ 474 million. The ICR does not provide any specific reason for this shortfall, though this could be partly attributed to the reduction in the overall project.

Private sector financing totaled US\$126 million comprising 80 percent of debt and 20 percent of equity from a private sector consortium led by Saudi-based ACWA Power International.

**Dates.** The loan became effective in June 2013, nearly 18 months after approval in November 2011. This delay was caused mainly due to the complexity of executing several dozens of legal agreements and opinions involved in establishing the PPP. The original closing date of June 30, 2021 was set according to the expected completion of disbursements from Component 2 of the IBRD loan, which were expected to begin only after the start of commercial operations in 2016. However, the project was restructured on May 19, 2015 to drop Component 2, and to advance the closing date for the existing When this component was cancelled, the closing date for the existing CTF (Clean Technology Fund) loan to June 30, 2017, one year after the planned date of start of plant operations, which would provide some time to assess the Results Indicators.

### 3. Relevance of Objectives & Design

#### a. Relevance of Objectives

In 2009, Morocco formalized its strategy to maximize the use of renewable resources, particularly solar energy, to increase its energy security, reduce its dependence on imported fossil fuels, and limit greenhouse gases (GHG) emissions. The country set a target of increasing the country's share of renewable energy generation from 31 percent in 2010 to 42 percent of national capacity by 2020.

In pursuit of its strategy, the government launched the "Noor Solar Plan" for the development of at least 2000 MW of solar capacity by 2020, starting with the ambitious Noor-Ouarzazate Complex, to be implemented in four stages, of which the first, Noor-Ouarzazate I - or "Noor I" - was to be one of the world's largest CSP plants. This drew support from the World Bank and the Clean Technology Fund (CTF) along with other major donors.

The project development objective would contribute to two of the three pillars of the World Bank Group's 2014-2017 Country Partnership Strategy (CPS), "promoting competitive and inclusive growth" (Results Area 1) and "building a green and resilient future" (Results Area 2). The project is also consistent with the Bank's Energy Directions Paper (which emphasized renewable energy along with energy access and energy efficiency); as well as the Bank's corporate objective of supporting climate change mitigation and sustainability while pursuing the twin-goals of ending extreme poverty and boosting shared prosperity. Further, the project objective was in line with the Bank's Middle-East and North Africa (MENA) region strategy, with its stress on "renewing the social contract" and "regional cooperation" pillars, to which it would contribute by increased sustainable energy service delivery for the citizens of Morocco, and potential energy trade with neighboring countries. The project objective is also consistent with the MENA Climate Action Plan, announced during COP22, which supports the energy transition in the MENA region.



## **Rating**

High

### **b. Relevance of Design**

In order to achieve the PDO of increasing electricity generation through solar power, the project adopted concentrated solar power (CSP) technology that could substitute fossil fuels and reduce GHG emissions. The desired outcome was to foster low-carbon development of the energy sector, while stimulating large private sector participation. The project was the first step of an integrated plan calling for local manufacturing, training, education, and research activities, with an overarching goal to boost economic growth and job creation. While solar photovoltaic (solar PV) technology would be more cost-effective in terms of generation capacity, CSP has the advantage of allowing for energy storage that provides base load power during the evening hours of peak demand, which was an important consideration. [CSP technology generates electricity through using sunlight to heat fluid, which is used to produce steam that drives a turbine-generator. On the other hand, PV systems use solar cells and directly convert sunlight into the electricity without any moving parts.]

Project activities were designed to support the development of a 160-Megawatt (MW) CSP electricity generation facility, along with associated facilities, including a water access pipeline from a nearby impoundment dam, and power lines for evacuation of the power to the nearest power transmission substation. This 160 MW plant is the initial stage of the 500 MW Noor-Ouarzazate Complex, which itself is the first pillar in the 2000 MW roadmap by 2020. The target outcomes were increased electricity generation from solar power, and associated reductions in greenhouse gases emissions (carbon dioxide, CO<sub>2</sub>) and local air pollution (nitric oxides, NO<sub>x</sub>, and sulfuric oxides, SO<sub>x</sub>) avoided through displacement of thermal power plants (coal, gas, oil).

Construction of the plant was financed through 80 percent of debt and 20 percent of equity from a private sector consortium led by Saudi-based ACWA Power International. Private sector financing totaled US\$126 million. Critical assumptions included sufficient concessional climate financing and continued State support, and the medium-term development of green electricity exports to Europe. The overall program anticipated that IFIs would continue to provide concessional support to the industry, at least until it became internationally competitive and commercially financeable, and that the Government would continue its efforts to gradually remove subsidies on fossil fuels and electricity to create a level playing field that would enable renewable energy technologies to become competitive.

## **Rating**

High



## 4. Achievement of Objectives (Efficacy)

### Objective 1

#### Objective

Objective 1 (increase power generation from solar power)

#### Rationale

Output: The Noor I 160 MW plant was built by employing a PPP arrangement.

Outcome: After commissioning, the plant generated 400 GWh for the first year of operation in 2016, eight percent above the 370 GWh target. The plant's output is expected to rise in subsequent years, by gaining from a "learning effect." This appears to be borne out by the total generation for the second year operation of the plant, which stood at 414 GWh (12 percent above target), as observed by the March 2018 supervision mission.

#### Rating

High

### Objective 2

#### Objective

Objective 2 (mitigate GHG emissions and local environment impact).

#### Rationale

Output: The environmental objectives of reducing emissions (CO<sub>2</sub>, NO<sub>x</sub> and SO<sub>x</sub>) are proportional to the project's output (its annual production in GWh).

Outcome: The targets for all three of these environmental objectives were overachieved. Avoided NO<sub>x</sub> emissions are estimated at 1,120 tons per year, which is 12 percent higher than the target of 1,000 tons. Avoided Sox emissions are estimated at 4.240 tons per year, 6 percent higher than the target of 4,000 tons. And avoided global GHG pollution was 254.800 tons, 6 percent, higher than the original target of 240,000 tons. The number of beneficiaries of these emission reductions numbered 347,780, 12 percent higher than the expected number of 310,000.

#### Rating

High



## 5. Efficiency

The CSP technology used in this project was not the least-cost solution for the level of electricity generation that was obtained by the Noor I plant. However, CSP technology provides local and global environmental benefits, and is one of the few carbon-neutral technologies that can provide baseload power, which in this case helped to supplement evening peak demand to the extent of 20 percent.

Noor I project showed significant capital expenditure reductions over pre-bid expectations (US\$750 million vs. US\$ 931 million), and was generating higher than expected energy output. The Economic Rate of Return (ERR) of 3.4 percent estimated at completion was significantly higher than the 0.9 percent estimated at appraisal. These calculations assumed electricity price of US cents 13.8 per kWh at peak demand times, and US cents 9.7 per kWh during off-peak hours.

The efficiency analysis presented in the ICR did not take into account the benefits of a global public good nature from local and global emission reductions, which could make a positive contribution to the ERR.

### Efficiency Rating

Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	.90	100.00 <input type="checkbox"/> Not Applicable
ICR Estimate	✓	3.40	100.00 <input type="checkbox"/> Not Applicable

\* Refers to percent of total project cost for which ERR/FRR was calculated.

## 6. Outcome

The overall outcome of the project is rated Highly Satisfactory, based on high relevance of the PDO, high relevance of the project design; high efficacy of both the objectives; and a substantial rating for efficiency.

### a. Outcome Rating



Highly Satisfactory

## 7. Rationale for Risk to Development Outcome Rating

The performance of Noor I so far demonstrates a robust technical and financial design. The project also has strong institutional support, including MASEN's ownership of the Noor Solar Plan. The ICR (para 70, page 21) indicates a risk related to maintaining the availability of water for cleaning the mirrors providing steam for the turbines. However, this risk is considered low because NOOR-I water use represented only 0.7 percent of the water volume in the dam from where it is sourced. Also, the actual use of water during 2017 was 92 percent of the estimated volume.

The ICR states that the project had a transformational effect by demonstrating the viability of CSP power generation in emerging economies and contributing to a significant drop in costs. For instance, developers of CSP projects in Dubai and South Australia, have offered bids under 10 US cents per kilowatt-hour (kWh), building in part on the Noor I project experience.

### a. Risk to Development Outcome Rating

Modest

## 8. Assessment of Bank Performance

### a. Quality-at-Entry

The Bank played a leading role in the identification, preparation and appraisal of this project, and was instrumental in bringing in other donors into the effort. While CSP projects are considered to be high-risk operations, the World Bank's support for this technology was partly driven by the recognition that, unlike solar PV technology, CSP allowed for generating electric power in the early evening peak demand period. This would help save foreign exchange that would otherwise be needed for importing fuel oil for inefficient diesel generators to service peak supply. The World Bank also considered the potential value for the Moroccan electricity sector and the country's potential contribution to the global public good of further developing CSP technology and lowering its deployment cost.

Joint missions with donors were conducted during project preparation to align procurement, and safeguards and financial management procedures with those of the Bank. The Bank and the donors also agreed to (i) develop a common list of effectiveness conditions for disbursing their loans, (ii) and recruit a common consortium of legal and technical advisors to review the project's contractual documents. The Bank's team also helped to mobilize technical assistance support including from the Energy Sector Management Assistance Program (ESMAP).





At the time of preparation, and by design, key project risks could not be fully assessed as the competitive bidding process was not completed and negotiations of key project documents has not yet taken place. The design of the project's Cost Mitigation Mechanism had a moderate shortcoming. At appraisal, the Bank's conservative financial analysis assumed that the government's financial support to the project would have to be much larger than what resulted from the bidding process. In retrospect, the potential impact on disbursements under this component should have been assessed under different scenarios.

### **Quality-at-Entry Rating**

Moderately Satisfactory

#### **b. Quality of supervision**

The Bank conducted eight supervision missions between December 2011 and June 2017, covering compliance with technical, procurement, financial, and safeguards aspects. Energy staff based in Morocco also facilitated more frequent interaction with the implementing agency. The Bank played a significant role in ensuring the adequacy of the technical specifications of the plant and infrastructure in the bidding documents, and leading a proactive restructuring based on the favorable bidding results. The quality of performance reporting was considered satisfactory and supervision inputs and processes were adequate. The ICR reports (para 68, page 21) that there were slight discrepancies in reporting for some PDO indicators in Implementation Supervision Reports (ISR) data (generation level and climate benefits). Overall, the Bank ensured adequate supervision and reporting, and appropriate follow-up and resolution of issues that arose during implementation, especially on social safeguards. The ICR also states (para 69, page 21) that the project nurtured a close cooperative partnership between the World Bank and MASEN, as witnessed by the subsequent energy sector operations financed by the Bank.

### **Quality of Supervision Rating**

Satisfactory

### **Overall Bank Performance Rating**

Moderately Satisfactory

## **9. Assessment of Borrower Performance**

### **a. Government Performance**

The project was integral to the Government's strategic decision to scale up the use of its abundant, clean sources of renewable energy, particularly solar energy. This complemented Morocco's considerable experience in renewable energy during the late 1990s and the 2000s with several wind and hydropower projects. The Government's support for the project was demonstrated through a general convention for the Noor I project prior to the project commencement, as well as adequate regulation and legislation to empower MASEN. In 2016, the Government extended MASEN's role and responsibilities to cover all forms of renewable energy.





The use of a PPP structure for the Project was a clear governmental commitment to introduce private sector participation into the country's renewable energy sector. The Project was structured as a PPP with a competitively selected private sector sponsor. This was the first large scale solar power PPP in Morocco and more broadly in the MENA region.

The government received recognition for supporting the development of sources of renewable energy when it hosted the 22nd Session of the 2016 Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC) in Marrakech. An outcome of the conference was an agreement, in the form of an official Minutes of Understanding, between Morocco and four European countries (France, Germany, Portugal and Spain) to work together on exchanging renewable energy, which may eventually lead to Morocco exporting solar power to Europe, allowing EU countries to meet their renewable energy objectives at lower cost, while creating at the same time a source of revenues for Morocco.

The performance of the project encouraged the government to raise the renewable energy target from 42 percent to 52 percent by 2030.

### **Government Performance Rating** Highly Satisfactory

#### **b. Implementing Agency Performance**

The implementing agency, MASEN, displayed effective management of technical, procurement and financial aspects of the project. MASEN employed technical, legal, financial/fiduciary and social and environmental safeguards advisers to assist with and supervise the bidding process, as well as for supporting negotiations with the best bidder and for the preparation of the legal documentation. It provided appropriate conditions for private sector participation, while working to reduce the overall capital costs for the project. MASEN also put in place an internal organization to monitor the performance of ACWA Power Ouarzazate's (APO), including regular reporting on construction progress and capital expenditures, monitoring and overseeing start-up, commissioning and testing of the plant, and reviewing project forecasts and operating budgets.

Some events that were outside of MASEN or the government's control, contributed to varying delays in implementation, though minimal. The plant's initial commercial operation was delayed by two months mainly due to weather-related incidents, including heavy wind storms and heavy rains, respectively in August and November 2014, leading to material damages in the solar field and works interruption; and dust from the ongoing works in the Noor II and Noor III projects under construction which reduced mirror efficiency during the first year of operation. This impact was subsequently mitigated through the purchase of additional cleaning vehicles and an increase in mirror cleaning frequency for the solar field.

MASEN rapidly built its capacity to around 150 staff, attracting highly talented technical staff from both Morocco and abroad. While at project completion, the portfolio of power generation assets managed by MASEN was dominated by CSP, in the future it was expected to be a more balanced mix of renewable energies (wind, solar PV and CSP, as well as hydropower).



The ICR states (para 73, page 22) that MASEN generally ensured proper coordination with government entities, but had room for building more fluid relationships to further increase efficiency and to avoid unnecessary delays.

### **Implementing Agency Performance Rating**

Satisfactory

### **Overall Borrower Performance Rating**

Satisfactory

## **10. M&E Design, Implementation, & Utilization**

### **a. M&E Design**

The theory of change for the project was simple and clear, and the initial outcome indicators were appropriate for the project objectives: installed CSP power generation capacity (Megawatts or MW); electricity generation (Giga watt hours or GWh); avoided local air pollution (tons of NOx and SOx annually); and avoided GHG emissions (tons of CO2) annually. An indicator for the percentage of project beneficiaries that are female was added at project restructuring, which was simply the percentage of females in the beneficiary population.

### **b. M&E Implementation**

The Bank conducted eight supervision missions throughout the Bank's lifetime of the project between December 2011 and June 2017. These missions focused on compliance with technical, procurement, financial, and safeguards aspects. MASEN's facilitation was also instrumental, with clear, comprehensive, and effective supervision reports. Data collection was adequate for both PDO and intermediate indicators.

### **c. M&E Utilization**

Following the favorable bidding results, the Bank's task team proactively restructured the project in May 2015 to cancel the IBRD loan dedicated to the second component (see "Revised Components" section below), and contemporaneously roll it over to the broader Noor-Ouarzazate Complex Project (P131256.) M&E data and performance were used to inform project management and decision-making, including about the development of the subsequent Noor projects, also financed by the Bank. M&E utilization was unanimously considered to be excellent by all the international financial institutions (IFIs) participating in the project. Moreover, lessons learned from M&E were adequately disseminated to the global community through conferences and workshop co-organized by the World Bank, the Clean Technology Fund, and MASEN.



## **M&E Quality Rating**

Substantial

## **11. Other Issues**

### **a. Safeguards**

The project was placed in Category A under the Bank's environmental and social safeguards policies, triggering Operational Policy (OP) 4.01 for environmental assessment and OP 4.12 for involuntary resettlement.

In practice, there were no significant environmental issues related to land acquisition and use, mainly because the project was implemented on semi-desert scrub land, which had no significant alternative use. The environmental matters related to air quality, soil, noise and vibration, waste management, wastewater quality, use of chemicals, ecology, and traffic were monitored by MASEN and reported on in the semiannual supervision missions. The ICR (para 62, page 20) reports that all parameters were at acceptable levels.

A total of 3,043 hectares of land was acquired for the Noor program, which was about 5 percent of land under community ownership in the area. Of the acquired land, Noor I required about 450 hectares. The land was acquired through a willing-buyer, willing-seller arrangement, and conformed to Moroccan standard procedures. No need arose for resettlement because most of the land was scrubland, unsuitable for agricultural or livestock activities.

During the long and complex construction process, carried out in a harsh environment, MASEN ensured a sound Health, Safety & Environmental (HSE) policy compliant with international standards. MASEN also designed and adopted a Grievance Redress Mechanism (GRM) that was fully consistent with Bank requirements, and met the needs of all workers on site, as well as the 28 concerned communities.

As per Moroccan law and legal covenant under the project, the compensation provided by MASEN for land acquisition, amounting to US\$3.2 million was deployed by the Rural Affairs Directorate of the Ministry of Interior (DAR) for the benefit of the communities. The communities elected to use the funds for social development projects, including irrigation improvement, potable water supply, road infrastructure, health infrastructure and equipment, and education infrastructure and equipment. The ICR states that several Bank supervision missions had confirmed that this process was being effectively implemented to the beneficiaries' satisfaction.

### **b. Fiduciary Compliance**



Twice a year, the Bank received comprehensive reports covering both technical and financial aspects of project implementation. Audits were carried out annually, and the Auditor's opinions were unqualified (ICR page 20, para 64.)

### **c. Unintended impacts (Positive or Negative)**

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### **d. Other**

#### **Gender**

The project provided significant opportunities for women and girls despite social and gender norms. About 70 local women were employed directly by the project, which held a wide range of positions within the CSP plant, ranging from catering, administration, and quality control to health and safety, welding, and topography. Women also made up about 10 percent of the operations and maintenance staff (7 women). MASEN supported a secondary girls' boarding school for about 100 students in the adjoining Ghassate commune which had about 1,200 households.

#### **Poverty Reduction and shared capacity**

The local development strategy MASEN developed supported one of Morocco's lagging regions. Located in the lagging Draa-Tafilalet region, which has been adversely impacted in recent years by increasing desertification, the project had a strong positive social development impact on the neighboring communities and the local economy of Ouarzazate. The Project stimulated the local economy, improved the standard of living in the community, improved connectivity of the population living near the plant with road access, and created jobs.

There was a concerted effort to use local resources in the construction process. The share of the Moroccan manpower during the construction phase was consistently above 75 percent of total manpower. Workers from local communities, Ouarzazate and Ghassate, formed a significant part of the workforce. At the peak of the construction phase, the total number of the workforce on site reached more than 1900, among them 1500 Moroccans, including 600 workers from the region. The Operations and Maintenance (O&M) staff is almost exclusively Moroccan (78 out of 80 staff).

The project spurred industrial development in Morocco. The local industrial integration rate, i.e. the rate of local procurement of goods and services, was higher than expected and reached 32 percent, exceeding the project company's commitment of 30 percent.

Community projects financed through a project designed development fund were improving the quality of life of the surrounding communities and were teaching skills for income generating activities, including sewing for girls, welding for boys, and weaving for women.



## 12. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Highly Satisfactory	Highly Satisfactory	---
Risk to Development Outcome		Modest	---
Bank Performance	Moderately Satisfactory	Moderately Satisfactory	---
Borrower Performance		Satisfactory	---
Quality of ICR		High	---

### Note

When insufficient information is provided by the Bank for IEG to arrive at a clear rating, IEG will downgrade the relevant ratings as warranted beginning July 1, 2006.

The "Reason for Disagreement/Comments" column could cross-reference other sections of the ICR Review, as appropriate.

## 13. Lessons

The following lessons are adapted from the ICR:

**Innovative project structuring that combines balanced risk allocation with cost reduction can provide a conducive investment climate for the public-private partnerships.** Given the high technological risk inherent to this project, the government shouldered several risks usually taken by the private sector in standard PPPs, including provision of common infrastructures, as well as financial and technological risks. A streamlined tender process was used to (i) reduce the costs to developers through transparent tender processes and clear procurement rules, and the availability of background technical, social and environmental studies, and (ii) reduce the costs of funding for the project by securing financing from several IFIs at concessional rates. The parastatal nature of MASEN allowed such structuring which positively impacted overall implementation.

**Strong commitment of the Government is a prerequisite for energy transitions.** The Government's commitment to the increased role of renewables in the country's energy mix, and its support to the implementing agency, MASEN, provided the right institutional basis for this project. Government support materialized through a general convention before project commencement, and through a specific convention for this project. The Government support mechanism is being maintained for the subsequent CSP projects (Noor II and III.)

## 14. Assessment Recommended?

Yes



Please explain

This project combined several elements of interest - a solar technology (CSP) which is more expensive and less extensively deployed than Solar PV, but had important advantages, especially, the ability to contribute to base load requirements; a PPP arrangement that integrated IFI support; and a multi-stage program for expanding total CSP capacity in a country. There is much to learn about the technical and financial viability of CSP installations in the larger context of increasingly competitive solar PV and wind technologies; and how learning from the current and subsequent stages is incorporated progressively into Morocco's larger Noor program.

## 15. Comments on Quality of ICR

The ICR provides good coverage of the project implementation and reports candidly on the uncertainties faced during project preparation. It provides the context for renewable energy development in Morocco and its linkages with climate change and energy security. The theory of change is articulated clearly and logically. The ICR is concise and written in a clear and logical manner, and provides appropriate evidence that is aligned to the project development objective. The project's efforts and results for gender and poverty-related matters are explained well, with evidence. Providing the borrower's ICR in full is helpful in this case to get a well-rounded understanding of the project experience. The lessons have been well thought through, and generally have applicability beyond the project.

### a. Quality of ICR Rating

High