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Moroccan Solar Plan

Moroccan Agency for Solar Energy

Status of the CSP Market Development – S1 2012



Source: Bloomberg New Energy Finance

Status of the CSP Market Development Country – S1 2012



Source: Bloomberg New Energy Finance

The Moroccan Solar Plan



5 sites defined



Moroccan Agency for Solar Energy

An Integrated and Multi-dimensional Vision



Masen, in charge of the Moroccan Solar Plan

Lead the development of integrated solar projects of 2 000 MW or more by 2020 (utility-scale solar power production, local industry developement, R&D, training) Legal form : Governance : Joint stock created in March 2010 Management Board and Advisory Board State, ONE, Fonds Hassan II et SIE (equallly)

A clear Institutional Framework, supporting Masen action

Framework State-MASEN (decree)

Modalities, technical requirements and financial balance **guarantee** for each project throughout the realization of the solar plan

Framework State-ONE-MASEN

 Rules and terms <u>guaranteeing</u> purchasing, transporting, and commercializing the electric power produced

Ouarzazate Solar Complex, operational priority for Masen

Virtual aerial view for the Ouarzazate Solar Complex



Ouarzazate Complexe (OZZ1), multi-phases et technologies



OZZ Project key miletones

Structured approched....

Initial studies

For the entire site including most key topics

Technical Configuration

According to best international practices

Institutional and financial structure

Innovative to reduce costs

Selection process

with intense competition

Industrial integration

Maximise Economic Effects

Site infrastructure

Improve visibility and optimize risks for developers

...with initial results in OZZ1, despite current economic climate

- Strong participation of most major global market players, present in different parts of the value chain
- Bidders Engagement to maximise local industrial value and job creation from the first project
- Competitive offers, demonstrating Morocco's attractiveness for solar power projects.

OZZ 1, tender finalisation in Q3 2012



3 consortia still competing

| Membre Leader | Abeinsa | ACWA | ENEL |
|---------------|-----------------------------|--------------------------------|--------------------------------|
| Membres | Abengoa Solar, Mitsui, Taqa | Aries Ingenieria y Sistemas, | ACS Servicios Comunicaciones y |
| Opérationnels | | TSK Electronica y Electricidad | Energía |

Next phases for OZZ complex

Planning for the remaining capacity (350 MW)

| CSP | 300 MW | Pre-qualification process launch by end of 2012 |
|---------------------|---------------|--|
| Including CSP Tower | To be defined | Pre-qualification process launch by end of 2012 |
| PV | 50 MW | Following CSP |

Solar projects, development lever for remote regions

OZZ solar complex, first actions Masen undertook to maximize socio-economic impact in region of power project developement

Preparing an inclusive sustainable development pamphlet for the ongoing and the upcoming power project and common infrastructure tenders with special attention to local employment and the strenghtening of regional capacities

Conducting initial studies on supporting local villages (roads, potable water, waste management...) and overall investment inclusive of relevant infrastructures

Implementing comprehensive program for the region, in partnership with the relevant local authorities and regional/national institutions

Several volunteer and socially responsible actions for the region (equipping and setting up solar panels for an orphanage, educating local students on sustainable development,...)

Increasing local content and developing a targeted industrial capacity for the international market



North and South Mediterranean Integration

International

Worldwide interest and European leadership (public institutions, industry players, market development professional associations...)

Favorable regulatory framework:

- % REN by 2020: 20%
- Article 9, in favor of energy cooperation with non EU countries

Uncertainty in regards to European countries to meet the 2020 objective (subsidy reduction, infrastructure costs....)

> Optimize solutions to meet European needs

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National

Intrinsic assets

Solar Irradiation

Well-suite land

EU Proximity

Country maturity in establishing PPP and in delivering large-scale industrial development projects

Existing interconnexions : + Morocco – Spain + Maroc – Algeria

Strong assets for the production and the transmission of solar electricity

Moroccan Agency for Solar Energy

Raising awareness for more solar adoption and well-suited sustainable support mechanisms...





Thank you for your attention

