

# Tracking the sun

■ 130,000 mobile mirrors at the Koraymat. Site.

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In the middle of the Egyptian desert, more than 100,000 mirrors are tracking the sun across the sky to capture its energy.

This vast site promises to open the door to renewable energy in the region and is an initiative that the European Union is watching closely. Two EU-funded projects, MED-EMIP and MEDREG, are helping to integrate Euro-Mediterranean energy policies, primarily with a view to moving towards sustainable energy.

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A tiny field, in the middle of nowhere, planted full of sunflowers. Quite by chance, it can be credited with a certain symbolic significance for the future of the region. For just a few kilometres from this field of sunflowers, on the road leading south from the capital to Béni Séouf, Egypt's first solar power plant is being built. The 130,000 mobile mirrors at the Koraymat site rotate to capture the full force of the sun, just like the heads of the sunflower plants with their bright yellow petals.

These concentrator mirrors are only idle at night, the rest of the time turning automatically to focus the sun's rays upon a single point until the viscous liquid that fills the pipe (at the centre of the mirror) reaches a temperature of 400°C. The energy generated can rotate the turbine. This power plant, designed to produce a total of 140 MW, will be connected to the electricity grid.

Today, engineers employed by the private company, Orascom, are making a round trip to visit the site, located about 100 km from Cairo

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and covering more than 600,000 square metres. It is time for the monthly meeting with the German experts from their partners, the Flagsol company, who realised a similar project in southern Spain.

Klaas Rühmann, the project's German director, stresses how the hardest thing at first was to explain to the workers erecting the iron structures that they were building an optical instrument and that millimetric precision was vital. His Egyptian colleague, Mohamed Al-Dessouqui, says he is optimistic about the 250 million dollar project set to be inaugurated in 2010. "It is the first of its kind in Africa or the Middle East," he adds proudly. "Only the pipes and the mirrors were imported, from a German factory that is unique on the international market. Soon there will be other factories producing them and that will put an end to the monopoly and bring down the costs. After this pilot project, on which about 80% of the work is now completed, we will turn our attention to the African market."

### Reinforcing dialogue and cooperation

The project is being followed closely by a second German expert, Albrecht Kaupp, project leader of MED-EMIP (project to integrate the Euro-Mediterranean energy market). He has good reason to do so, as this project aims to facilitate energy dialogue with a view to reinforcing Euro-Mediterranean dialogue, integrating energy markets and moving towards sustainable and clean energy. The project is being financed by the European Union through the European Neighbourhood and Partnership Instrument (ENPI). Its headquarters in Cairo shares a building belonging to the Ministry for Electricity and Energy with an international think tank, RCREEE ("Regional Centre for Renewable Energy and Energy Efficiency").

Albrecht Kaupp believes that Egypt (dependent on gas and oil to meet more than 94% of its needs) is now firmly on track. Solar energy is beginning to start up, wind power is fast developing and the country is seeking to become competitive on the energy market. Energy and economics remain linked, however.

"The government subsidises electricity and rates are the lowest in the region. But recently they have been increasing at the rate of 7% a year. We are trying to catch up and I believe the rate will soon be six euros compared with 2.5 euros at present. If we want to produce energy from other sources the consumer will have to pay." He adds: "It took 60 years to set up an industry based on gas and oil in this region and it will take us another 60 to truly exploit solar energy."

### An integrated energy market

Another ministry administrative building is the home of the regulator (ERA), set up in 2001 and headed by Hafez El-Salmawy. ERA is participating in a second European project, MEDREG, which is seeking to strengthen cooperation between energy regulators in the EU and those in the Mediterranean partner countries, with a view to possibly creating an integrated Euro-Mediterranean energy market.

Its work is testimony to the Egyptian Government's commitment to change. "The role of government has changed," says El-Salmawy. "It no longer has to manage power plants but monitors them. It is therefore our job to tell the government how to vary electricity resources, attract investors, achieve a public-private partnership and avoid a market monopoly."

By ratifying the Kyoto Protocol, Egypt undertook to meet 20% of electricity demand with renewable energy. Similarly, by signing a memorandum of understanding with the Eu-

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■ Mohanad Gaméa, 27, engineer on the building site.



**Egypt wants to become a regional energy centre, an electricity corridor in Africa.**

European Union on 2 December 2008, it must undertake energy reforms that are vital for the creation of a Euro-Mediterranean energy market. Furthermore, on 26 January 2009 it was one of 75 countries to sign the founding treaty of the International Renewable Energy Agency (Irena), designed to encourage a rapid global transition to renewable energy.

El-Salmawy believes Egypt is entitled to aim high: "Egypt wants to become a regional energy centre, an electricity corridor in Africa."

■ Completion of activities is foreseen for October 2010.



## MED-EMIP – Cooperation in the energy field

Platform to encourage dialogue and the exchange of experience on energy policy with a view to reinforcing Euro-Mediterranean cooperation and improving security and sustainability.

<http://www.medemip.eu/>

*Timeframe:* 2007 - 2010      *Budget:* 4.1 million euro (MEDA)

## MEDREG II – Energy regulators

MEDREG II supports the development of a modern and efficient energy regulatory framework in the Mediterranean partner countries and strengthens their cooperation with EU energy regulators.

<http://www.medreg.ipi.it>

*Timeframe :* 2010 - 2012      *Budget:* €919,200

*Participating countries*  
Algeria, Egypt, Israel,  
Jordan, Lebanon,  
Morocco, Syria, Occupied  
Palestinian Territory,  
Tunisia, Turkey

*To find out more:*

Project pages

[http://www.enpi-info.eu/mainmed.php?id=92&id\\_type=10&lang\\_id=469](http://www.enpi-info.eu/mainmed.php?id=92&id_type=10&lang_id=469)

[http://www.enpi-info.eu/mainmed.php?id=329&id\\_type=10](http://www.enpi-info.eu/mainmed.php?id=329&id_type=10)

Energy Portal at ENPI Info Centre:

<http://www.enpi-info.eu/thememed.php?subject=5>

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