

Abu Dhabi, World Future Energy Summit,

Hall 7 Booth 7124

### **Most Efficient Solar Mirrors for the Best Solar Power Region**

FLABEG presents the new and greatest generation of collectors for the MENA region.

With its dimension of 1570 x 1900 mm, the new solar mirror RP4 for parabolic trough solar power plants covers nearly three square meters. Therewith RP4 is one-third greater than earlier mirrors for this application. RP4 is constructed with new geometry. Both, the inner and outer mirror has got the same dimensions. This simplified design makes it cheaper to install. The larger collector units allow for materials to be saved. In order to achieve the same output, a smaller solar field is sufficient, thus resulting in additional savings. With this, achieving competitiveness of solar-thermal technology with fossil-fuel power plants is one step closer.

The Integrated Solar Combined Cycle Power Project El Kureimat, Egypt, is equipped with FLABEG Solar Mirrors. The capacity of the plant is planned to be increased to 2000 MW in the future. The plant is constructed on an area of 2.5 sq.km. It will later be extended to 6.5 sq.km. This project is to increase the share of solar-based electricity in the Egyptian energy generation thereby contributing to the Government's objective of diversifying electric power production. The global development objective of the project is to reduce greenhouse gas emissions from anthropogenic sources by increasing the market share of low greenhouse gas emitting technologies.

Another pathbreaking project is the planned 100 MW Concentrating Solar Power (CSP) Plant in Madinat Zayed, western Abu Dhabi. This CSP plant will supply the national electricity grid. It will also use the parabolic trough technology, which reflects the direct solar radiation onto a receiver. And just this project will also be equipped with FLABEG solar mirrors.

According to a study of the German Aerospace Agency, or DLR, each square kilometre of land in MENA receives every year an amount of solar energy that is equivalent to 1.5 million barrels of crude oil. That is enough to produce up to 250 GWh of electricity using concentrating solar thermal power, which would supply electricity not only for MENA but also for export to Europe.

It is also sufficient to desalinate seawater by concentrating solar power. An amount of 165, 00 cubic meters per day could be desalinate, says the report. It demonstrates that using CSP for Multi Effect Desalination (MED) technology is more cost effective than for the seawater Reverse Osmosis (RO) or Multi Stage Flash.

MED, a thermal desalination process, is more reliable, consumes very low electricity, operates at low temperature, requires minimal maintenance and can be fed from any heat source, making this idea for coupling with power generation plants.

In the MENA region, the Aqaba Hotel & Resort Ayla Oasis in Jordan the region's first CSP-Desalination plant is being built. The plant will provide 10 MW of power, 40 MW of district cooling and 10,000 cubic metres per day of desalinated water for the resort.

Developments won't stop for the MENA region: the land with the 1001 undreamed-of possibilities.

*FLABEG, founded in 1882, is an expert in all glass finishing processes. Especially their Know-How in bending and coating glass provide the customers an unsurpassable product solution and competitive advantage. The insatiable appetite for innovation with further product development made FLABEG to a pioneer in manufacturing high precision solar mirrors used in Concentrated Solar Power (CSP) plants for the generation of electricity. The company is headquartered in Nuremberg, Germany, and has a global production footprint with 11 manufacturing facilities across Europe, the Americas and in Asia. Beside Solar Mirrors, the activities are grouped in the business lines Automotive Mirrors and Technical Glass.*

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