



F L A B E G

LEADING GLASS TECHNOLOGY

PRESS RELEASE

FLABEG FE's Ultimate Trough will be integrated in the first commercial solar power plant in the Kingdom of Saudi Arabia

The Ultimate Trough, FLABEG FE's proprietary collector technology is the world's most advanced parabolic trough collector with up to 20 % cost savings compared to the standard Eurotrough technology. It will be deployed in an Integrated Solar Combined Cycle power plant (ISCC) located on the Arabian Peninsula.

April 2016, Furth im Wald, Germany

FLABEG FE GmbH, a global leader in CSP (Concentrated Solar Power) technology and manufacturer of solar mirrors for CSP and CPV (Concentrated Photovoltaics), is proud to be appointed technology supplier with its award-winning "Ultimate Trough Collector" for an ISCC power plant in Saudi Arabia. The ISCC plant with a total energy output of 550MW will be the first commercial power plant using the Ultimate Trough technology and will be equipped with a 50 MW solar field. The Ultimate Trough, which is FLABEG FE's in-house development, is arguably the most advanced parabolic trough collector ever built. It has been deployed in a test loop within an existing CSP Plant (SEGS VIII in California) of 80 MW, and is performing successfully since February 2013 with synthetic oil as heat transfer fluid. The US National Renewable Energy Laboratory (NREL) has audited and confirmed its performance.

Though the ISCC plant will burn natural gas as primary fuel, the steam generated by CSP technology will also be used to generate electricity. This is an important step to cut down carbon emission, increase fuel efficiency and initiate CSP industry on the Arabian Peninsula.

An Ultimate Trough solar field is capable of withstanding wind speeds of up to 40 m/s (144 km/hr), however, it can be adapted for even higher wind speeds while keeping the same design principles.



The Ultimate Trough is an outstanding example of engineering cooperation, where all cost factors and efficiencies were taken into consideration to achieve overall cost reduction. Its performance is demonstrated to be 10 % higher compared to the standard Eurotrough technology. Solar field cost savings of 20 % can be realized by using less material (foundations, drives, sensors, piping, heat transfer fluid, valves), less assembly work and improved optical efficiency. The Ultimate Trough has been developed under the leadership of FLABEG FE in collaboration with sbp sonne gmbh and high-skilled partners and scientific institutions. The Collector already won prestigious awards, as a result of the market recognition of this innovation, such as The Technology of the Year from SolarPACES and the Ernst & Sohn Award.

About FLABEG FE GmbH

FLABEG FE GmbH, located in Furth im Wald and Cologne, Germany and 100% owned by the Saudi Arabian ACWA Holding (a MENA leader in infrastructural development specializes in the power and water sectors), is the global leading developer and manufacturer of solar mirrors for Concentrated Solar Power (CSP) and Concentrated Photovoltaics (CPV). By using the most modern bending and coating technologies, the company is able to produce solar mirrors with a focus deviation (FDx) lower than 6 mm and an energy reflection of more than 94.5%. The extremely robust mirrors were installed in the first commercially operated power stations in the early 1980s. These mirrors are still in daily operation today, without any decline in performance or efficiency. FLABEG FE has been expanding its skills in the area of engineering services in parabolic trough technology. The company has developed a new collector design – the Ultimate Trough Collector with a 20% higher cost efficiency compared to currently available technology.

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