KAPSARC SOLAR PARK
Riyadh, Saudi Arabia

Project data

System name:	KAPSARC
Operator:	King Abdullah Petroleum Studies and Research Center (KAPSARC)
Energy company:	Saudi Electricity Company (SEC)
Location:	Riyadh, Saudi Arabia
Completion:	December 2012
Completion time:	20 months

Technical data

Rated system power	3.552 MWp	**Construction type**	Ground-mounted system
Annual energy yield	5,800 MWh	**Tilt angle**	18°
No./type of modules	12,684 Suntech STP 280-24Vd	**Frame technology**	HILTI solar park system
Inverter	4 SMA SC720CP	**Orientation**	South

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Flagship project in Saudi Arabia – Phoenix Solar scores with innovative tailored solutions, high quality design and execution excellence.

Challenges for Phoenix Solar

- Power plant as part of the LEED Certification of KAPSARC, the world's largest energy research centre
- Specific technical requirements of the Saudi Arabian Oil Company (Saudi Aramco)
- String combiner boxes installed in the air-conditioned inverter building
- Medium-voltage switchgear from Schneider Electric SA / EEIC as a key component manufactured and installed to meet Saudi Aramco standards
- Little know-how available on the performance of solar power plants in desert regions
- Middle East market entry and development

The solar park on the premises of KAPSARC (King Abdullah Petroleum Studies and Research Center) is a truly prestigious project: with a peak power of 3.5 megawatts, it is not only the largest ground-mounted solar power plant in Saudi Arabia but also part of the LEED Certification (Leadership in Energy and Environmental Design) which KAPSARC aims to achieve.

The planning and execution of the project was carried out in accordance with official Saudi Aramco standards defined for engineering, electrical systems, civil engineering, air conditioning technology, lighting, statics, documentation and approval processes.

A special feature of the solar park is the location of the string combiner boxes. These boxes are normally distributed over the solar field itself. Due, however, to the adverse weather conditions on site, such as sand storms and the extreme heat, they have been integrated into the air-conditioned and insulated inverter building, thereby enabling Phoenix Solar to improve the quality of the power plant.

The project was awarded by way of an international bidding process which Phoenix Solar won through its excellence in power plant construction and its innovative power plant planning in the face of competition from renowned, international system integrators.

Close-up of solar park with air-conditioned and insulated inverter building