SOLAR ROOF MUNICH TRADE FAIR
Munich, Germany

System name:	Solar Roof Munich Trade Fair
Operator:	6 x Phönix SonnenFonds GmbH & Co. KG
Energy company:	Stadtwerke München (Munich municipal utilities company)
Location:	Munich, Riem
Commissioned:	2002
Completion time:	6 weeks

Technical data

Rated system power	1,058 kWp
Annual energy yield	approx. 1,021,000 kWh
Feed-in tariff/kWh	EUR 0.481
Feed-in tariff p.a.	approx. EUR 477,000
CO_2-savings p.a.	approx. 951.000 kg*

No./type of modules	7,560 modules / Siemens Sp 140
Inverter	Siemens Sinvert 200 kVA
Construction type	Kalzip roof-mounted system
Tilt angle	22°
Frame technology	Elevated roof mounting
Orientation	East-west

* Source: German CO_2 offset calculation (0.932 tonnes of CO_2 avoided per MWh) based on data from BMU AGEE (Arbeitsgruppe Statistik Erneuerbare Energie) 2006.

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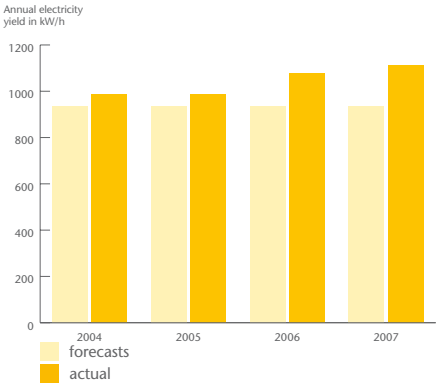

Since construction of the solar power system on the roof of the Munich Trade Fair Centre, its yields have, on average, been around 10% higher than predicted. Thus, the returns for the investors in the community are higher, and the environment is subjected to less CO_2.

Trade fair centre demonstrates environmental awareness

The first one megawatt system on the six roofs of the northernmost halls in the New Munich Trade Fair Centre was already connected to the grid in 1997. The capacity was more than doubled in 2002, with another 1.058 MW. The system's total peak output of around 2.1 MW is enough to cover the annual electricity consumption of around 700 private households. Under the management of the photovoltaic system provider Phoenix Solar AG (formerly Phönix SonnenStrom), this project was implemented in collaboration with the regional capital Munich, Munich's municipal utilities company Stadtwerke München, Shell Solar GmbH, Solarenergieförderverein Bayern e.V. (which is overseen by E.ON Bayern), and Messe München GmbH.

At the time, this was the world's largest roof-mounted solar power system, and it soon set new standards in the industry. Years later, it is still a profitable system in terms of its power output. The subsidiary Phoenix Solar Energy Investments was responsible for the financing of the 5.5 million Euro construction costs, in the form of a community private equity concept. The project partners are showing commitment to environmentally friendly electricity generation in Southern Germany, while also reinforcing Munich's image as an innovative and progressive trade fair location. The showpiece was constructed in record time (just 40 workdays) by Phoenix Solar AG with the aid of the project partners, and represents a highly profitable alternative form of investment for the participating members of the community.

Optimal physical load distribution of the rail system and reduction of the wind-catching surface due to minimal module tilt.