SOLARPARK RICKELSHAUSEN
Rickelshausen, Germany

Project data

System name:	Rickelshausen I	Rickelshausen II	Rickelshausen III
Operator:	Solarcomplex GmbH & Co.KG	GLS Energie AG	GLS Energie AG
Energy company:	Thüga AG E-Werk Singen	Thüga AG E-Werk Singen	Thüga AG E-Werk Singen
Location:	Rickelshausen (Germany)	Rickelshausen (Germany)	Rickelshausen (Germany)
Commissioned:	December 2006	June 2007	December 2008
Completion time:	5 weeks	10 weeks	9 weeks

Technical data

	Rickelshausen I	**Rickelshausen II**	**Rickelshausen III**
Rated system power	0.524 MWp	1.074 MWp	0.548 MWp
Annual energy yield	approx. 499 MWh	approx. 1,090 MWh	approx. 600 MWh
Feed-in tariff/kWh	0.406 EUR	0.3796 EUR	0.3549 EUR
Equivalent to the power consumption of	approx. 125 families**	approx. 273 families**	approx. 150 families**
Feed-in tariff p.a.	approx. 202,448 EUR	approx. 413,764 EUR	approx. 212,940 EUR
CO_2-savings p.a.	approx. 286.72 t*	approx. 626.75 t*	approx. 345 t*
No./type of modules	8,424 modules First Solar FS 262	16,524 modules First Solar FS 265	7,560 modules First Solar FS 270, FS 275
Inverter	1 x SMA SC 500 HE	2 x SMA SC500 HEM	1 x SMA SC 500 HE
Construction type	Ground-mounted system		
Tilt angle	30°		
Frame technology	Shortened ramming and reduced post spacing		
Orientation	South		

* Source: The evolution of carbon dioxide emissions within the German power mixture 1990-2008: 0.575 tons CO_2 saved per MWh (Umweltbundesamt FG I 2.5., Status March 2010)

** Source: Average power consumption of a family: 4,000 kWh (Verivox, Status 2010)

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Wilfried Schäfer, GLS Beteiligungs AG

"Intensive expansion of photovoltaics is one of GLS' strategies on the road to an energy revolution. We were able to find a reliable partner in Phoenix Solar AG, and together we are looking forward to the next joint projects in environmentally friendly solar power."

Landfill delivers clean electricity

GLS Beteiligungs AG in Bochum is known for unconventional thinking. For a new project in the field of renewable energy sources, this company again veered from the beaten path again, to oversee construction of a large photovoltaic system on a landfill site. Instead of concrete foundations for the modules' support structure, ground-mounted systems from Phoenix Solar are rammed into the ground with steel pillars. However, the ramming must be executed with the utmost care, so as not to penetrate the landfill geomembrane. By means of reduced pillar spacing, the penetration depth was reduced to 80 cm, allowing the landfill body to be subjected to minimal loads, even in strong winds, while simultaneously guaranteeing stability. This was the first time that thin-film modules, arranged in four rows, have been successfully installed on a landfill. Due to Rickelshausen's close proximity to the Swiss border, the energy suppliers' grids overlap. As there are different voltages in this region, it was necessary to use a special transformer which can switch to secondary voltage. Now, this powerful ground-mounted system delivers clean electricity from the landfill, and brings in attractive lease revenue for the local community. Once again, in a situation with demanding conflicting requirements, Phoenix Solar has successfully found the right solution for the customer, by means of individual adaptations.

The posts' shortened ramming depth required reduced post spacing in order to guarantee stability.