TÜV Energy Yield Study:
Siliken modules are among the top three in performance.

What is Energy Yield 2008?

Energy Yield 2008, carried out by TÜV Rheinland, is a study that compares the energy produced by modules of different manufacturers, installed in the same location and subject to the same weather conditions over a period of time. This test classifies different models of photovoltaic modules in an objective way, carried out by an internationally prestigious, independent organization.

In addition to the power of the modules under standard conditions, there are other factors that decisively influence the energy that the module will produce throughout its useful life. Among these factors are the behavior of the cells with low luminosity, the temperature coefficients and the degradation of power over time.

The different qualities of the photovoltaic modules will determine different performances when faced with the same weather conditions in Colonia - Germany. Energy Yield 2008 quantifies these differences according to the energy produced per each -energy specific- peak watt installed.

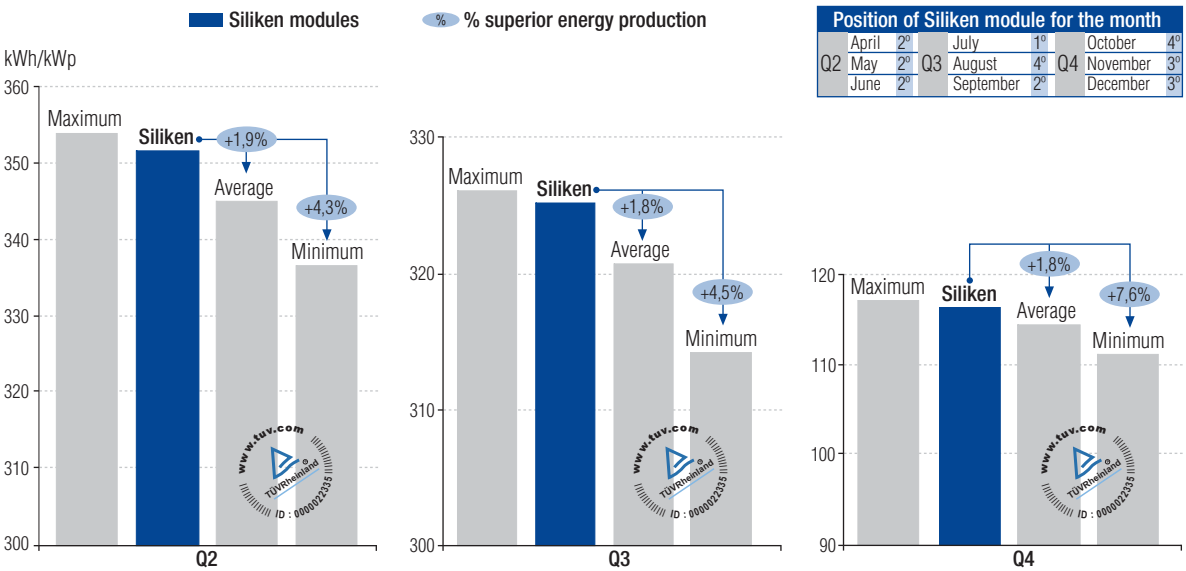
Who takes part in Energy Yield

14 important international manufacturers of photovoltaic modules have taken part in the project:

- BP Solar.
- Energy Solutions S.A.
- Sovello AG
- Kyocera Fineceramics GmbH
- REC Scanmodule AB
- Scheuten Solar Technology GmbH
- Sharp Electronics Europe GmbH
- Solarwatt AG
- SolarWorld AG
- Solon AG für Solartechnik
- Changzhou Trina Solar Energy Co., Ltd.
- 3S Swiss Solar Systems AG
- Wuxi Suntech Power
- Siliken S.A.

Study results

The following graph shows the evolution of the position of the Siliken modules during 2008 compared with the other 13 modules that participated in this comparative study.



Position of Siliken module for the month								
Q2	April	2º	Q3	July	1º	Q4	October	4º
	May	2º		August	4º		November	3º
	June	2º		September	2º		December	3º

As shown, the results place Siliken among the top positions for every months of the year with regard to specific energy production (Wh/Wp) and at the end of the year, the average position of the Siliken module is between second and third place.

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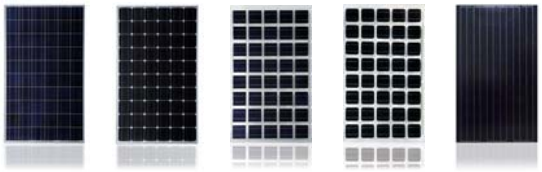


siliken

Who organizes Energy Yield 2008?

The TÜV Rheinland Group, international market leader in the testing and verification of solar systems, organized the Energy Yield 2008 project. It currently has five test centers for solar systems on three continents. Approximately 70 per cent of all manufacturers of solar modules carry out tests on their products in these laboratories to obtain international product certifications. The impartiality of the TÜV Rheinland Group guarantees the reliability of this study.

Test methodology and procedure

The TÜV laboratory receives the photovoltaic modules from the different manufacturers participating in Energy Yield 2008, it tests them at its installations in order to unify the results against the same sample -under standard measurement conditions-and tests their performance in a real photovoltaic installation. Once the test results have been obtained, the organization publishes reports of the energy produced month by month and of the positioning of each module compared to the other participants. These reports track the evolution of the Siliken modules throughout 2008.

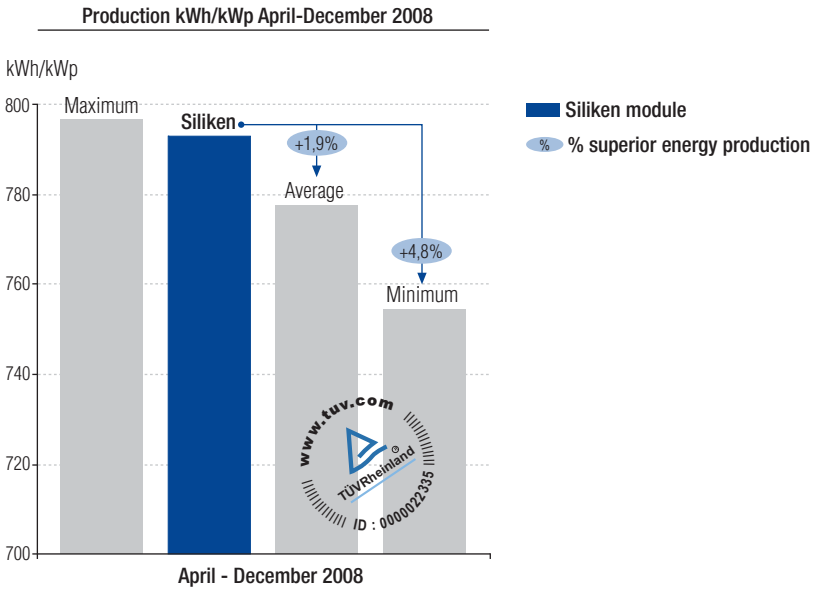
To obtain the energy generated the following parameters are recorded periodically:

- Module performance.
- Weather data
- Temperatures.

From the recorded results the amount of energy produced for each Wp is obtained. This was the parameter studied during the project, as it shows the relationship between the energy generated and the peak power of each module.

Conclusions

The results of this study show that the Siliken modules produce 1.9% more energy compared to the average of all the modules studied and 4.8% more in comparison to the one with least production. This confirms the high performance and leading position of the Siliken modules and guarantees a higher energy production and profitability of the photovoltaic installations.



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