

Application Note – Using Estimated Energy

Introduction

The energy production of PV systems changes significantly during the year, making it difficult to estimate their performance. Many factors have an impact on the energy production: weather conditions, module degradation, inverter specifications, and more. Simulation tools such as the SolarEdge Site Designer, PVWatts, PVSyst, etc. are used to estimate energy production of systems not yet installed.

After the PV system is installed, the SolarEdge monitoring portal allows entering the estimated production values provided by the simulation tools and comparing them with the actual performance. This helps in verifying that the system overall performance meets the expectations.

Comparing estimated energy with actual system performance is available on the monitoring portal site dashboard, charts and reports.

The estimated energy values (in kWh) are entered in monthly resolution. Annual module degradation may also be entered to ensure that the values remain relevant over the years.

Setting up the Site

→ To enter Estimated Energy values:

1. From the site Administration window, select the **Performance** tab.

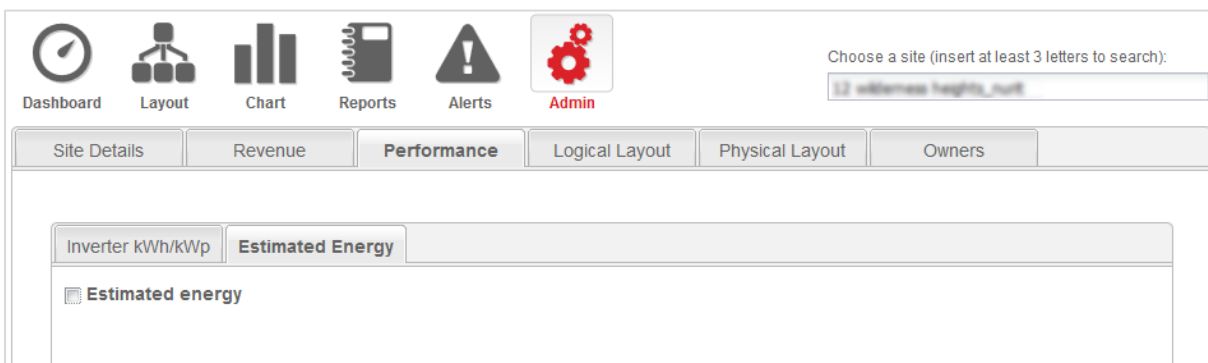


Figure 1: The Performance tab

2. Select the **Estimated Energy** tab.
3. Check the **Estimated energy** checkbox and fill in the estimated energy production per month.



NOTE

Home owners with full access rights can view these values; Make sure you provide values that can be shared.

Inverter kWh/kWp
Estimated Energy

Estimated energy

Enter the estimated energy production for the system on a monthly basis to enable comparison of estimation and actual performance

Jan: <input style="width: 100%;" type="text" value="109"/>	Jul: <input style="width: 100%;" type="text" value="489"/>
Feb: <input style="width: 100%;" type="text" value="145"/>	Aug: <input style="width: 100%;" type="text" value="448"/>
Mar: <input style="width: 100%;" type="text" value="250"/>	Sep: <input style="width: 100%;" type="text" value="322"/>
Apr: <input style="width: 100%;" type="text" value="391"/>	Oct: <input style="width: 100%;" type="text" value="222"/>
May: <input style="width: 100%;" type="text" value="496"/>	Nov: <input style="width: 100%;" type="text" value="127"/>
Jun: <input style="width: 100%;" type="text" value="465"/>	Dec: <input style="width: 100%;" type="text" value="77"/>

Annual estimation: 3541 kWh (905.31 kWh/kWp)

Annual performance degradation (%):

Anticipated annual module performance degradation (%) (10/24/2011)

Figure 2: The Estimated Energy tab

Dashboard View

When estimated energy values are entered for the site, they are displayed in the Comparative Energy tab of the site dashboard.

When annual module performance degradation is entered, to avoid overloading the chart with redundant data, the estimated value shown is for the current year only.

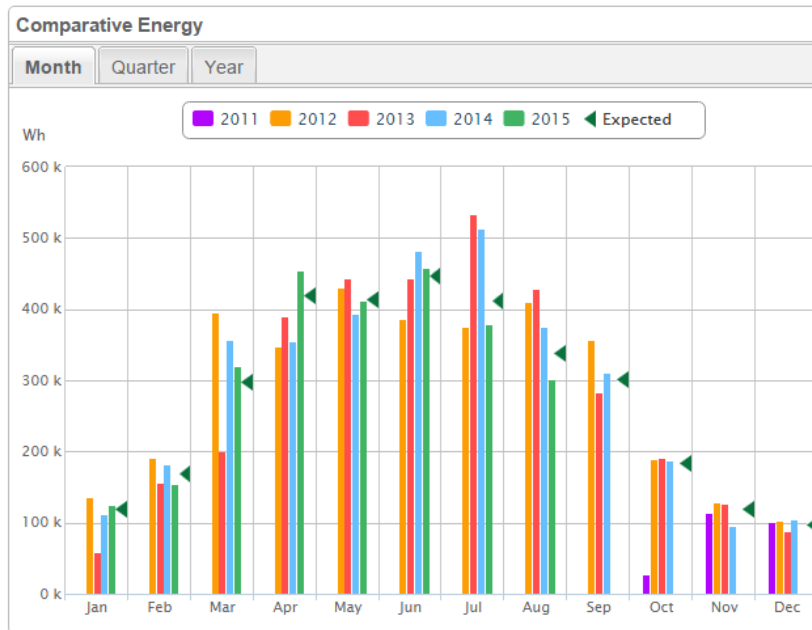


Figure 3: Estimated energy in dashboard

This view is available for account users and home owners with full access rights. For home owners with access to dashboard/layout only this information is not displayed.

Reports

Estimated energy can be added to monthly reports as an additional column.

To add estimated energy column, select the **Estimated Energy** checkbox:


Performance

kWh
 Performance ratio
 kWh/kWp
 Estimated energy
 Revenue

Self consumption rate
 Self sufficiency rate

Reference Performance Data:

Previous month performance
 Same month last year performance
 Previous 12 months performance
 Lifetime performance



The estimated energy will be presented for each period selected on the report (current month, last month, etc.)

For example:

Monthly Site Performance Summary								
Account: Solaredge								
Current period: 08/01/2015 - 08/31/2015								
Sites: User defined filter								
# of sites: 1								
Generated at: 09/09/2015 14:13								
Site Information						Current Month		
#	Site Name	Country	State	Installation Date	Peak Power (kWp)	kWh	kWh/kWp	Est. Energy (kWh)
1	Expected Energy Demo	Israel		08/14/2011	50	82.4	1.6	92.6
Total					50	82.4		