



We turn sunlight into power.



Partial reprint of independent report on sustainability practices of solar manufacturers



A PROJECT OF THE SILICON VALLEY TOXICS COALITION

# Solar Scorecard 2011

[SOLARSCORECARD.com](http://SOLARSCORECARD.com)



Here's why we are  
America's solar leader



### We create American jobs

SolarWorld employs more than 1,300 Americans in our Hillsboro, Oregon, and Camarillo, California manufacturing facilities. And this number keeps growing.

### We keep dollars in America

We source domestic materials and manufacture on American soil. In fact, we spent more than \$310 million in 44 states on machinery, materials and manufacturing-related expenses in 2010 alone.

### We advance American technology

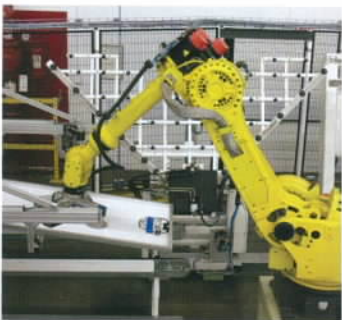
SolarWorld has been a pioneer in solar technology since 1975. Our engineers continually push the limits of renewable energy innovation.

### We exceed the highest standards

We meet or exceed America's high environmental and employment standards. In fact, we were named the Greenest Solar Company in the world in 2011.

### We help achieve energy independence

By making solar here and keeping it here, we help break America's dependence on foreign and non-renewable energy supplies—in a clean, sustainable way.



We turn sunlight into power.

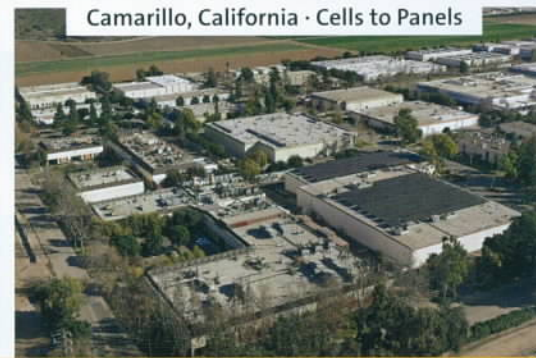
America's largest solar manufacturer since 1975



Hillsboro, Oregon · Silicon to Panels



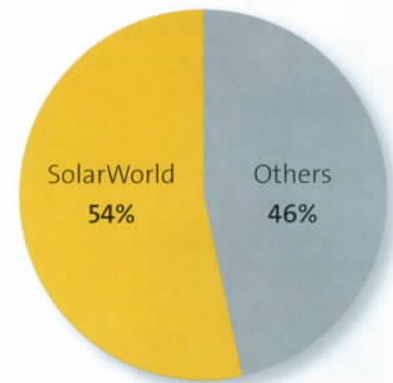
Camarillo, California · Cells to Panels



## America's solar leader American made, from silicon to panel

SolarWorld is proud to have been the largest U.S. manufacturer of solar panels since 1975. But most of all, we are proud to be an American manufacturer. While other companies look overseas for cheaper production or merely assemble on American soil, we remain committed to sourcing, manufacturing, assembling *and* hiring right here in the U.S.A.

In 2010, SolarWorld manufactured more crystalline silicon solar cells in the U.S. than all other manufacturers combined.



\*Source: As reported by Photon Magazine, March 2011.

### SolarWorld American Manufacturing



"Made in America" claims are not created equal. Unlike most other solar companies that only assemble the panels in America, SolarWorld performs every step of the manufacturing process right here.

# The SolarWorld Sunmodule<sup>+</sup> Advantage

## Plus sorting — get all the watts you pay for

SolarWorld's unique plus sorting method ensures that our customers receive the watts they pay for. Every module is factory flash tested (at standard test conditions) to determine the peak rated power output, then sorted in 5-watt bin increments. SolarWorld's power rating accounts for initial light-induced degradation (LID) so there are no surprises after installation.

With plus-sorting, SolarWorld delivers only modules that have greater than or equal to the nameplate-rated power. These power ratings are backed up with the factory flash report.

By delivering actual power, plus sorting ensures that systems operate at top efficiency which results in maximum energy yield year after year. Plus-sorting eliminates nameplate uncertainty and our 5 W bin size makes mismatch losses negligible. Therefore associated de-rate factors in system modeling programs, such as PVWatts, PVSyst, and OnGrid can be minimized, predicting up to 5% greater annual yield.

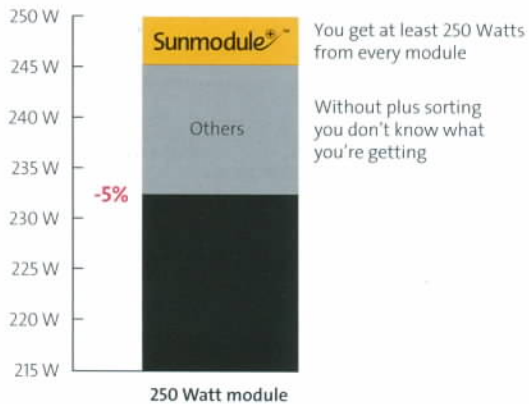
## SolarWorld's linear performance guarantee — long term performance assured

Because SolarWorld produces the highest quality, we can guarantee the best performance. That's why SolarWorld offers a 25-year linear performance guarantee\* for all Sunmodule Plus panels purchased after January 1, 2011.

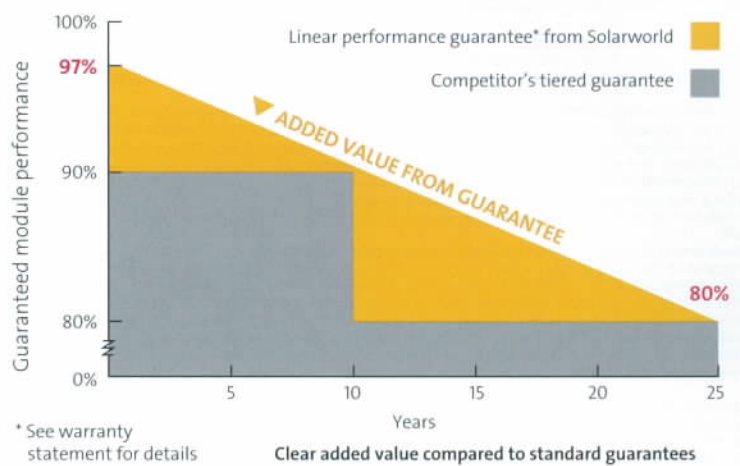
According to our guarantee, the actual power of a new module cannot deviate from the specified rated power by more than 3% during the first year; afterward, the power will

not decrease by more than 0.7 percent of the rated power per year. So at year 11, the Sunmodule's capacity is guaranteed to be at least 89.3% of the nameplate, compared with the industry standard guarantee of 80%. At year 20, it's still at least 83%, compared with the industry standard 80%. SolarWorld's linear performance guarantee provides clear added value that you can take to the bank.

### Get all the watts you're paying for



### Best warranty in the industry



## SolarWorld's workmanship warranty

As a further expression of SolarWorld's industry-leading quality, we have extended the Sunmodule product workmanship warranty to 10 years\*.



We turn sunlight into power.

\* See limited statement on reverse

# Limited Warranty

SW-02-5029US 05-2011

By purchasing the Solar modules from SolarWorld Americas LLC ("SolarWorld") (hereinafter referred to as: products), you have chosen a level of quality, which meets the highest requirements. SolarWorld assumes that use in accordance with this Limited Warranty will reliably maintain the function of the products to produce electricity (hereinafter referred to as: functional capability) as well as reliably maintaining the performance of the products. As a sign of our confidence in this quality, SolarWorld is happy to grant you as the end-user of the products (i.e. the person who put the products into operation correctly for the first time or the person who has legitimately purchased the products from such an end-customer without any modifications) a Five Year Limited Product Warranty and Twenty-Five Year Limited Service Warranty as presented below:

## A Ten Year Limited Product Warranty

1 SolarWorld guarantees the functional capability of the products for ten years beyond the purchase of the product and that the product

- > will not suffer from any mechanical adverse effects, which limit the stability of the solar module. A condition for this is correct installation and use in accordance with regulations, as described in the installation instructions enclosed with the product.
- > will not be subjected to any clouding or discoloration of the glass.
- > with its cable and connector plug will remain safe and operational, if they are installed professionally and are not permanently positioned in water (puddle). However, damage to the cable, which is caused by abrasion on a rough lower surface owing to insufficient fixing or owing to unprotected running of the cable over sharp edges, is excluded. Any damage caused by animals (e.g. rodent bites, birds, insects) is also exempted.
- > with its aluminum frames, will not freeze up when it is installed correctly.

The appearance of the product as well as any scratches, stains, mechanical wear, rust, mould, optical deterioration, discoloration and other changes, which occurred after delivery by SolarWorld, do not represent defects, insofar as the change in appearance does not lead to a deterioration in the functional capability of the product. A claim in the event of glass breakage arises only to the extent that there was no external influence.

2 If the products exhibit one of the above-mentioned defects during this period and this has an effect on the functional capability of the product, SolarWorld will repair the defective products, supply replacement products or provide the customer with an appropriate residual value of the products as compensation at its discretion.

## B Twenty-Five Year Limited Service Warranty:

1. The products which you have purchased have a performance specification within a certain tolerance range of 3% with regard to the power output (the so-called effective output). The relevant effective output can be found on the nameplate on the reverse of the product. SolarWorld assumes that the actual output of the products will decline only slightly over a period of 25 years as of the purchase of the product.
2. SolarWorld guarantees that the actual output of the product will amount to at least 97% of effective output during the first year of operation of the product and as of the second year of the operation of the product, the effective output will decline annually by no more than 0.7% for a period of 24 years, so that by the end of the 25<sup>th</sup> year of operation an actual output of at least 80.2% of effective output will be achieved. In the event of a negative deviation of actual product performance from the so-called threshold values, SolarWorld will either supply you with replacement products, which make it possible to maintain actual performance, take other measures, which make it possible to achieve actual performance or reimburse you with the time value percentage of your product exclusively at its discretion.
3. When replacement products are supplied, there is no entitlement for the use of new products or those which are as good as new. On the contrary, SolarWorld is authorised to also supply used and/or repaired products as replacements.

## C Further conditions of entitlement:

1. The period of the Limited Service Warranty under B) is restricted to a period of 25 years as of the purchase of the product and will not be extended even in the event of a repair or exchange of a product.
2. The effective output and the actual output of the products are to be determined for the verification of any guarantee case using standard test conditions, as described under IEC 60904. The decisive measurement of performance is carried out by a recognised measuring institute or through SolarWorld's own measurements (the assessment of measurement tolerances is undertaken in accordance with EN 50380). The guarantee does not cover transport costs to return the products or for a new delivery of repaired or replacement products. It also does not cover the costs of the installation or re-installation of products, as well as other expenditure by the end-customer or seller.
3. Ownership of all products which have been replaced pass to SolarWorld.
4. The term of the rights granted to you in this Certificate in paragraphs A) and B) starts with the original purchase of the products, insofar as they were purchased by the original end-customer after 01.01.2010. SolarWorld retains the right to adjust voluntary special services in accordance with this document at any time. However, any product purchases which have already been concluded, remain unaffected by this – including the voluntary special services in accordance with this document. You can find out about the current status of this document at any time under [www.solarworld-usa.com](http://www.solarworld-usa.com).

## D Assertion of claims

The assertion of the services specified under A) and B) requires you (i) to inform the authorized seller/dealer of the product of the alleged defect in writing, or (ii) to send this written notification directly to the address mentioned in G), if the seller/dealer who should be informed no longer exists (e.g. owing to business closure or insolvency). Any notification of defects is to be added to the original sales receipt as evidence of the purchase and the time of the purchase of the SolarWorld products. The assertion should take place within 14 days of the occurrence of the defect. The return of products is permitted only after the written consent of SolarWorld has been obtained.

## E Use in accordance with this Limited Warranty:

1. The services described above can additionally be ensured only if the product is used and/or operated in accordance with this Limited Warranty as well as not having been dismantled and re-assembled in the meantime. Services provided by SolarWorld must therefore be withdrawn if the defects to the product are not exclusively based on the products themselves. This is e.g. the case if
  - a. Delays on your part or on the part of the fitter in observing the assembly, operational and maintenance instructions or information.
  - b. Exchange, repair or modification of the products by persons who were not authorised by SolarWorld.

c. Incorrect use of the products.

d. Vandalism, destruction through external influences and/or persons/animals.

e. Incorrect storage or inappropriate transport before installation.

f. Damage to the customer system or incompatibility of the customer's system equipment with the products.

g. Use of products on mobile units such as vehicles or ships.

h. Influences such as dirt or contamination on the face-plate; contamination or damage by e.g. smoke, extraordinary salt contamination, or other chemicals.

i. Force majeure such as flooding, fire, explosions, rock-falls, direct or indirect lightning strikes, or other extreme weather conditions such as hail, hurricanes, whirlwinds, sandstorms or other circumstances outside the control of SolarWorld.

2. The entitlements referred to under A) and B) will not be granted if and as soon as the manufacturer's labels or serial numbers on the PV modules have been changed, deleted, peeled off or made unrecognizable.

## F Exclusion of liability:

The remedies set forth in this Limited Warranty are the exclusive remedies available to you as a product purchaser. SolarWorld shall not be liable for damage, injury or loss arising out of or related to a product except as set forth in this Limited Warranty. In particular, under no circumstances shall SolarWorld be liable for incidental, consequential, special or other indirect damages in any way connected with a product. SolarWorld's aggregate liability, if any, shall be limited to a product's purchase price or any service furnished in connection with a product, as the case may be.

## G Your contacts:

To receive service under this Limited Warranty, please contact the authorized seller/dealer of your product or SolarWorld at the following address: Customer Service, SolarWorld Americas Inc., 4650 Adohr Lane, Camarillo, CA 93012, USA.

## H Choice of law:

This Limited Warranty, including without limitation the rights and responsibilities granted hereunder, shall be governed and construed in accordance with the laws of the State of Oregon, without regard to the conflicts of law provisions thereof.

## I Validity:

The following table contains all the current products to which this Limited Warranty is to be applied. Products, which do not appear in this list, are not subject to this Limited Warranty.

### Sunmodule/Sunmodule Plus/laminate/black

SW 135 mono	SW 200 mono	SW 170 poly	SW 215 poly	SW 120 Compact poly
SW 140 mono	SW 205 mono	SW 175 poly	SW 220 poly	SW 125 Compact poly
SW 145 mono	SW 210 mono	SW 180 poly	SW 225 poly	SW 130 Compact poly
SW 150 mono	SW 214 mono	SW 185 poly	SW 230 poly	SW 135 Compact poly
SW 155 mono	SW 215 mono	SW 190 poly	SW 235 poly	SW 140 Compact poly
SW 160 mono	SW 220 mono	SW 195 poly	SW 240 poly	SW 145 Compact poly
SW 165 mono	SW 225 mono	SW 200 poly	SW 245 poly	SW 150 Compact poly
SW 170 mono	SW 230 mono	SW 205 poly	SW 250 poly	
SW 175 mono	SW 235 mono	SW 210 poly	SW 255 poly	SW 130 Compact mono
SW 180 mono	SW 240 mono	SW 214 poly	SW 260 poly	SW 135 Compact mono
SW 185 mono	SW 245 mono			SW 140 Compact mono
SW 190 mono	SW 250 mono			SW 145 Compact mono
SW 195 mono	SW 255 mono			SW 150 Compact mono
	SW 260 mono			SW 155 Compact mono
				SW 160 Compact mono

## J State Law:

This Limited Warranty is expressly intended to exclude all other express or implied warranties, including without limitation the warranties of merchantability and fitness for a particular purpose, to the periods set forth herein. This Limited Warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow limitations on implied warranties or the exclusion or limitation of damages, so some of the above limitations may not apply to you.

## K Severability:

If any provision of this Limited Warranty is held unenforceable or illegal by a court or other body of competent jurisdiction, such provisions shall be modified to the minimum extent required such that the rest of this Limited Warranty will continue in full force and effect.

Camarillo, 01.01.2011

Kevin Kilkelly  
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SolarWorld Americas LLC

Raju Yenamandra  
Vice President, Sales and Marketing  
SolarWorld Americas LLC

Check for most recent version at  
[solarworld.com/warranty](http://solarworld.com/warranty)



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