



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



The Scorecard

The Key for Overall Score



Sunny
This company is an industry leader and is on the right track toward ensuring that solar PV is green and clean.



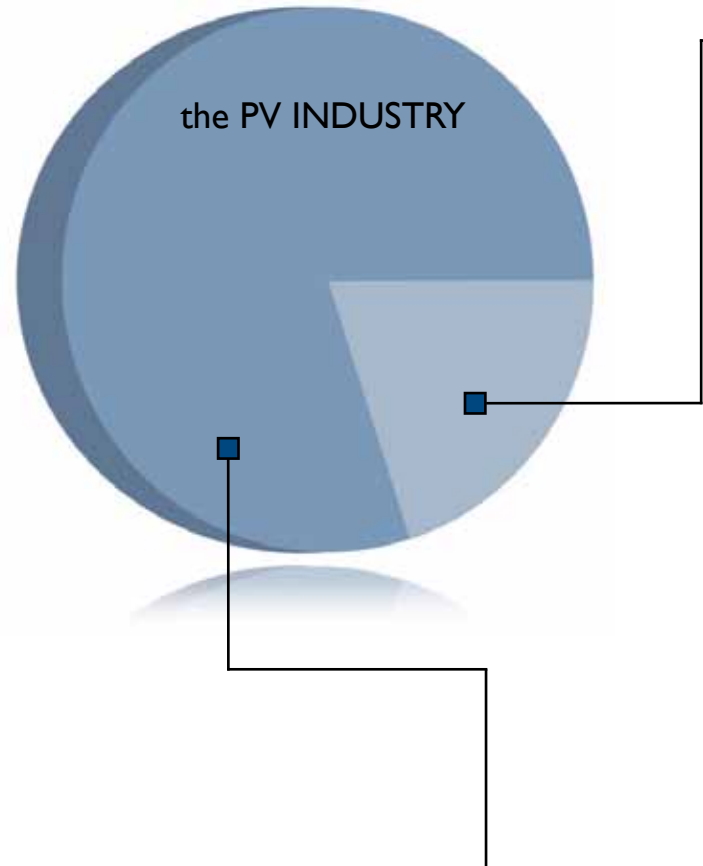
Partly Sunny
This company has taken some big steps toward creating a clean PV industry but does not address all of the issues effectively.



Cloudy
This company responded to the survey but has not taken the necessary steps toward creating a clean PV industry.



Rainy
This company did not respond to our survey and is not transparent; it's not clear if they are committed to sustainability and social justice.



Top 10 Manufacturers

| COMPANY | OVERALL SCORE | RECYCLING | GREEN JOBS | TOXICS | DISCLOSURE |
|---------------------|---------------|-----------|------------|--------|------------|
| Canadian Solar | 0 | | | | |
| First Solar | 87 | | | | |
| Hanwa SolarOne | 0 | | | | |
| REC | 87 | | | | |
| Sharp * | 0 | | | | |
| SolarWorld | 91 | | | | |
| SunPower | 85 | | | | |
| Suntech * | 0 | | | | |
| Trina Solar | 89 | | | | |
| Yingli Solar | 72 | | | | |

*Sharp and Suntech contacted SVTC and worked to have a constructive dialogue, but did not complete the survey.



The companies participating in the survey and show a commitment to improving the

Other PV Manufacturers

| COMPANY | OVERALL SCORE | | RECYCLING | GREEN JOBS | TOXICS | DISCLOSURE |
|--------------------------|---------------|-----------|-----------|------------|--------|------------|
| Abound Solar | | 87 | | | | |
| AXITEC | | 64 | | | | |
| BP Solar | | 0 | | | | |
| Calyxo | | 82 | | | | |
| China Sunergy | | 0 | | | | |
| Eurener | | 60 | | | | |
| Evergreen Solar | | 0 | | | | |
| Fluitemnik Group | | 61 | | | | |
| Hyundai | | 0 | | | | |
| JA Solar | | 0 | | | | |
| Jinko Solar | | 0 | | | | |
| Kyocera | | 0 | | | | |
| LDK Solar | | 0 | | | | |
| Miasole | | 0 | | | | |
| Mitsubishi | | 0 | | | | |
| Motech Industries | | 70 | | | | |
| Nanosolar | | 0 | | | | |
| Ningbo | | 0 | | | | |
| Renesola | | 0 | | | | |
| Samsung | | 0 | | | | |
| Sanyo | | 0 | | | | |
| SCHOTT Solar PV ** | | 0 | | | | |
| Solar Frontier | | 0 | | | | |
| Solon | | 84 | | | | |
| SoloPower | | 71 | | | | |
| Solyndra * | | 0 | | | | |
| Sovello | | 83 | | | | |
| Suniva ** | | 0 | | | | |
| Uni-Solar | | 0 | | | | |
| Westinghouse Solar | | 0 | | | | |

*Solyndra contacted SVTC and worked to have a constructive dialogue but did not complete the survey.
 **Schott and Suniva declined to participate in this survey.

demonstrate their willingness to be transparent sustainability of the PV industry. ”

The Standards



Extended Producer Responsibility (EPR) and Takeback

EPR requires that manufacturers be responsible for the impacts of their products on the environment and on communities throughout the product lifecycles.

Range of Points (0-40)

Partly Sunny: 25 - 39

Cloudy: 1 - 24

Rainy: Did not respond

Requirements for a “Sunny” Score – 40 points

Companies with a “Sunny” score have made a solid commitment to a recycling program, including a commitment not to export end-of-life PV modules to inadequate recycling facilities in developing countries. They support a mandatory takeback law and plan to finance a recycling program in the near future.



Supply Chain Monitoring and Green Jobs

Green jobs protect workers from exposure to toxic chemicals and ensure a living wage. There is no guarantee that companies are providing green jobs if they do not monitor their supply chains.

Range of Points (0-20)

Partly Sunny: 14 - 19

Cloudy: 1 - 13

Rainy: Did not respond

Requirements for a “Sunny” Score – 20 points

Companies with a “Sunny” score require suppliers and sub-suppliers to follow a code of conduct. They conduct audits and monitor supply chains for environmental and health and safety issues, and they do not use prison labor.



Chemical Use and Life-Cycle Analysis

PV manufacturers currently rely on a number of hazardous or toxic chemicals. By using lifecycle analysis, alternatives assessment, and other tools, the PV industry can move away from the most toxic and hazardous inputs. In the E.U., the Restriction of Hazardous Substances (RoHS) directive prohibit the use of several toxic chemicals (including cadmium and lead) by the PV industry. While PV is currently exempt from this directive, the exemption will be up for renewal in several years.

Range of Points (0-10)

Partly Sunny: 2 - 9

Cloudy: 1

Rainy: Did not respond

Requirements for a “Sunny” Score – 10 points

Companies with a “Sunny” score avoid using hazardous materials such as lead and cadmium throughout the product lifecycle. They use tools such as lifecycle analysis to characterize environmental and worker impacts.



Disclosure

Claims about being “green” are increasingly common—but there are relatively few ways for the public to confirm or contradict those assertions. Transparency is important to verify whether companies are implementing EHS standards, takeback programs, and responsible recycling. By providing information on their practices, companies can demonstrate their performance, establish a reputation for being a reliable operation, and be held accountable by the communities where they manufacture and market their products.

Range of Points (0-30)

Partly Sunny: 25 - 29

Cloudy: 1 - 24

Rainy: Did not respond

Requirements for a “Sunny” Score – 30 points

Companies with a “Sunny” score responded to the survey and will provide a list of all chemicals used in production. They will share information related to labor standards, manufacturing hazards, and sustainability.



For over three decades, SVTC has been a leader in encouraging electronics manufacturers to take lifecycle responsibility for their products.



See solarscorecard.com for full document.

See solarworld.com for more on our sustainability practices.