

WINTERGREEN RESEARCH, INC.

**Utilities Go Green: Worldwide Utility Solar Market Shares,  
Forecasts, and Strategies, 2008-2014**

**Utilities Use of Solar Panels To Combat Carbon Surcharges**



*Picture by Susie Eustis*

**MOUNTAINS OF OPPORTUNITY**

**WinterGreen Research, Inc.  
Lexington, Massachusetts**

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UTILITY SOLAR  
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GRID SOLAR SYSTEMS  
UTILITIES SOLAR ELECTRIC  
SOLAR THERMAL SYSTEM  
PV SYSTEM  
SOLAR ELECTRICITY  
THIN FILM HYBRID SYSTEMS  
PV CELLS  
PV MODULES  
ON-GRID SOLAR

**Global Warming Drives Solar Energy Adoption**

**Solar Utility Market Forecasts  
Solar Utility Market Shares  
Utilities Solar Market Forecasts**

*OPPORTUNITY ABOUNDS*

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## **Utilities Solar Energy Adoption: Market Shares, Forecasts, and Strategies, 2008-2014**

The single most significant economic factor driving adoption of solar utility initiatives is the prospect of carbon use surcharges. As coal, gas, and oil usage are taxed to help prevent pollution and stimulate use of renewable energy sources, solar energy becomes more attractive to the utility grid electricity providers. The environmental impact of energy use choices promises to be an ongoing factor in energy grid supply.

Large scale solar electric power plants are being developed and planned worldwide as an alternative to fossil fuel, or nuclear power generation. These large scale power plants (solar farms) are typically greater than 100 kW in power output and grow in capacity to well over 1 MW. Both Germany and Canada have announced solar farm power plants that will be sized at 40 MW. PV module price decreases continue to drive the growth of large scale solar farm development worldwide.

The speed with which solar system can be put in place by a utility company is a major factor in deciding what kinds of systems to put up. Solar utility systems can be put in place within six months.

The ability to create an operational system in six months instead of 20 years for nuclear systems is significant. Just the cost of capital weighs heavily in favor of solar utility installations. The advantage brought by having paying customers sooner is a major factor supporting implementation of solar systems for generation of utility grid electricity.

Utility vendor electricity solar equipment markets at \$10 billion in 2007 are anticipated to reach \$78.7 billion by 2014. Growth is a result of using utility electricity solar systems to power the grid. With .3% of the grid powered by solar in 2007, huge growth is set to occur as 6% of the grid power is anticipated to come from solar by 2014, with rapid shifts to solar energy after that. This will come through massive trillion dollar investments in grid capable solar energy systems that are financed throughout the life of the solar installation.

Adoption of solar energy has a simple market driving force. If people do not adopt solar energy, the planet will become unfit for human habitation. The fossil fuels are warming the planet at an increasing rate that makes life unsustainable if something does not change. Global warming drives solar markets. Solar is perceived as the best, perhaps the only widespread solution to global warming.

Every large enterprise has adopted a social responsibility strategy that makes a nod toward solving the issues of global warming and embraces renewable energy. Every person in the world is aware of the problems that global warming is bringing.

Growth comes not only because solar power is the cheapest power source which it will be in many cases, but because it fulfills a variety of convenience needs, not the least of which is a way to attack global warming. Every large enterprise has adopted a green strategy in response to public demand for better energy solutions.

## Companies Profiled

### Market Leaders

Q-Cells  
Kyocera  
BP Solar  
First Solar  
Isoton  
Sanyo  
SolarWorld  
SunPower  
Suntech  
Sharp Solar  
Schott  
Yingli Green Energy

### Market Participants

AES  
Akvo Energy  
Colorado Instruments / SolarWorld  
Concentrix  
Cypress Semiconductor / Sunpower

**Dyesol Limited  
Evergreen Solar  
Flisom  
GE  
Global Solar Energy  
Hitachi America Ltd.  
Hoku Scientific  
Isofoton  
Kyocera  
LDK Solar Co LTD  
Mitsubishi  
Nanosolar  
PrimeStar Solar  
Q-Cells AG  
Sanyo  
SatCon  
Signet Solar  
Siemens  
Solaire Direct  
Solarfun Power Holdings Co, Ltd.  
Solar Integrated  
SolarWorld AG  
Solartech  
Solon  
Spectra Watt / Intel  
Tenesol  
Urbasolar  
Yingli Green Energy**

## Solar Utilities Market Strategies, Shares, and Forecasts 2008-2014

### REPORT METHODOLOGY

THIS IS THE 391ST REPORT IN A SERIES OF MARKET RESEARCH REPORTS THAT PROVIDE FORECASTS IN COMMUNICATIONS, TELECOMMUNICATIONS, THE INTERNET, COMPUTER, SOFTWARE, TELEPHONE EQUIPMENT, HEALTH EQUIPMENT, AND ENERGY. THE PROJECT LEADERS TAKE DIRECT RESPONSIBILITY FOR WRITING AND PREPARING EACH REPORT. THEY HAVE SIGNIFICANT EXPERIENCE PREPARING INDUSTRY STUDIES. FORECASTS ARE BASED ON PRIMARY RESEARCH AND PROPRIETARY DATA BASES. FORECASTS REFLECT ANALYSIS OF THE MARKET TRENDS IN THE SEGMENT AND RELATED SEGMENTS. UNIT AND DOLLAR SHIPMENTS ARE ANALYZED THROUGH CONSIDERATION OF DOLLAR VOLUME OF EACH MARKET PARTICIPATION IN THE SEGMENT. INSTALLED BASE ANALYSIS AND UNIT ANALYSIS IS BASED ON INTERVIEWS AND AN INFORMATION SEARCH. MARKET SHARE ANALYSIS INCLUDES CONVERSATIONS WITH KEY CUSTOMERS OF PRODUCTS, INDUSTRY SEGMENT LEADERS, MARKETING DIRECTORS, DISTRIBUTORS, LEADING MARKET PARTICIPANTS, OPINION LEADERS, AND COMPANIES SEEKING TO DEVELOP MEASURABLE MARKET SHARE. OVER 200 IN DEPTH INTERVIEWS ARE CONDUCTED FOR EACH REPORT WITH A BROAD RANGE OF KEY PARTICIPANTS AND INDUSTRY LEADERS IN THE MARKET SEGMENT. WE ESTABLISH ACCURATE MARKET FORECASTS BASED ON ECONOMIC AND MARKET CONDITIONS AS A BASE. USE INPUT/OUTPUT RATIOS, FLOW CHARTS, AND OTHER ECONOMIC METHODS TO QUANTIFY DATA. USE IN-HOUSE ANALYSTS WHO MEET STRINGENT QUALITY STANDARDS. INTERVIEWING KEY INDUSTRY PARTICIPANTS, EXPERTS AND END-USERS. OUR RESEARCH INCLUDES ACCESS TO LARGE PROPRIETARY DATABASES. LITERATURE SEARCH INCLUDES ANALYSIS OF TRADE PUBLICATIONS, GOVERNMENT REPORTS, AND CORPORATE LITERATURE.

## YOU MUST HAVE THIS STUDY

### Utilities Solar Market Opportunities, Strategies, and Forecasts, 2008 to 2014

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