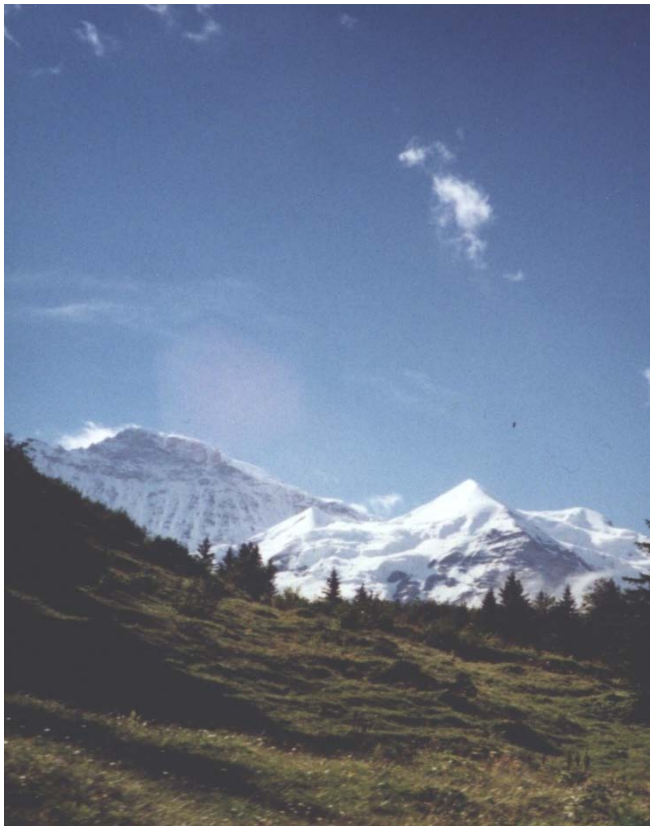
WinterGreen Research, INC.

Thin Film Solar Technology Market Shares, Strategies, and Forecasts, Worldwide, 2011 to 2017

Thin Film Solar Provides Abundant Energy

Mountains of Opportunity



Picture by Susan Eustis

WinterGreen Research, Inc.

Lexington, Massachusetts www.wintergreenresearch.com 781 853 5078

REPORT # SH24841852 496 PAGES 189 TABLES AND FIGURES 2011

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CHECK OUT THESE KEY TOPICS

Thin Film Solar	Solar Modules Cadmium Telluride (CdTe)	Polysilicon Producers
Commercial Solar Panels	Semiconductor Material	Solar Inverter
Residential Solar	CIGS Photovoltaic Effect	Solar Micro Inverter
Solar Panel Technologies	Solar Thin Film Substrates	Solar Panel Electricity Solutions
Thin Film Solar Cells	Thin Polycrystalline Silicon Films	Solar Energy
Thin Film Solar Cadmium Telluride	Glass Substrate	Thin Film Panels
Thin Film Solar Cells CIGS (Copper Indium Gallium Selenide)	Thin-Film Panels	Sunlight Intensity
Copper-Indium-Gallium-Diselenide	Nanosolar	Micromorph Modules
Conversion Efficiency	HelioVolt	BIPV Canopy Systems
Thin-Film On Glass Substrate	MiaSole	CIGs
Solar CIGS On A Polymeric Plastic Substrate	First Solar	Solar Regional Market
Solar Monolithic Integration On Glass Substrate	Photovoltaic Technologies	Photovoltaic Conversion Of Sun Light
	Solar Shading	www.wintergreenresearch.com
	Third-Generation Thin-Film Solar Applications	Photovoltaic Solar Panel Software Localization
	Flexible Glass Solar Panels	

Thin Film Solar Energy Growth Strategy:

Thin Film Solar Energy Technology: Market Shares, Strategies, and Forecasts, Worldwide, 2011-2017

LEXINGTON, Massachusetts (September 27, 2011) – WinterGreen Research announces that it has a new study on Thin Film Solar Panel and System Market Shares and Forecasts, Worldwide, 2011-2017. The 2011 study has 496 pages, 189 tables and figures. Thin film solar energy units are evolving vacuum based solid state technology.

The worldwide demand for energy is steadily increasing, doubling every 15 years. The major effort is to sustain growth in the electricity supply without causing irreversible harm to the environment. Solar energy has rapidly grown as a clean, renewable alternative to limited fossil fuels. Recognition of the need to reduce reliance on coal and fossil fuels is driving interest in solar energy.

The need to reduce reliance on coal and fossil fuels is intuitive. The science agrees -- climate change is a reality. Citizens want to do something about climate change. Countries wish to not have dependence on foreign suppliers.

Thin film solar panel and systems market segments include CadTel. CadTel is attracting more attention than CIGS thin film. Thin film silicon solar cells use significantly less silicon, about 1/100th the thickness of the normal silicon layer. The thin film silicon solar cells production process is far shorter than that for crystalline silicon solar cells. Therefore thin film silicon solar cells are expected to greatly expand the potential of solar energy.

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Those price declines are healthy for the overall industry. Solar markets need price parity with petroleum based energy sources. The process of separating the strong players from weaker ones is ongoing. U.S. solar wafer maker Evergreen Solar did not make the grade. Those countries that invest in the technology are going to be the ones that achieve significant market advantage.

Growth of solar markets will depend on continued investment in energy infrastructure by governments. When you think about it, there is no better investment government can make than in achieving development of low cost, reliable solar energy. This availability of low cost energy is what makes an economy hum. Some governments are sure to recognize these issues and make the investment, others will not.

According to Susan Eustis, lead author of the study, "grid parity has been reached by thin film solar energy products for many areas of the world." When thin film solar systems are looked at over the 25 year useful life of the systems they provide very attractive payback.

Markets at $2.9 billion in 2010 are set to grow to $44 billion by 2017, with the total solar energy market reaching $ 1 trillion sometime in the middle of 2021.

WinterGreen Research is an independent research organization funded by the sale of market research studies all over the world and by the implementation of ROI models that are used to calculate the total cost of ownership of equipment, services, and software. The company has 35 distributors worldwide, including Global Information Info Shop, Market Research.com, Research and Markets, Bloomberg, and Thompson Financial.

Companies Profiled

Market Leaders

First Solar
Qcells
Sharp

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Market Participants

5. Thin FIlm Solar Technology
Company Profiles
A Power Energy
Akeena Solar
Applied Materials
Ascent Solar Technologies, Inc.
ATS
Bosch
Conergy AG
Daystar Technologies
Daqo New Energy
Dow Chemical
Dyesol
ET Solar
G24 Innovations
Gintech
Greenwing Energy
HelioSphera
HelioVolt
Mubadala / Masdar
MEMC
Motech
Mitsubishi Electric
MiaSole
Intel / MiaSolé
Oerlikon Solar
Petra Solar
Scatec Solar
Schott
SEC Solar Energy Centre
SENER
SMA Solar Technology AG
SMA Solar Technology Acquisition of dtw Sp.z o.o.
Solyndra
Telio Solar

Thin Film Solar Energy Technology: Market Shares, Strategies, and Forecasts, Worldwide, 2011 to 2017

Report Methodology

This is the 484th report in a series of primary market research reports that provide forecasts in communications, telecommunications, the Internet, computer, software, telephone equipment, health equipment, and energy. Automated process and significant growth potential are a priorities in topic selection. 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.

The primary research is conducted by talking to customers, distributors and companies. The survey data is not enough to make accurate assessment of market size, so WinterGreen Research looks at the value of shipments and the average price to achieve market assessments. Our track record in achieving accuracy is unsurpassed in the industry. We are known for being able to develop accurate market shares and projections. This is our specialty.

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The analyst process is concentrated on getting good market numbers. This process involves looking at the markets from several different perspectives, including vendor shipments. The interview process is an essential aspect as well. We do have a lot of granular analysis of the different shipments by vendor in the study and addenda prepared after the study was published if that is appropriate.

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 participant 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 is a central part of the study. Our research includes access to large proprietary databases. Literature search includes analysis of trade publications, government reports, and corporate literature.

Findings and conclusions of this report are based on information gathered from industry sources, including manufacturers, distributors, partners, opinion leaders, and users. Interview data was combined with information gathered through an extensive review of internet and printed sources such as trade publications, trade associations, company literature, and online databases. The projections contained in this report are checked from top down and bottom up analysis to be sure there is congruence from that perspective.

The base year for analysis and projection is 2010. With 2010 and several years prior to that as a baseline, market projections were developed for 2011 through 2017. These projections are based on a combination of a consensus among the opinion leader contacts interviewed combined with understanding of the key market drivers and their impact from a historical and analytical perspective.

The analytical methodologies used to generate the market estimates are based on penetration analyses, similar market analyses, and delta calculations to supplement independent and dependent variable analysis. All analyses are displaying selected descriptions of products and services.

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This research includes referencde to an ROI model that is part of a series that provides IT systems financial planners access to information that supports analysis of all the numbers that impact management of a product launch or large and complex data center. The methodology used in the models relates to having a sophisticated analytical technique for understanding the impact of workload on processor consumption and cost.

WinterGreen Research has looked at the metrics and independent research to develop assumptions that reflect the actual anticipated usage and cost of systems. Comparative analyses reflect the input of these values into models.

The variables and assumptions provided in the market research study and the ROI models are based on extensive experience in providing research to large enterprise organizations and data centers. The ROI models have lists of servers from different manufacturers, Systems z models from IBM, and labor costs by category around the world. This information has been developed from WinterGreen research proprietary data bases constructed as a result of preparing market research studies that address the software, energy, healthcare, telecommunicatons, and hardware businesses.

YOU MUST HAVE THIS STUDY

Thin Film Solar Energy Technology Market Shares, Strategy, and Forecasts, 2011 to 2017

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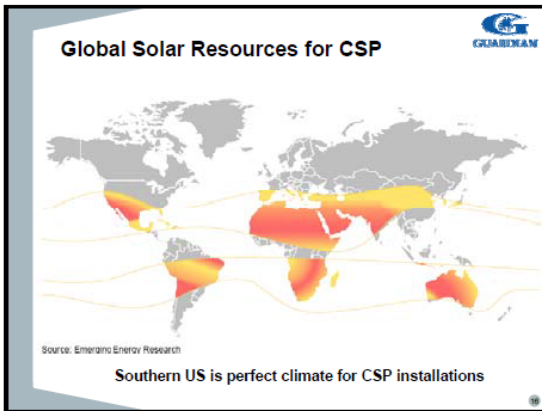

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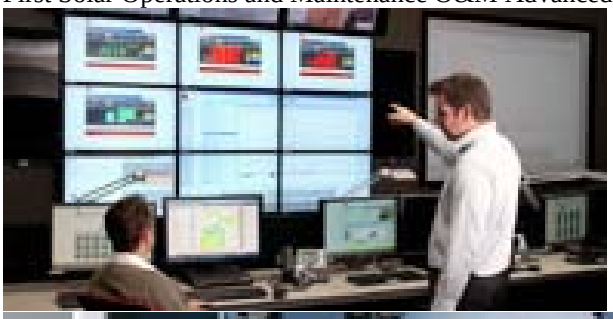
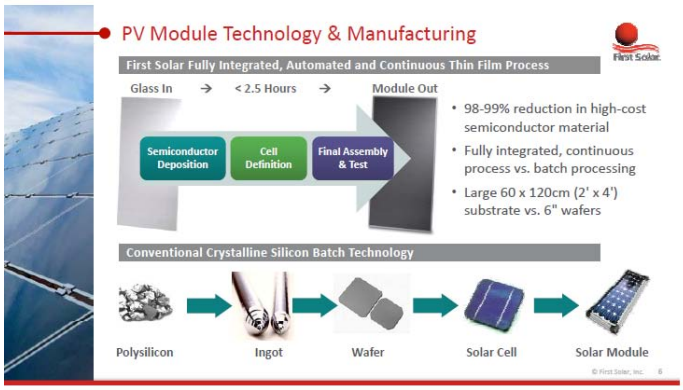


Thin Film Solar Technology



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ABOUT THE COMPANY

WinterGreen Research, research strategy relates to identifying market trends through reading and interviewing opinion leaders. By using analysis of published materials, interview material, private research, detailed research, social network materials, blogs, and electronic analytics, the market size, shares, and trends are identified. Analysis of the published materials and interviews permits WinterGreen Research senior analysts to learn a lot more about markets. Discovering, tracking, and thinking about market trends is a high priority at WinterGreen Research. As with all research, the value proposition for competitive analysis comes from intellectual input.

WinterGreen Research, founded in 1985, provides strategic market assessments in telecommunications, communications equipment, health care, Software, Internet, Energy Generation, Energy Storage, Renewable energy, and advanced computer technology. Industry reports focus on opportunities that expand existing markets or develop major new markets. The reports access new product and service positioning strategies, new and evolving technologies, and technological impact on products, services, and markets. Innovation that drives markets is explored. Market shares are provided. Leading market participants are profiled, and their marketing strategies, acquisitions, and strategic alliances are discussed. The principals of WinterGreen Research have been involved in analysis and forecasting of international business opportunities in telecommunications and advanced computer technology markets for over 30 years.

The studies provide primary analytical insight about the market participants. By publishing material relevant to the positioning of each company, readers can look at the basis for analysis. By providing descriptions of each major participant in the market, the reader is not dependent on analyst assumptions, the information backing the assumptions is provided, permitting readers to examine the basis for the conclusions.

ABOUT THE PRINCIPAL AUTHORS

Ellen T. Curtiss, Technical Director, co-founder of WinterGreen Research, conducts strategic and market assessments in technology-based industries. Previously she was a member of the staff of Arthur D. Little, Inc., for 23 years, most recently as Vice President of Arthur D. Little Decision Resources, specializing in strategic planning and market development services. She is a graduate of Boston University and the Program for Management Development at Harvard Graduate School of Business Administration. She is the author of recent studies on worldwide telecommunications markets, the top ten internet equipment companies, the top ten contract manufacturing companies, and the Top Ten Telecommunications market analysis and forecasts.

Susan Eustis, President, co-founder of WinterGreen Research is a senior analyst. She has done research in communications and computer markets and applications. She holds several patents in microcomputing and parallel processing. She has the original patents in electronic voting machines. She has new patent applications in format varying, mulitprocessing, and electronic voting. She is the author of recent studies of the Solar REnewable Energy, Wind Energy, Thin Film Batteries, Business Process Management marketing strategies, Internet equipment, biometrics, a study of Internet Equipment, Worldwide Telecommunications Equipment, Top Ten Telecommunications, Digital Loop Carrier, Web Hosting, Web Services, and Application Integration markets. Ms. Eustis is a graduate of Barnard College.

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