

Solar Market Strategies Shares, and Forecasts, Worldwide, 2010 to 2016

<https://marketpublishers.com/r/S903A5E797CEN.html>

Date: March 2010

Pages: 481

Price: US\$ 3,500.00 (Single User License)

ID: S903A5E797CEN

Abstracts

WinterGreen Research announces that it has a new study on Solar Market Strategies, Shares, and Forecasts, Worldwide, 2010-2016. The 2010 study has 481 pages, 187 tables and figures.

Solar energy is anticipated to be built out on commercial roof tops with electricity fed to local substations. Electric utilities that own the distribution plant will distribute solar energy to homes from the substation. The electricity generated will be used for both stationary power and to charge electric vehicles. Solar energy market growth depends on volume production to achieve economies of scale.

Solar technology is of the crystalline and CIGS thin film variety. Both technologies are set to thrive in the near term. In the long term, the thin film technologies will probably be more efficient.

Solar energy market driving forces relate to the opportunity to harness a cheap, long lasting, powerful energy source. Solar energy can be used to create electricity in huge quantity. Solar panels are mounted in a weatherproof frame, are mounted in areas with direct exposure to the sun to generate electricity from sunlight.

Solar power systems are comprised of solar modules, related power electronics, and other components. Solar panels are used in residential, commercial and industrial applications. Solar compositions of arrays that comprise electric utility grids appear to be the wave of the future.

The demand for solar energy is dependent on a lower prices for solar and higher prices for petroleum. A combination of economies of scale being realized in the manufacturing

along with increases in the current prices for petroleum will drive solar energy adoption.

The overall solar market has attained enough critical mass to boost competitive technologies of thin film and monocrystalline, polycrystalline, and multicrystalline silicon based systems.

First Solar, the market leader, in commercial systems is participating in the solar markets at a level of \$1.9 billion of a total 2009 market of \$19.6 billion for 2009. First Solar is well positioned to gain significant market share over the next five years. First Solar basically does monolithic integration on glass, making things on the module level.

First Solar PV modules are thin film PV modules. The achievement of reaching 1GW of modules in installations bodes well for the entire industry, bringing credibility to the solar energy effort. To support the growing demand, First Solar continues to push the limits on volume manufacturing. First Solar is integrating each production step.

Sharp, the market leader, has achieved remarkable penetration of residential markets. Mass production of tandem-type thin-film solar cells means two types of cells are offered-crystalline types suitable for colder temperatures at high latitudes, and thin-film types better suited to warmer regions. Sharp is a unique manufacturer in that they offer both types.

Key market transitions are being made relative to smart grid, the increasing centrality of the local power substation, and implementation of the smart grid as a distribution center for electricity generated by solar power.

Solar energy is being adopted because the petroleum reserves are facing depletion. Solar offers plentiful, cheap energy source with panels that have a 25 year life and payback within 10 years. The payback is within 8 months if the solar electricity generated is used to charge an electric vehicle.

Thin film batteries and new utility level electricity storage are evolving. Thin film batteries are expected to power electric vehicles and sit on the ground outside homes and apartment buildings to store the electricity generated by solar. Thin film batteries provide the bridge to offer electricity when the sun is not shining.

Thin film batteries fuel growth in solar markets. These markets are set to evolve even faster than anyone has thought. Sharp, First Solar, Trina Solar, Suntech, and Ascent

Solar Technologies are among the companies anticipated to benefit from the buildout of solar energy. These are the companies positioned to leverage solar energy market growth. These market participants continue to be very aggressive in both internal innovation commitments, as well as partnership and acquisition strategies.

According to Susan Eustis, President of WinterGreen Research, "Worldwide solar markets are poised to achieve significant growth as solar energy is widely adopted, creating economies of scale and funding new technology efficiencies. Manufacturing efficiencies are expected to create new uses and permit users to leverage existing ones. Costs of solar panels are expected to decrease rapidly in response to the continuing economies of scale. Market strategies of the leaders Sharp First Solar, and Trina are compelling in their innovation and flexibility?"

Emerging markets depend on 100 successful trials and reference accounts. Solar energy has now surpassed that magic number and is poised for rapid growth. The reference accounts are in place, the prices of the solar modules are decreasing at a faster pace than the industry had predicted, grid parity has been achieved in some places and is on track to be achieved everywhere.

Investment in solar energy is anticipated to continue. Participants will come and go, industry consolidation and high growth patterns will alternate until the nascent industry stabilizes, but solar energy is here to stay.

Solar energy is in place. It works, it is no longer a dream or a long shot, it is real. Read the study, look at the pictures of the large number of installations, this is an amazing market, emerging long after early efforts to bring these technologies to reality: Why is it here now? Solar energy is evolving because the price of gasoline is going to continue to climb.

Solar energy markets are big. At \$19.6 billion in 2009 solar panels are anticipated to reach \$125.5 billion by 2016. Market growth comes because the technology has caught the imagination of everyone, consumers, vendors, governments, politicians, oil producers, and the utility industry. The technology works, its benefits have a positive ROI over the useful life of the panels, even a significant payback. Solar provides the cheap, clean, dependable energy source needed to drive industrial growth, available.

Contents

SOLAR EXECUTIVE SUMMARY

- Solar Strategy Executive Summary
 - Solar Energy Market Driving Forces
 - Solar Energy Market Shares
 - Solar Energy Market Forecasts
- 100 Successful Trials And Reference Accounts
 - Solar Market Description And Market Dynamics

1. SOLAR STRATEGY MARKET DESCRIPTION AND MARKET DYNAMICS

- 1.1 Solar Strategies
- 1.2 Photovoltaic Conversion Of Sun Light
- 1.3 Sunlight Intensity in Various Regions
- 1.4 Variety of Solar Panel Installations
- 1.5 World's Largest PV Installation German Solar
- 1.6 Utility Power Positioning
 - 1.6.1 Utility Solar Decision Making
- 1.7 U.S. Building Construction Industry
- 1.8 Era Of Cheap Energy
 - 1.8.1 Unprecedented Level Of Development Worldwide
 - 1.8.2 Population Increases
- 1.9 Tackling Climate Change
- 1.10 Power From the Sun
 - 1.10.1 PV Industry
 - 1.10.2 SGS Solar Services

SOLAR MARKET SHARES AND MARKET FORECASTS

2. SOLAR STRATEGY MARKET SHARES AND FORECASTS

- 2.1 Solar Energy Market Driving Forces
- 2.2 Solar Energy Market Shares
 - 2.2.1 First Solar Thin Film Monolithic Integration On Glass
 - 2.2.2 Sharp Solar Cells
 - 2.2.3 Sharp Increasing The Size Of The Output To Maintain Leading Market Share
 - 2.2.4 Trina Solar Limited Square Monocrystalline Cell

- 2.2.5 SolarWorld Residential
- 2.2.6 Suntech Solar Cells
- 2.2.7 Canadian Solar
- 2.2.8 BP Solar Core Markets Monocrystalline And Multicrystalline Cells
- 2.2.9 LDK
- 2.2.10 Yingli
- 2.2.11 CIGS
- 2.2.12 Q-Cells CIGS Module Positioning
- 2.2.13 Ascent Solar Semiconductor Deposition
- 2.2.14 NanoSolar and MiaSole Thin Film Technology
- 2.2.15 Ascent Solar Thin Film Photovoltaic Devices CIGS (Copper Indium Gallium Selenide).
- 2.2.16 Shenzhen Sunshine Electronics Manufacturing Solar Lighting
- 2.3 Solar Market Forecasts
 - 2.3.1 Solar Industry Outlook
 - 2.3.2 100 Successful Trials And Reference Accounts
 - 2.3.3 Solar Utility Market Driving Forces
 - 2.3.4 Grid Parity
- 2.4 Multiple, Large, Working Solar Energy Installations
- 2.5 Commercial Solar
 - 2.5.1 Residential Solar
 - 2.5.2 Government, Enterprise, and Capital Market Funding of Solar Energy Initiatives
 - 2.5.3 President Obama's Energy Plan
 - 2.5.4 Solar Energy Conversion Efficiency
 - 2.5.5 Solar Energy Megawatts Shipped
- 2.6 Solar Regional Analysis

SOLAR PRODUCT DESCRIPTION

3. SOLAR PRODUCT DESCRIPTION

- 3.1 Commercial Solar
- 3.2 First Solar Commercial Systems
 - 3.2.1 First Solar Energy High Performance. High Volume
 - 3.2.2 First Solar Commercial-Scale Solutions
 - 3.2.3 First Solar Largest Solar Power Plant Built In China by Americans
- 3.3 Trina Solar
- 3.4 Energy From Trina Solar Modules
 - 3.4.1 Trina Solar Monocrystalline Modules

- 3.4.2 Trina Solar TSM-PC05, 215W to 235W Multicrystalline Module
- 3.5 Q Cells
 - 3.5.1 Q-Cells CIGS Modules
- 3.6 Sharp
 - 3.6.1 Sharp Solar Cell With The Highest Efficiency Of Conversion In The World
 - 3.6.2 Sharp Mass Production Of Solar Cells
- 3.7 Mia Sole
 - 3.7.1 Mia Sole Thin Film CIGS Solar
 - 3.7.2 MiaSol's CIGS Solar Cell
 - 3.7.3 Miasol; CIGS-Based Thin Film Solar Panel Manufacturing
- 3.8 Nanosolar
 - 3.8.1 Nanosolar Commercial Production
- 3.9 Palios Flexible Glass
- 3.10 BYD**
 - 3.10.1 China BYD to invest \$3.3 billion in solar battery plant
- 3.11 Kyocera
- 3.12 Canadian Solar
- 3.13 GE Solar Panel
- 3.14 BP Solar
 - 3.14.1 British Petroleum BP Solar Panels
- 3.15 SolarWorld
- 3.16 Suntech
 - 3.16.1 Suntech HiPerforma™ Modules
 - 3.16.2 Suntech Solar Cells
- 3.17 Ascent Solar
 - 3.17.1 Ascent Solar High-Speed Thermal Evaporators
- 3.18 Utility-Scale Solar Solutions
- 3.19 First Solar Utility-Scale Solutions
- 3.20 Trina Solar Utility
- 3.21 Kyocera Solar Utility
- 3.22 Sharp Utility Solar Installation
 - 3.22.1 Sharp Utility-Scale Products
- 3.23 Scatec Solar
 - 3.23.1 Scatec Solar Utility Project Development Phase
- 3.24 Residential Solar
- 3.25 Sharp Residential
 - 3.25.1 Sharp OnEnergy™ Roof-Mounted Solar Electric Systems
 - 3.25.2 Sharp High-Power Monocrystalline Residential Solar Modules
- 3.26 First Solar U.S. Residential and Small Commercial Solutions

- 3.27 SolarCity
- 3.28 Scatec Solar Residential
- 3.29 Solar Energy Initiatives
- 3.30 SolarWorld Residential
- 3.31 Consumer Solar
- 3.32 G24 Innovations
 - 3.32.1 G24 The Solar Power Lamp
- 3.33 Smart Grid
- 3.34 Petra Solar Pole Based Solar Collectors

SOLAR TECHNOLOGY

4. SOLAR STRATEGY, TECHNOLOGY, AND INDUSTRY SPECIFIC APPLICATIONS

- 4.1 Solar Panel Technologies
 - 4.1.1 Thin Film Solar Cells Amorphous Silicon
 - 4.1.2 Thin Film Solar Cells Cadmium Telluride
 - 4.1.3 Thin Film Solar Cells CIGS (Copper Indium Gallium Selenide)
 - 4.1.4 Miasol's; Copper-Indium-Gallium-Diselenide Films Conversion Efficiency Confirmation From NREL
 - 4.1.5 Thin-Film On Glass Substrate
 - 4.1.6 Ascent Solar Putting CIGS On A Polymeric Or Plastic Substrate
 - 4.1.7 First Solar Monolithic Integration On Glass
 - 4.1.8 Substrate Discussion
 - 4.1.9 First Solar Modules Cadmium Telluride (CdTe) Semiconductor Material
- 4.2 Trina Solar Silicon Panels
- 4.3 Q Cells Technology
- 4.4 SunTech
- 4.5 CIGS Photovoltaic Effect
 - 4.5.1 Crystalline Silicon Indirect Band-Gap Semiconductor
 - 4.5.2 Solar Thin Film Substrates
 - 4.5.3 Gettering in Large-Grained Thin Polycrystalline Silicon Films on Glass Substrate
 - 4.5.4 EPV Solar Contracts Deliver 300 Megawatts Of Thin-Film Panels Through 2012.
 - 4.5.5 Photovoltaic Technologies: Single Crystal, Polycrystalline and Thin Film
 - 4.5.6 Single Crystal and Polycrystalline
 - 4.5.7 Thin Film Panels
- 4.6 Shading
- 4.7 Third-Generation Thin-Film Solar Applications
- 4.8 Flexible Glass Solar Panels

SOLAR COMPANY PROFILES

5. SOLAR COMPANY PROFILES

5.1 Selected Solar Companies

5.2 A-Power

5.3 Abengoa Solar

5.4 Anwell Technologies

5.5 Areva / Ausra

5.5.1 Areva New Strategy

5.6 Ascent Solar Technologies

5.6.1 Ascent Solar Technologies Completed Construction Of A 1.5 MW Production Line

5.7 BP

5.7.1 BP brands

5.7.2 BP Solar Revenue

5.7.3 BP Solar

5.7.4 TATA BP Solar

5.8 BYD

5.9 China Sunergy

5.10 Canadian Solar

5.11 China Guangdong Nuclear Wind Power Company

5.12 Conergy AG -

5.12.1 Conergy Solar System Integration

5.12.2 Conergy Sale of Solar Water Pump Division to Innovative Solar Solutions

5.12.3 Conergy and MEMC Agreement

5.13 Corning

5.13.1 Corning A Growth Company

5.13.2 Corning Worldwide LCD TV

5.13.3 Other Corning Businesses

5.13.4 Corning 2010 Market Strength

5.13.5 Corning Specialty Materials Segment Gorilla Scratch-Resistant Cover Glass

5.13.6 Corning Fourth-Quarter Revenue

5.14 Developers Diversified Realty (DDR)

5.15 Daqo New Energy

5.16 Dow Chemical

5.16.1 Dow Chemical / NuvoSun

5.17 Dyesol

5.18 Energy Conversion Devices / United Solar Ovonic

5.18.1 Energy Conversion Devices Revenues

5.18.2 Energy Conversion Devices 1.87 Megawatt Uni-Solar Installation on Flanders Expo Hall in Belgium

5.18.3 Energy Conversion Devices Integrated And Commercial Rooftop Photovoltaics

5.19 ET Solar

5.19.1 ET Solar Vertically Integrated Solar Energy

5.19.2 ET Solar / USE:

5.20 Evergreen Solar

5.20.1 Evergreen Solar's Quarterly Loss Widens

5.20.2 Evergreen Solar String Ribbon™ Solar Panels

5.21 First Solar

5.21.1 First Solar Comprehensive Photovoltaic (PV) System Solutions

5.21.2 PNM Electric Utility, First Solar Contract for 22 Megawatts of Utility Scale Solar Power for New Mexico

5.21.3 First Solar Competitive Positioning in Thin Film

5.21.4 First Solar Revenue

5.21.5 First Solar Partners

5.21.6 First Solar Strategy

5.22 G24

5.22.1 G24I Dye Sensitized Solar Cell Technology Platform

5.23 GreenWing

5.24 HelioVolt

5.25 Hoku Scientific

5.25.1 Hoku Scientific

5.26 Honda

5.26.1 Honda Solar Power

5.26.2 Honda Soltec

5.27 JinkoSolar

5.28 Juwi

5.29 Kyocera

5.29.1 Kyocera Solar

5.29.2 Kyocera Supplies. 40 MW at Large-Scale Solar Power Plants in Spain

5.30 LDK Solar

5.30.1 LDK Solar Revenue

5.30.2 LDK Solar and Q-Cells Continuation of Supply Contract

5.31 Masdar PV

5.31.1 Masdar PV Si thin film module 1,4m²

5.32 MEMC

- 5.32.1 MEMC Electronic Materials / SunEdison
- 5.32.2 MEMC / SunEdison and Developers Diversified Realty National Rooftop Solar Program.
- 5.32.3 MEMC / SunEdison's REIT Solar Program Power Hosting
- 5.33 MiaSol's;
- 5.33.1 Miasol's; Technology Problems Fixed:
- 5.33.2 Miasol's; Financing & Underwriting
- 5.33.3 Miasol's; Commercial Shipments to Multiple Customers
- 5.34 Mitsubishi Solar Panels
- 5.35 Oerlikon Solar
 - 5.35.1 Oerlikon Coating
 - 5.35.2 Oerlikon Coating Business Units / Market Areas / Applications
- 5.36 Petra Solar
- 5.37 PNM**
- 5.38 Q Cells
 - 5.38.1 Q-Cells Revenue Development
- 5.39 Ranking Solar
- 5.40 Samsung
- 5.41 Sanyo
- 5.42 Scatec Solar
 - 5.42.1 Scatec Solar Engaging In Rural Electrification In Emerging Markets
- 5.43 Schott
 - 5.43.1 Schott Business
- 5.44 Sharp
 - 5.44.1 Sharp LCD
 - 5.44.2 Sharp Solar Cell Plant
 - 5.44.3 Sharp Thin-Film Solar Cell Facilities
 - 5.44.4 Sharp Revenue
- 5.45 Shell Oil
- 5.46 Solar Energy Initiatives
- 5.47 Shenzhen Sunshine Electronics
- 5.48 Singulus Technologies
- 5.49 SMA Solar Technology AG
- 5.50 SMA Solar
- 5.51 Solyndra
 - 5.51.1 Solyndra: 1.9 MW Project Installed
- 5.52 Staples (SPLS)
- 5.53 Solarfun
 - 5.53.1 Solarfun Third Quarter 2009 Revenue

- 5.53.2 Solarfun Revenue First Quarter 2009
- 5.53.3 Solarfun PV Module Contracts Total 12.65 MW in China
- 5.53.4 Solarfun 2010 Capacity Expansion
- 5.53.5 Solarfun to Build 100MW Solar Power Plant in Jiayuguan City, Gansu Province
- 5.54 Solar Fusion Power
- 5.55 SolarWorld
 - 5.55.1 Solar World Revenue
 - 5.55.2 SolarWorld's Sun Modules
 - 5.55.3 Solar World Revenues
- 5.56 Sun Fields Europe
- 5.57 SolFocus
 - 5.57.1 SolFocus GreenWing Energy Has Agreement with Utility Scale Deployments of Concentrator Photovoltaic (CPV) Systems
 - 5.57.2 SolFocus Raises over \$77 Million
- 5.58 Stirling Solar
- 5.59 Suniva Inc.
- 5.60 SunTech
- 5.61 SunPower
 - 5.61.1 SunPower Revenue
 - 5.61.2 SunPower Revenue
 - 5.61.3 SunPower Acquires SunRay
- 5.62 Telio Solar / Telconord - Agencia de Energías Renovables
- 5.63 Tianwei
- 5.64 Trina Solar
 - 5.64.1 Trina Solar Photovoltaics (PV) Modules
 - 5.64.2 Trina Solar Net Revenues
 - 5.64.3 Trina Solar Customers
 - 5.64.4 Trina Solar Production Process
- 5.65 Yingli
 - 5.65.1 Yingli Green Energy Revenue
 - 5.65.2 Yingli Addresses U.S. Solar Market
- 5.66 Xinjiang Goldwind
- 5.67 Solar Energy Dealers
- 5.68 Solar Energy Companies
 - 5.68.1 Top 10 Solar Panel Manufacturers in USA
 - 5.68.2 Solar Companies

List Of Tables

LIST OF TABLES AND FIGURES

SOLAR EXECUTIVE SUMMARY

Table ES-1 Solar Energy Market Driving Forces

Figure ES-2 Solar Energy Panel Shipments Market Shares, Worldwide, Dollars, 2009

Figure ES-3 Solar Panel Photovoltaic Market Forecasts, Dollars, Worldwide, 2010-2016

SOLAR MARKET DESCRIPTION AND MARKET DYNAMICS

Figure 1-1 Fraunhofer Institute for Solar Energy Systems

Figure 1-2 Average Solar Irradiance

Figure 1-3 Regional Power Output Levels Per kw Of Generation Using GE Solar Electric Power Systems

Figure 1-4 Solar Covered Roof

Table 1-5 Solar Energy Generated as a Function of Installation Type

Figure 1-6 Alternative Siteing of Solar Panels

Figure 1-7 Arizona Springerville Generating Station Solar System 28-Acre Field Of PV Panels

Figure 1-8 PV In Standalone Devices Solar Parking Meter

Figure 1-9 Public Policy to Encourage Sustainable Economics

Table 1-10 Sustainable Solar Energy Market Aspects

Figure 1-11 Australian Government Solar Technology Testing

Figure 1-12 Germany's Biggest Solar Installation, in Lieberose. German Tariff Cuts To Solar

Table 1-13 Building And Construction Market Shifts Around Solar Energy

Table 1-14 Description Of Solar Services

SOLAR MARKET SHARES AND MARKET FORECASTS

Table 2-1 Solar Energy Market Driving Forces

Figure 2-2 Solar Energy Panel Shipments Market Shares, Worldwide, Dollars, 2009

Table 2-3 Solar Energy Photovoltaic Panel Shipments Market Shares, Worldwide, Dollars, 2009

Figure 2-4 Suntech Solar Cells

Table 2-5 Q-Cells CIGS Module Positioning

Figure 2-6 Solar Panel Photovoltaic Market Forecasts, Dollars, Worldwide, 2010-2016

Table 2-7 Photovoltaic Solar Panel Market Forecasts, Units and Dollars, 2010-2016
(Next Page)

Table 2-8 Solar Energy Market Competitive Strengths

Figure 2-9 Solar Panel Utility Photovoltaic Market Forecasts, Worldwide, Dollars,
2010-2016

Table 2-10 Photovoltaic Solar Panel Utility Market Forecasts, Units and Dollars,
2010-2016

Figure 2-11 2-Photovoltaic Solar Gigawatts Installed Forecasts, Worldwide, Megawatts,
2010-2016

Figure 2-12 Photovoltaic Solar Megawatts Shipped Forecasts, Worldwide, Megawatts,
2010-2016

Figure 2-13 Dollars per Kilowatt Hour Solar Shipment When Looked At Over 25 Years
Forecasts, Worldwide, Dollars, 2010-2016

Figure 2-14 Photovoltaic Percent Advantage Solar Panel Amortized Costs vs. Retail
Grid Electricity Prices to Customers, Return on Investment, 25 Year Life, Market
Forecasts, Percent, Worldwide, 2010-2016

Table 2-15 Solar Photovoltaic Dollars per Megawatt per 25 Year Expected Life of
Equipment Shipments, Worldwide, 2009-2016

Table 2-1 Solar Photovoltaic Dollars per Megawatt per Year Over Useful Life of
Equipment Shipments, Worldwide, 2009-2016

Figure 2-17 Photovoltaic Solar Grid Parity Electricity Costs Market Forecasts, Dollars,
Worldwide, 2010-2016

Table 2-18 Commercial Solar Energy Market Driving Forces

Table 2-19 Commercial Solar Energy Market Driving Forces

Table 2-19 (Continued) Commercial Solar Energy Market Driving Forces

Table 2-19 (Continued) Commercial Solar Energy Market Driving Forces

Figure 2-20 Solar Panel Commercial Photovoltaic Market Forecasts, Worldwide,
Dollars, 2010-2016

Table 2-21 Photovoltaic Solar Panel Commercial Market Forecasts, Units and Dollars,
2010-2016

Figure 2-22 Residential Solar Panel Photovoltaic Market Forecasts, Dollars, Worldwide,
2010-2016

Table 2-23 President Obama's Energy Plan Calls For:

Table 2-23 (Continued) President Obama's Energy Plan Calls For:

Table 2-24 Driving Forces for Solar to Replace Oil As The Primary Fuel

Table 2-25 Solar Energy Conversion Efficiency

Table 2-25 (Continued) Solar Energy Conversion Efficiency

Table 2-25 (Continued) Solar Energy Conversion Efficiency

Table 2-26 Solar Energy Megawatts Shipped

Figure 2-27 Photovoltaic Solar Panel Installed Capacity European Market Segments, Megawatts, 2009

Table 2-28 Photovoltaic Solar Panel Installed Capacity European Market Segments, Megawatts, 2009

Figure 2-29 Photovoltaic Solar Panel Installed Capacity European Market Segments, Megawatts, 2009

Table 2-30 Photovoltaic Solar Panel Installed Capacity European Market Segments, Megawatts, 2009

Figure 2-31 Solar Regional Segment Revenue, Dollars, 2009

Table 2-32 Solar Regional Market Segments, Dollars, 2009

SOLAR PRODUCT DESCRIPTION

Figure 3-2 First Solar Capacity Expansion Plan

Figure 3-3 First Solar Commercial Projects

Figure 3-3 (Continued) First Solar Commercial Projects

Figure 3-4 First Solar Commercial Rooftops

Figure 3-5 First Solar Modules

Figure 3-6 First Solar Modules Manufacturing

Figure 3-7 First Solar Installations

Figure 3-8 Trina Solar \$/kWh

Figure 3-9 Trina Solar Australian Daily Solar Output by Month - Average.

Table 3-10 Trina Solar Product Benefits

Table 3-11 Trina Solar Product Features

Table 3-11 (Continued) Trina Solar Product Features

Table 3-12 Trina Solar Products

Table 3-12 (Continued) Trina Solar Products

Figure 3-13 Trina Solar Modules

Figure 3-14 Trina Solar Commercial Installations

Figure 3-14 (Continued) Trina Solar Commercial Installations

Figure 3-14 (Continued) Trina Solar Commercial Installations

Figure 3-14 (Continued) Trina Solar Commercial Installations

Figure 3-14 (Continued) Trina Solar Commercial Installations

Figure 3-14 (Continued) Trina Solar Commercial Installations

Figure 3-14 (Continued) Trina Solar Commercial Installations

Figure 3-15 Trina Solar Commercial Installations

Figure 3-15 (Continued) Trina Solar Commercial Installations

Table 3-16 Q-Cells CIGS Module Positioning

Table 3-17 Q-Cells High Energy Yields For Cost-Efficiency

- Figure 3-18 Q Cells CIGS Solar Modules
- Table 3-19 Q-Cells Solar Panel Solid Quality 'Made in Germany'
- Table 3-20 Q-Cells Strengths of SL1 Modules:
- Figure 3-21 Q-Cells CIGS Solar Panel
- Figure 3-22 Sharp Solar panels
- Figure 3-23 Sharp Commercial Solar Installation
- Figure 3-24 Miasole Cross Section of CIGS Material
- Figure 3-25 MiaSol's CIGS Solar Cell Aspect
- Figure 3-26 MiaSol's CIGS Solar Cell
- Figure 3-27 Kyocera Solar Panels
- Figure 3-28 Kyocera's d.Blue Module Technology
- Figure 3-29 Canadian Solar Panels
- Figure 3-30 BP Solar Panels
- Table 3-31 Suntech Pluto™ Cell Technology Key Features
- Table 3-32 Suntech HiPerforma™ Modules
- Figure 3-33 Suntech Solar Panel
- Figure 3-34 First Solar Utility Project Profiles
- Figure 3-35 First Solar Large Installations
- Figure 3-36 First Solar US Utility Market
- Figure 3-37 Trina Solar Onnuri PV Plant Naju Korea
- Figure 3-38 Trina Solar Utility Installations
- Figure 3-39 Kyocera Avanzalia Has Inaugurated Two New Spanish Solar Power Plants
- Figure 3-40 Kyocera Planta Solar de Don Quijote
- Figure 3-41 Sharp Utility Solar Installation
- Table 3-42 Sharp Solar Products
- Table 3-43 Sharp Utility-Scale Solar Modules
- Figure 3-44 Sharp Utility Scale Solar Installation
- Figure 3-45 Scatec Solar Grid Connected Installation
- Table 3-46 Scatec Solar Utility Project Development Phase
- Table 3-47 Scatec Solar Utility Ground-Based Power Plant Components
- Figure 3-48 Sharp Residential Solar Panels
- Figure 3-49 First Solar Residential Installation
- Figure 3-50 First Solar Residential Installation
- Figure 3-51 First Solar Residential Installation
- Figure 3-52 First Solar Residential Installations
- Figure 3-53 Norwegian Prime Minister, Mr. Jens Stoltenberg Visits the Rural Electrification Project in India
- Figure 3-54 Solar Energy Initiatives Home Solar System
- Table 3-55 Solar Energy Residential Initiatives

Figure 3-56 Solar World Solar Module
Figure 3-57 Solar World Residential Modules
Figure 3-58 Solar Energy Solar Park Development
Table 3-59 G24 Sun Light™:Functions
Figure 3-60 G24 Solar Powered Light.

SOLAR TECHNOLOGY

Figure 4-1 Cross Section of Typical CIGS Solar Cell
Figure 4-2 Photovoltaic PV Theoretical Limits
Table 4-3 First Solar Technology Advantages
Figure 4-4 First Solar Technology Pathways to Improved Solar Conversion Efficiency
Figure 4-5 PV Module Technology & Manufacturing
Figure 4-6 First Solar Top Down Efficiency of CdTe Technology
Figure 4-7 Bottom Up Efficiency of CdTe
Figure 4-8 CdTe Capabilities vs. First Solar Requirements
Figure 4-9 First Solar Comparison of CdTe to Other Technologies
Figure 4-10 Tuson Arizona Electric Use of Solar Power
Figure 4-11 First Solar Improvements in Module Conversion Efficiencies
Table 4-12 First Solar Roadmap
Figure 4-13 First Solar Module CdTe Efficiency Gains vs. Crystalline Silicon >3x
Figure 4-14 Trina Solar Silicon Technology
Figure 4-15 SunTech Pluto Technology
Figure 4-16 Thin Film Panels
Figure 4-17 Effect of Shading on Solar Panel Efficiency

SOLAR COMPANY PROFILES

Table 5-1 Canadian Solar Investment Highlights
Figure 5-2 Energy Conversion Devices Flanders Expo – Gent Facility
Table 5-3 Uni-Solar Manufacturing Facilities:
Figure 5-4 ET Solar Group
Figure 5-5 First Solar Headquarters
Figure 5-6 First Solar Key Messages
Figure 5-7 First Solar Research
Figure 5-8 First Solar Design
Figure 5-9 First Solar Factory Runrate
Figure 5-10 First Solar Modules Manufacturing
Figure 5-11 First Solar European Business Model

Figure 5-12 First Solar US Business Model
Figure 5-13 First Solar US Utility Business Model
Figure 5-14 First Solar Utility Market Progress
Table 5-15 First Solar Competitive Positioning in Thin Film
Figure 5-16 First Solar 2010 Guidance Overview
Figure 5-17 First Solar Contracted Pipeline in Gigawatts
Figure 5-18 First Solar Pipeline Growth
Figure 5-19 First Solar Partners
Figure 5-20 First Solar Sustainable Cost Advantage Through Technology
Figure 5-21 First Solar Technology Cost Advantage
Figure 5-22 First Solar Technology Value
Figure 5-23 First Solar Sustainable Cost Advantage Technology and Industry Model Migration
Figure 5-24 First Solar Sustainable Economic Advantage Through Technology
Figure 5-25 G24 Module Research
Table 5-26 G24 World Class Dye Sensitized Solar Cell Technology DSSC Manufacturing Operation:
Table 5-27 G24I Dye Sensitized Solar Cell Technology Platform Functions
Figure 5-28 Kyocera Sales By Segment
Figure 5-29 Kyocera Sales by Region
Figure 5-30 Kyocera Sales Trends
Table 5-31 Miasol's Technology Problems Fixed:
Table 5-32 Oerlikon Coating Core Competencies
Figure 5-33 Q-Cells Regional Segments
Figure 5-34 Schott Sales By Region
Figure 5-35 Sharp Revenue
Figure 5-36 Sharp Sales By Product Group
Figure 5-37 Shenzhen Sunshine Electronics
Figure 5-38 Shenzhen Sunshine Electronics Laminating Machine
Figure 5-39 Shenzhen Sunshine Electronics Factory Line in Shenzhen
Figure 5-40 Shenzhen Sunshine Electronics Factory in Hubei:
Figure 5-41 Shenzhen Sunshine Electronics Solar Airport(Taxiway) Light Passed Test By "National Center Of Supervision & Inspection an Electric Light Source Quality (Shanghai)"Nov.28,2008
Figure 5-42 Solar World Revenue
Figure 5-43 SolarWorld Group Headquarters
Figure 5-44 Suntech 2009 Revenue Q3
Figure 5-45 SunTech Mainland China Activities
Figure 5-46 SunTech North American Activities

Figure 5-47 First Solar Sales Channels

COMPANIES PROFILED

Sharp
First Solar
SunTech
Ascent Solar Technologies
SolarWorld
BP Solar
Q Cells
LDK Solar
Yingli Green Energy
Trina Solar
Canadian Solar
A Power
Abengoa Solar
Anwell Technologies
Areva / Ausra
TATA BP Solar
BYD 5 14
China Sunergy
China Guangdong Nuclear Wind Power Company
Conergy AG
Conergy and MEMC Agreement
Corning
Developers Diversified Realty (DDR)
Daqo New Energy
Dow Chemical
Dow Chemical / NuvoSun
Dyesol
ET Solar
Evergreen Solar
G24
GreenWing
HelioVolt
Hoku Scientific
Honda
JinkoSolar

Juwi
Kyocera
LDK Solar
Masdar PV
MEMC
MEMC / SunEdison and Developers Diversified
Realty National Rooftop Solar Program
Solarfun Power
Sunpower
Evergreen
ET Solar
China Sunergy
Energy Conversion Devices / United Solar Ovonic
Shenzhen Sunshine Electronics
Kyocera
Sanyo
Mitsubishi
MiaSolé
Mitsubishi Solar Panels
Oerlikon Solar
Petra Solar
PNM 5 106
Ranking Solar
Samsung
Sanyo
Scatec Solar
Schott
Sharp LCD
Shell Oil
Solar Energy Initiatives
Shenzhen Sunshine Electronics
Singulus Technologies
SMA Solar Technology AG
SMA Solar
Solyndra
Staples (SPLS)
Solarfun
Solar Fusion Power
SolarWorld

Sun Fields Europe
SolFocus
Stirling Solar
Suniva Inc.
SunTech
SunPower
SunPower Acquires SunRay
Telio Solar / Telconord - Agencia de Energías Renovables
Tianwei
Xinjiang Goldwind
Energy Conversion Devices / United Solar Ovonic

I would like to order

Product name: Solar Market Strategies Shares, and Forecasts, Worldwide, 2010 to 2016

Product link: <https://marketpublishers.com/r/S903A5E797CEN.html>

Price: US\$ 3,500.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/S903A5E797CEN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:
Last name:
Email:
Company:
Address:
City:
Zip code:
Country:
Tel:
Fax:
Your message:

****All fields are required**

Customer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970