

Preview of solar energy



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Preview of Solar Energy Market Potential and Business Opportunities This preview provides sample content from the Solar Energy Report The Solar Energy — Market Potential and Business Opportunities report is a detailed report on all aspects of using solar energy as a renewable energy source. This preview provides inputs on focus areas of the report, the complete list of contents, and sample data from each chapter of the report. The Solar Market Potential and Business Opportunities report was last updated in the 1st week of February 2010, and has 170 pages. An Invaluable Guide for Solar Energy Entrepreneurs As renewable energy source, solar energy presents an exciting opportunity. While the current contribution of solar energy to the total global energy needs is insignificant, in the medium and long run, it is expected that solar energy will form a vital component of the world's energy mix. This has resulted in a number of countries, communities and companies investing significantly into solar energy. Within solar, both solar PV and solar thermal present exciting business opportunities. The capital costs for solar PV are expected to decrease significantly over the next five years, and emerging high- efficiency solar thermal technologies offer hope for a significantly lower cost of energy from solar thermal in the next five years. The above developments thus present a wide range of attractive business opportunities along the entire solar energy value chain. Opportunities exist for businesses and entrepreneurs both small and large, and in domains that are emerging and niche. Entrepreneurs and investors have a need for a comprehensive resource that identifies the key drivers for opportunities in this industry, and provides insights on the extensive range of these opportunities. The Solar Market Potential and Business Opportunities report was developed to satisfy this clear need. The report is a detailed guide to the <https://assignbuster.com/preview-of-solar-energy/>

range of opportunities in the solar energy industry (both PV and thermal). Each section provides in-depth information, details and updates on the most critical aspects relevant to it. The objective of the Solar Profits report is to facilitate tangible steps for an entrepreneur keen on starting off in the solar energy industry. The emphasis hence is on providing practical data, updates and insights. The report has been developed with over two years of in-depth research, and has been developed with inputs from solar energy industry experts, investors and professionals who have been constantly interacting with the solar energy industry for over four years. The report will be an invaluable guide to those keen on venturing into one of the most exciting renewable energy domains.

C H A P T E R 1 Introduction to Alternative Energy Sources

Solar energy is one of the most promising alternative energy sources. This chapter provides a brief introduction to alternative energy and the place of solar in the alternative energy framework.

KEY SECTION 1. 1 Introduction to Alternative Energy Sources

Sample Content: The Primary and Emerging Sources of Energy

The following are the primary and emerging sources of energy.

Energy Source	Renewable Energy	Non Renewable Energy
Solar	Wind	Traditional
Alternative	Hydro	Oil
Nuclear	Ocean	Gas
Tar sands	Hydrogen	Coal
Oil shale	Geothermal	Gas Hydrates
Bio Based		

This chapter provides an introduction to and overview of the alternative energy sources.

2. Solar Energy — Status and Trends Worldwide

it is expected that there will be a significant acceleration in the use of solar energy. Both solar PV and solar thermal are expected to show double-digit growth rates for the next decade and beyond. Such a fast-paced growth will result in a number of business opportunities, both small and large. In order for entrepreneurs to identify these opportunities, it is necessary for them to understand the broad

as well as specific trends that are shaping the industry. This chapter provides key inputs on the trends and potential for solar PV and thermal. It provides insights on global and regional scenarios in the context of current and future contribution of solar energy to electricity. KEY SECTION 2. 1 Introduction 2. 2 Solar Energy Potential 2. 2. 1 Solar PV Potential 2. 2. 2 Solar Thermal Potential 2. 3 Technology 2. 4 Status and Trends of Solar Industry 2. 4. 1 Solar PV Status and Trends 2. 4. 1. 1 PV Installed Capacity — Current and Future 2. 4. 1. 2 Regional PV Solar Energy Scenario 2. 4. 1. 3 Solar PV Current and Future Energy Contribution in Global Electricity Supply 2. 4. 2 Solar Thermal Status and Trends 2. 4. 2. 1 Installed Capacity of Concentrated Solar Power — Current and Future 2. 4. 2. 2 Cumulative Installed Capacity of CSP — Current and Future 2. 4. 2. 3 Trends in the Various CSP Technologies 2. 4. 2. 4 Distributed Solar Thermal 2. 5 Prominent Solar Power Projects & Companies 2. 5. 1 Largest Solar PV Power Plants 2. 5. 2 Solar Thermal Projects 2. 6 Solar Energy Problems 2. 6. 1 Problems and Barriers for Solar PV 2. 6. 1. 1 Problems Faced by Producers 2. 6. 1. 2 Problems Faced by Consumers 2. 6. 2 Problems and Barriers for Solar Thermal 2. 7 Solar PV vs. Solar Thermal

Sample Content: Technology | | The solar energy technology can be broadly classified as follows: - Solar Photovoltaic o Crystalline - Monocrystalline - Polycrystalline o Thin-film - CdTe (Cadmium Telluride) - CIGS (Copper Indium Gallium Selenium)/CIS (Copper Indium Selenium) - CIS (Copper Indium Diselenide) - Amorphous Silicon (a-Si) o Concentrating Photovoltaic - Solar Thermal o Distributed Solar Thermal - Flat-plate Collectors - Evacuated Heat-pipe Tubes o Centralised Solar Thermal - Concentrating Solar Thermal - Parabolic Trough Collectors - Dish/Engine Systems - Power Towers - Hybrid Systems / Integrated Solar Combined Cycle

- Linear Fresnel | Detailed description of industry classification is provided in this section of the report. | Sample Content: Solar PV Status and Trends

Global Installed Capacity and Annual Percentage Increase of Solar PV Power

All capacity data in MW Year | Off-grid | Grid | Total | % of grid-connected capacity | 1992 | 78 | 27 | 105 | 25.71 | 1993 | 94 | 37 | 131 | 28.24 | 1994 | 112 | 45 | 157 | 28.66 | 1995 | 132 | 59 | 191 | 30.89 | 1996 | 158 | 78 | 236 | 33.05 | 1997 | 187 | 118 | 305 | 38.69 | 1998 | 216 | 169 | 385 | 43.90 | 1999 | 244 | 265 | 509 | 52.06 | 2000 | 277 | 438 | 715 | 61.26 | 2001 | 319 | 655 | 974 | 67.25 | 2002 | 354 | 964 | 1318 | 73.14 | 2003 | 410 | 1399 | 1809 | 77.34 | 2004 | 450 | 2382 | 2832 | 84.11 | 2005 | 485 | 3669 | 4154 | 88.32 | 2006 | 535 | 5049 | 5584 | 90.42 | 2007 | 663 | 7178 | 7841 | 91.54

| Source: IEA, PV Trends 2008 Inferences from the table above: - CAGR of off-grid solar PV for 1992-2007 was 15.3%, which is high in itself - Now consider the CAGR of grid connected solar PV for 1992-2007 — 45%. At 45% CAGR, it was doubling every two years, on average! This shows the tremendous and continuous growth of grid-connected solar PV over the past 15 years. - In 2007, capacity of grid-connected solar PV was almost 11 times as much as that for off-grid solar PV

Sample Content: Installed Capacity of Concentrated Solar Technology

Type	Installed Capacity 2009 (MW)	Electricity Produced upto 2009	Approximate Capacity under construction and Proposed (MW)
Parabolic Trough	500	> 16,000	> 10,000
Solar Tower	40	80	3,000
Fresnel	5	8	500
Dish	0.5	3	1000

Concentrating solar power (CSP) is a proven technology with over 500 MW parabolic trough installed capacity, 40 MW solar tower capacity, 5MW from Fresnel technology and 0.5 MW from dish technology working worldwide. The above data clearly shows that most of the CSP power generation is done using the established parabolic trough

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technology. Several emerging technologies that promise higher conversion efficiencies and cost-competitive generation have been demonstrated on a smaller scale. These technologies, such as point-focusing power towers and line-focusing fresnel reflectors, may extend the ability of CSP to provide base load power in addition to peak load. Sample Content: Installed Capacity of Distributed Solar According to International Energy Agency (IEA) report published in 2008, the solar thermal collector capacity in operation worldwide equaled 127.8 GWth corresponding to 182.5 million square meters¹ at the end of the year 2006. Of this, 102.1 GWth were accounted for by flat-plate and evacuated tube collectors and 24.5 GWth for unglazed plastic collectors. Air collector capacity was installed to an extent of 1.2 GWth. If one observes the use of solar thermal energy it becomes clear that it greatly varies in the different countries. In China and Taiwan (65.9 GWth), Europe (14.2 GWth) and Japan (4.7 GWth), plants with flat-plate and evacuated tube collectors are mainly used to prepare hot water and to provide space heating, while in North America (USA and Canada) swimming pool heating is the dominant application with an installed capacity of 19.6 GWth of unglazed plastic collectors. This chapter provides detailed inputs on status and trends of all the three forms of solar energy system: solar PV, thermal and distributed solar thermal. Region wise and year wise development of these energy systems are analyzed to give the reader a clear understanding of the industry trends. In addition, the chapter lists the solar energy projects, their status, companies and the type of solar energy technologies adopted by these companies.

C H A P T E R 3 Value Chain and Prominent Companies in the Solar Energy Domain

A number of attractive business opportunities are present in niche domains and less explored areas

within solar energy. A complete understanding of the industry value chain will hence be useful in identifying these attractive opportunities. This chapter provides detailed inputs on the business value chain in solar energy, for both solar PV and solar thermal. It also provides critical inputs on suppliers, component and equipment manufacturers for each stage of this value chain.

KEY SECTION 3. 1 Solar PV Value chain 3. 2 Solar Thermal Value Chain 3. 3

Solar Industry Suppliers & Companies 3. 3. 1 Solar PV Suppliers and

Companies - Metallurgical Grade Silicon Suppliers - Trichlorosilane Suppliers

- Polysilicon Suppliers - Wafer Manufacturers - Crystalline Cells Manufactures

- Crystalline Modules Manufactures - Silicon-based Thin-film Manufactures -

CIS / CIGS based Thin-Film Manufactures - CdTe based Thin-Film

Manufactures - Concentrating PV Modules Manufactures - Solar PV Panel

Manufacturers 3. 3. 2 Solar Thermal Suppliers and Companies - Collectors -

Reflectors - Reflector Film - Heat Collection Element - Steam Generator

System - Heat Storage System - Central Control System - Linear Receiver -

Concentrator Structure Sample Content: Solar PV Value Chain Crystalline

Photovoltaics Coke Reduction Purification Wafer Cutting Doping Cleaning

Coating Connect cells Create electric circuit Laminate, frame, connect Sand

Raw Silicon 98% purity High purity Silicon Wafer Cell Crystalline Module

Silane for Amorphous Silicon Polysilicon for tandem cells Recycle Si waste

from wafer cutting Concentrating Photovoltaics Concentrator Cooling

Concentrating PV Module Tracking Thin-Film Photovoltaics GaAs InSb and

others Deposit photovoltaic material and dopant on glass or plastic Structure

substrate on glass into cell sections Laminate, frame, connect Thin-film

Module Mounting System Assemble modules into array Tracking system Mpp

Tracker Inverter Combine with other components Array Junction Box System

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Wiring Surge Protection Solar PV companies and suppliers for the following components and equipments are given. - Metallurgical Grade Silicon Suppliers - Trichlorosilane Suppliers - Polysilicon Suppliers - Wafer Manufacturers - Crystalline Cells Manufactures - Crystalline Modules Manufactures - Silicon-based Thin-film Manufactures - CIS / CIGS based Thin-Film Manufactures - CdTe based Thin-Film Manufactures - Concentrating PV Modules Manufactures - Solar PV Panel Manufacturers Solar Thermal companies and suppliers for the following components and equipments are given - Collectors - Reflectors - Reflector Film - Heat Collection Element - Steam Generator System - Heat Storage System - Central Control System - Linear Receiver - Concentrator Structure

C H A P T E R 4 Solar Energy - Case Studies and Businesses Opportunities

Analyzing real world case studies is a useful method to understand how the world is approaching the opportunities in the solar energy industry. This chapter provides extensive inputs on case studies and opportunities in solar PV and thermal in manufacturing, trade and service sectors. Inputs on opportunities are provided for small, medium, and large entrepreneurs. In addition to currently available opportunities, insights on the various emerging opportunities and R&D efforts prevalent in the industry are also provided.

KEY SECTION 4. 1. Solar Energy Case Studies

4. 2 Solar Energy Business Opportunities

4. 2. 1 A Framework for Solar Energy Opportunities

4. 2. 1. 1 Opportunities in Manufacturing, Trade and Service Industries in Detail

4. 2. 1. 2 R & D Opportunities in Solar

4. 2. 2 New Developments in the Solar Industry

4. 2. 3 Analysis of Opportunities in the Solar Energy Market

- Overall Solar Trends - Solar Thermal Trends - Solar PV Trends

Sample Content: Solar Energy Case Studies | | Internet Entrepreneur

Returns to Solar Energy

Bill Gross is a legend in Silicon Valley. His company,

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Idealab was one of the most important companies during the Internet boom, and Bill is credited with starting (and successfully selling) over half a dozen companies. He has now turned his attention to alternative energy. As a young aspiring engineer, he figured out how to build parabolic concentrators and Stirling engines to capture the sun's energy, selling the plans for \$4 apiece through ads in Popular Science magazine. Gross, now 49, is again building solar power projects after a lengthy detour through the early days of the Internet. His idea for small, prefabricated solar-powered thermal power plants, being developed by the Idealab company eSolar, caught the eye of Oak Investment Partners and Google. A managing partner with Oak called Gross's solar thermal technology a breakthrough equivalent to the advantages of PC computing over mainframes. Bill Gross has entered into renewable energy by figuring out how to build parabolic concentrators and Stirling engines through ads in Popular Science magazine. More such case studies from a different perspective as the following are also provided in this report - Case studies on how, a small dedicated team of scientists and engineers developed photovoltaic (PV) modules with an advanced thin film semiconductor process that greatly reduced the cost of producing solar modules. - How a geologist, Pennsylvania entrepreneur and business owner started an energy consulting firm in 1999 to provided a broad spectrum of environmental consulting services - waste remediation, energy conservation, site redevelopment turned their business on solar energy system design and installation. | | Case studies in this chapter will provide the reader with ideas of how businesses have developed, the background of the people engaged in solar business etc., In addition, the key success factors of the case studies are provided to make it more useful for the reader. | Sample Content: Solar

Energy Business Opportunities Industry Type | Type of Opportunity |
Manufacturing | - Solar panels manufacturing - Manufacturing of raw materials, components and accessories(eg. Solar inverters) for solar PV and thermal - Manufacturing of solar energy based consumer and industrial products, for example: solar water heaters, solar cookers and solar boilers |
Trading | - Trading of solar panels, solar thermal collectors and a range of solar energy products | Services | - Installation and maintenance of solar panels and solar energy products — opportunities for hardware engineers, turnkey system integrators and trainers - Training people for the solar energy industry - Research and development — opportunities for scientists, especially physicists. | Some of the recent and emerging trends in solar PV industry are: - Concentrated Solar PV (CPV) - Nano-size Carbon Molecules Dubbed Buckyballs - Dye Sensitized Thin-Film Solar Panels - Organic Solar Coatings - SPR-315 Solar Panel - Thin-film Solar Cells - Dish Technology - Transparent Electronics - PowerCube Makes Solar Energy Installation Simple - Aussie Hybrid Panel Could Halve Solar Cost - Solar Panels That Can be Applied to Windows and Canopies - 3-D Solar Panels - String Ribbon Approach to Manufacturing Solar Panels - Companies such as Sharp advanced surface texturing processes - Enerize Corporation of Florida - Photoelectrochemical (PEC) PV Cells Solar Thermal Trends - While solar thermal has been contributing an insignificant percentage to the total solar electricity worldwide, its contribution could be much higher in future. As this domain is less mature than the solar PV, entrepreneurs can explore the solar thermal for more opportunities. - Solar thermal could start seeing higher rates of adoption especially from the utilities companies, much more than that of the retail and residential segments. By 2012 new annual solar

thermal installations (CSP) will reach 3.26 GW, accounting for almost \$10 billion in revenue. - The two hottest geographical markets for the CSP at the moment, according to the study, are the Southern US and Spain. These two markets alone will install about 7,500 MW of CSP between now and 2020, while other southern European nations will install about 3,200 MW over the same time period. Much potential exists in North Africa and the Middle East as well. According to the aforementioned study, outside of Spain and the US, Italy, France, Portugal, and Greece are on the cusp of breaking through with CSP developments, along with Middle East and North Africa. - Entrepreneurs keen on exploring the solar thermal (CSP) domain should consider Linear Fresnel technology as that could start gaining market share fast if the market expectations about the technology are proven. Detailed analysis of business opportunities for small and large businesses, insights on new developments and lists of main components and equipments employed are provided for solar energy. Sample Content: R & D Opportunities in Solar
Medium — Long —Term Research and Demonstration Topics | Research & Development | Demonstration | Research and demonstration on improved component reliability and performance | - High temperature joints - Absorber tube - New reflector solutions - Pumps, seals, valves - Power block - Instrumentation | | Storage | - Evolution of molten salt storage technology with respect to cost, reliability performance, flexibility and safety - Develop alternative storage concepts for other molten salts and heat transfer, process design and operating modes - Phase Change Material(PCM) | - Molten salt: 100 MWH demonstration included in existing plant - Alternative storage: several 100 KWH prototype systems - Several scale-up steps from 1 to 100 Mwh storage systems integrated in existing plant | Direct Steam

Generation and Molten Salts in Parabolic Troughs | - Development of key components (absorber tube, steam separator, joints) - Integration with storage solutions | - 10 MW demonstration with storage | Innovative Collector Concepts | - Linear Fresnel component optimization | - 10-20 MW demonstration plant | Central Receiver Technology | - Receiver development for different fluids (superheated steam, salt, gas) - Gas turbine combustor chamber for solar hybrid application - Advanced heliostat development | - Several 10 MW demonstration units | Alternative Heat Transfer Media | - Identification, development and assessment of alternative fluids with low environmental impact, low cost, wide operation range | - Collector reference loop demonstration under real operation conditions | Small Scale System | - Automation of operation and maintenance with the objective of unattended operation - Hybrid operation options - Integration of polygeneration concepts (thermal desalination, absorption cooling) | - Several 1-5 MW demonstration unit | Hybrid Systems: Combining CSP with other renewable | - Process design and optimization - Optimization of components - Identification of European potentials | - Several 10-20 MW demonstration units |

C H A P T E R 5 Costs and Investments Solar PV incurs high capital costs, though it has very low operating and maintenance expenses. Solar thermal has a high capital cost as well (though lower than that for PV) and its operational costs are also significant. For solar energy to become a widely used renewable source of energy, it is imperative that the capital costs are reduced significantly for both PV and thermal. This chapter provides extensive details on the capital and operational expenses of solar PV and thermal. It also provides costs and cost break-ups for the various stages of the solar energy value chain, and details for cost reduction

possibilities by scale and by time. Investment data (VC, PE, asset finance) for solar energy are also provided. KEY SECTION 5. 1 Capital & Operational Expenses for Solar Energy Sources - Capital & Operational Expenses for Photovoltaic Systems o Solar PV Capital Costs o Solar PV Operational Expenses o Solar PV Costs — Notes o Solar PV Costs - Inferences - Capital & Operational Expenses for Solar Thermal Systems o Solar Thermal Capital Costs o Solar Thermal Operational Expenses o Solar Thermal Costs — Notes o Solar Thermal Costs - Inferences 5. 2 Solar Energy Costs - References 5. 3 Solar Energy Investments - Solar Energy — Sample Investments - Investment Trends in Solar Energy - Investments in Solar Energy across Countries - Prominent Venture Capital & Investment Companies Recently Active in Solar Energy 5. 4 Investment Data Trends in Solar Energy 5. 4. 1 Venture Capital Financing - VC / PE investment by stage - Asset Finance in Solar 5. 4. 2 Investments in Solar Energy - Investment Trends in Solar Energy - Venture & PE Investment in Solar - Public Investment in the Solar Industry - Investments in Solar Energy across Countries - Notable Recent Investments by Companies for Setting up Solar Energy Plants - Prominent Venture Capital & Investment Companies Recently Active in Solar Energy - Perspectives on Alternative Energy Investing Type of energy | Total investments (in \$billion) | Solar | 33. 5 | All renewable energy | 155 | Energy Source | Investment (billion \$) | Wind | 51. 8 | Solar | 33. 5 | Biofuels | 16. 9 | Geothermal | 2. 2 | Biomass and waste to energy | 7. 9 | Energy Efficiency | 1. 8 | Sample Content: Investments Data Trends in Solar Energy | | Global investment in sustainable energy was \$155 billion in 2008, an increase of just 5% over 2007 (in2007, Global investment in sustainable energy was \$148. 4 billion, an increase of 60% over 2006). Industry’s pace of growth did reflect the global financial <https://assignbuster.com/preview-of-solar-energy/>

crisis and slowed dramatically from double digits to just 5%. Between 2007 and 2008, the solar sector increased its overall share of new investment to \$33.5 billion (2008), up 49% from the 2007. Solar continues to be the fastest-growing sector for new investment, with compound annual growth of 70% between 2006 and 2008. This growth has led to an easing of the silicon bottleneck and falling costs. Solar dominated public market activity, which led the field in 2007, raising \$6.4 billion on the world's stock markets in 2008, 56% of the total. New-build solar project financing underwent a dramatic increase in 2008, rising 84% to \$22.1 billion from \$12.1 billion in 2007.

Table 7. 20: Solar Energy Investments in 2008
Table 7. 21: Global New Investment by Energy — 2008

|| This chapter provides inputs on costs and investments required for solar energy sources. It also provides examples of real-life investments and the list of companies into which investments flowed in last 3 years, to provide an idea of the scale of investments taking place, and the costs thereof, in the solar energy industry.

CHAPTER 6 Next Steps for an Entrepreneur Keen on Exploring the Alternative Energy Industry

Entrepreneurs keen on investing in solar energy will benefit enormously from the experiences of those who had entered this field earlier. Learning from the successes and mistakes of the pioneers will prove extremely useful both in adopting the right strategy and in avoiding costly mistakes. This chapter provides critical suggestions on the steps to be followed and the mistakes to be avoided for those entering solar energy.

KEY SECTION 6. 1 Tips & Suggestions
6. 2 Mistakes to be Avoided

Sample Content: Tips & Suggestions

Some specific tips and guidance for entrepreneurs keen on taking the next steps into the solar energy industry are: Calculate the Risks - Alternative energy can be both a rewarding and a difficult area to start a business in.

Make sure you have a good understanding of what is going on in the field itself, what are the competing technologies and the risks you are taking.

Evaluate Your Strengths - Evaluate yourself and your talents — are you someone who would like to run a manufacturing factory? Are you someone who would like to do sales and marketing? Or are you someone with more creative and design skills? Each of these different skill sets could have different opportunities in the alternative energy industry that are just right for them.

Understand Local Requirements & Mandates Better - Understand your local, regional and country-specific renewable energy mandates and incentives. Talking of incentives, there are a number of government subsidies and contracts are helping to boost the alternative energy market. Your knowledge of these incentives will help you get the vital financial jumpstart. - While many alternative energy companies stand to benefit from higher oil prices just like specific oil companies, depending on high oil prices alone for your business success is risky, because as the years 2008 & 2009 have shown, their success depends more on regulatory changes, subsidies and a global recognition of the need for alternative energy solutions.

Detailed guidance is provided for entrepreneurs seeking to enter the alternative domain. These include inputs such as recommendations and suggestions on collaborations and partnerships. Mistakes to avoid, tips to get off to a quick start, and more

Solar Power Forum | <http://www.solarpowerforum.net/forumVB/> | The Environment Site | <http://www.theenvironmentsite.org/forum/solar-energy-forum/> | Solar Home | <http://www.solarhome.org/solarenergyforum.html> | Silicon Solar Inc | <http://www.siliconsolar.com/solarenergy/> | Solar Panel Talk | <http://www.solarpaneltalk.com/> | EU Solar Energy Sector | <http://www.https://assignbuster.com/preview-of-solar-energy/>

eu/ | Solar energy Society | <http://www.uk-ises.org/> |

C H A P T E R 7 Useful Web Resources for an Entrepreneur

There are a number of online resources that an entrepreneur can use to understand the solar industry better and be continuously updated. This chapter provides many such useful solar-energy related online resources for reference and updates. The list includes online news sites, forums and more. KEY SECTION

7. 1 News Sites 7. 2 Blogs 7. 3 Forums National Wind Watch | <http://www.wind-watch.org/news/> | Energy Bulletin | <http://www.energybulletin.net/> | Biofuel Review | <http://www.biofuelreview.com/> - | Alternative Energy News and Information Resources | www.alternative-energy-news.info | Renewable Energy World | www.renewableenergyworld.com | Economy Watch | www.economywatch.com/renewable-energy | 7. 4 Portals & Guides Sample Content: Solar Energy News Sites | | Alternative Energy News Sites Solar Energy Forum | | A comprehensive list of useful web resources for news, updates, analyses and insights on renewable energy are provided. | C H A P T E R 8 Associations for Solar Energy for the Top 10 Countries Sample Content: Apex Bodies for Solar Energy in Different Apex Bodies for Solar Energy in USA Name of the ApexBody | Address | TelephoneNumber | Website/ Email ID | California Solar Energy Industries Association CALSEIA | Po Box 782, Rio Vista, CA, USA - 94571 | Tel: 916-747-6987707-374-4767 | | Solar LivingInstitute (SLI) | 13771 S. Hwy. 101 P. O. Box 836Hopland, CA 95449 | Tel: 707. 744. 2017 | www.solarliving.org/ | American SolarEnergy | | <http://www.ases.org/>, bchowe@ases.org | Solar Alliance | | Tel: (415) 385-240 | <http://www.solaralliance.org/>, info@solaralliance.org | Solar Electric PowerAssociation | SEPA Headquarters: 1341 ConnecticutAvenue, NW, Suite 3. 2 Washington, DC20036 | Tel: 202-857-0898 Fax: 888-249-0525 <https://assignbuster.com/preview-of-solar-energy/>

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| <http://www.solarelectricpower.org/>, info@solarelectricpower.org | The report provides a detailed list of associations for renewable energy for the top countries, for entrepreneurs to contact and take their first step. List of Tables 2. Renewable Energy Sources — Status and Trends Table 2. 1: Share of Various Solar PV Technologies (Global) Table 2. 2: Solar Irradiation Table 2. 3: Other Deserts and Their Irradiation Table 2. 4: Global Annual and Cumulative Installed Capacity of Solar PV Table 2. 5: Global Annual PV Market Outlook Until 2013 Table 2. 6: World Photovoltaic Installations in Top Ten Countries Table 2. 7: PV Power Capacity in Select Countries Table 2. 8: Cumulative and Yearly Installed PV Power Capacity in Select Countries and % Change YoY Table 2. 9: Solar PV Advanced Scenario Projected Growth Rate Table 2. 10: Solar PV Electricity Demand in 2030 Table 2. 11: Solar PV Moderate Scenario Projected Market Growth Rates Table 2. 12: Worldwide Installed Concentrated Solar Power Plant Capacity — 2000-2008 Table 2. 13: Concentrated Solar Power — Installed Capacity and Electricity Produced Table 2. 14: Installed Capacity and Electricity Production of CSP — Reference Scenario Table 2. 15: Installed Capacity and Electricity Production of CSP — Moderate Scenario Table 2. 16: Installed Capacity and Electricity Production of CSP — Advance Scenario Table 2. 17 Large Solar PV Power Plants (December 2008) Table 2. 18 World's Top Ten Largest Proposed Concentrating Solar Thermal Projects Table 2. 19 Major Solar Thermal and CSP Plants Operating and Under Construction in Mid - 2009 Table 2. 20 Solar PV vs. Solar Thermal 3. Value Chain and Prominent Companies in the Alternative Energy Domain Table 3. 1: The Value Chain for Crystalline Silicon Solar Cells Table 3. 2: CSP Components and Raw Materials Table 3. 3: Top Solar PV Cell Producers by Market Share for 2006-07 Table 3. 4: Top Solar

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Photovoltaic Manufacturers — by Capacity Table 3. 5: Some Key Solar PV Panel Manufacturers & Material/Technology Used Table 3. 6: List of Key Developers of Solar Thermal Plants (CSP) Table 3. 7: Companies Making Concentrating Solar Power Components 6. Next Steps for an Entrepreneur Exploring the Solar Energy Industry Table 6. 1 Sample SWOT Analysis List of Figures 1. Introduction to Alternative Energy and Sustainability Industries Figure 1. 1: Primary and Emerging Sources of Energy 2. Renewable Energy Sources — Status and Trends Figure 2. 1: Solar Energy Technology Figure 2. 2: Potential Land Areas for Solar PV Figure 2. 3: Suitable Locations for Solar Thermal Power Plants 3. Value Chain and Prominent Companies in the Alternative Energy Domain Figure 3. 1: The Solar Energy Value Chain Figure 3. 2: Solar PV Value Chain Figure 3. 3: The Concentrating Solar Power Value Chain Price of the Report The price of the Solar Energy Report is US \$1000. Purchasing Using Credit Card The report can be purchased using credit card. Use the following link for the same: [http://www. altprofits. com/ref/report/solar/purchase. html](http://www.altprofits.com/ref/report/solar/purchase.html) Purchasing via Bank Wire Transfer If you wish to purchase the report by bank wire transfer, please send a note to Narsi Santhanam — [narsi@clixoo. com](mailto:narsi@clixoo.com)