

Utility Scale Solar -- Markets Reach \$85 Billion By 2016

LEXINGTON, Massachusetts (June 12, 2010) – WinterGreen Research announces that it has a new study on Utility Scale Solar Market Shares, Strategies, and Forecasts, Worldwide, 2010-2016. The 2010 study has 690 pages, 105 tables and figures.

Large solar farms are part of the answer to implementing energy generated from capture of heat from the sun. Utility scale systems are complex implementations of aggregated capture devices. The value of utility scale build out is the sheer size of the projects. It is easier to implement one large project in a controlled area than to implement multiple medium size project to achieve the same level of power generation.

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. Other solar systems are concentrating systems that leverage thermal transport of heated fluids and utilize traditional steam generators.

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. Concentrating systems implemented in the desert use molten salt to store heat for use at night and when the sun is not shining.



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SOLAR ENERGY MARKET DRIVING FORCES

Achievement of utility scale grid parity

Lower cost of solar energy than war to defend oil position

Government incentives for solar power

Grid parity of wind energy sources to supplement solar

Increasing cost of fossil fuels

Supply constraints

Desire for energy security

Growing awareness of the advantages of solar power

Solar peak energy generation advantage

Fuel risk advantage

Scalability

Reliability

Environmental friendliness

Thin film batteries to store energy when sun is down

Energy density increase of 40,000 with solid state thin film batteries

Advances in technologies making solar power more cost-efficient

Large market among underserved populations in rural areas of developing countries with little or no access to electricity

Source: WinterGreen Research, Inc.



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Large solar farms are more popular initially, but solar is anticipated to be built out on commercial roof tops in increased quantity. The electricity generated will be fed to local substations and distributed to homes from there.

There is growing global demand for cost-effective and reliable solar power. Molten salt storage and solar electricity generation by use of steam turbines are poised to achieve significant growth. The economies of scale have not yet kicked in and will do so after 100 projects have been built out. The technology promises to be significant because the projects generate so much electricity.

Solar concentrators are efficient and leverage existing steam generation technology. The technology will succeed far faster and be far more wide spread that the vendor executives are now predicting. With rising prices of oil and the Gulf of Mexico oil well disaster, solar power begins to look good, because it is a sustainable energy source.

Aggregation of electricity generated from solar panels placed on commercial roofs is another aspect of utility scale electricity generation. The commercial roof electricity can be sold from electricity substations to the locality for use in data centers, powering electric vehicles, and general electricity usage.

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According to Susan Eustis, President of WinterGreen Research, "Worldwide utility scale 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.

Utility solar storage units at a level below \$10.5 billion in 2009 are anticipated to reach \$84.6 billion by 2016. Existing solar products are tuned to the scale needed by utility companies and the cost structure demanded by grid parity. As second and third generation products are used to achieve more economies of scale markets will continue to grow rapidly.



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