

Solar Industry: Striving player with a robust future

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Solar energy plays a most imperative aspect of the energy future aimed not only at reducing the climatic imbalances like global warming and carbon emissions arising from the usage of fossil fuels but also to serve the economic needs by creating thousands of green collar job opportunities with its long term bright prospects and attractive margins. With such prospects in mind many new players are entering in the solar arena, making it more competitive and wide. Also, the existing solar players are engaging in framing and adopting renewable standards including solar subsidies etc to boost up the sector. Presently, the solar sector is being over shadowed by the global economic recession but the sector is managing to overcome such recessionary winds and perform. As a result of economic recession, the solar investments projects are facing problems of credit crunch which is ultimately resulting in lesser absorption of solar modules by solar installers. On the other hand the falling polysilicon prices are mounting the production of solar cells and modules leading to massive oversupply of solar cells and modules and ultimately drop in module prices. Adding to such oversupply are the emerging new players which are finding such plunging scenario of silicon and module pricing to establish them in the bright solar market. Thus, the unbalanced demand and supply of solar cells and modules are forcing the solar manufacturers as well as installers to witness declined profit margins. Despite the turbulent economic environment, solar industry recorded a revenue generation of \$37.1 billion in 2008, reflecting a remarkable year-over-year growth of 116% as per Solarbuzz LLC statistics. As the future of energy is dependent on renewable sources like solar, we believe that solar industry will continue driving towards growth trajectory despite current economic slump albeit at a lower pace particularly atleast till 2009.

The solar photovoltaic industry in 2009 is anticipated to witness major decline due to enormous overcapacity of modules, plummeting prices and weak demand for solar as a consequence of the global economic recession. As per iSuppli, worldwide PV system installations are forecasted to decline to 3.5GW in 2009, down 32% from 5.2GW in 2008. Global revenue for solar PV panels is expected to drop by 20% in 2009, marking an end to eight consecutive years of growth. A 12% reduction in the average price per solar watt is also anticipated. The solar market is anticipated to rebound and return to growth by the end of 2010, with revenue anticipated to reach \$23.5 billion, an increase of 29.2% from 2009. The solar installations are anticipated to rise 42.5% to 5.1 GW in 2010. The industry is expected to lots of mergers and acquisitions whereby big solar companies will takeover the smaller ones. The weak solar players would exit. Recently, there have been various acquisitions such as SunEdison's acquisition of Business Institute Solar Strategy, Solar Millennium's acquisition of a 50% Stake in Ibersol Electricidad Solar Iberica from NEO Energia and a minority stake of Suntech in Asia Silicon.

Circumscribed by such uncontrollable macro economic factors, the solar companies worldwide are trying to adjust to the adverse circumstances mainly through cost reductions and effective technological usage in their production plans. To support such solar based companies, government nationwide is also coming forward with favorable renewable based incentives. The European photovoltaic market is constantly growing, outpacing other nations worldwide. Germany and Spain have been the growth drivers behind the flourishing European market. More than 80% of worldwide PV capacity was installed was in Europe in 2008 with Spain and

Germany, the leading European countries in Solar accounting for 84% of the Europe's installed PV capacity. In terms of wattage, European solar companies supplied 27.4% of global PV cells exceeding China's share of 25.8%, Japan's share of 16.2% and United States's share of 13.7%. Germany has been a leading global market for solar energy due to robust governmental incentives, efficient and experienced personnel, existence of scientific research centers and universities, such as Fraunhofer and Max-Planck-Institutes. The solar system owners generating electricity from solar energy in Germany are paid more than the standard retail rate of electricity generation. The Spanish Solar PV market has grown immensely over the years. With around 285% recorded growth, the Spanish PV market got ahead of Germany in 2008. Spain's growth has been driven by the ideal weather conditions for solar energy along with favorable solar incentives programs and attractive remuneration paid to the solar system owners for power generation through solar.

But the significant growth observed by the Spanish Solar PV Market has been impacted by the slashing subsidies in Germany and Spain along with the current crisis. Both nations have slashed the solar subsidies as they believe that their solar share is competent enough to grow with lesser support and feel the urge to spend on other renewable energy industries too. Even Henning Wicht, senior director and principal analyst for photovoltaics at iSuppli believes that solar incentives have successfully served their purpose by driving down prices and building a large-scale, competitive PV supply chain. Thus, for 2009, the Spanish government has put a cap of 500 megawatts (MW) for photovoltaic solar energy projects that are entitled to subsidies while this subsidy cap will go down to 300 MW in 2010. Germany announced reduction in the amount of the solar tariff by 10 percent, slightly more than expected, to 34.2-48.8 euro cents per kilowatt-hour.

In the scenario of shrinking subsidies, the alternative left with the German and solar companies are to move towards those nations where such kinds of subsidies are emerging. Here now we envisage the countries like United States and China gaining stronger momentum. The total solar capacity in the US experienced record growth, soaring to 1,265MW in 2008. Obama's stimulus package will drive the US Solar PV market, the third world's largest after Germany and Spain towards the growth trajectory. The US economic stimulus package worth \$789 billion includes various solar friendly provisions which would help the country to boost up the economy and create jobs. It includes an 8-year extension of the commercial and residential solar investment tax credit (ITC), completely eliminates the monetary cap for residential solar electric installations, and allows utilities and alternative minimum tax (AMT) filers to take the credit. With an 8-year extension of the ITC, the solar industry is projected to gain 440,000 permanent jobs and \$325 billion in investment by 2016. Also, the package includes tax incentives for manufacturing by offering accelerated depreciation and a 30% refundable tax credit for the purchase of manufacturing equipment used to produce solar material and components for all solar technologies. A \$6 billion in loan guarantees for renewable energy projects such as wind or solar energy development is also under the plan. Thus, in the ongoing tough recessionary period, such renewable standards would enable US to play greater role in solar installations and create new green-collar jobs which are the immensely needed now.

China is also moving rapidly on the path of attaining higher position in the solar industry and supplement overall industry revenue base. The new solar subsidy certainly reflects Chinese government's strong support for the solar industry. The subsidy includes a cash grant of RMB 20

(\$2.90) per watt will apply to solar PV installations of 50 kilowatts or greater in China. The grant will directly benefit Chinese solar installers in covering their installation costs by approximately 50%, thereby enhancing the number of solar installations and increasing demand for solar modules. China-based solar producers will gain an indirect benefit through the absorption of their spare capacity and excess inventory. Although the subsidy package does not provide many details regarding its structure and implementation, we view this subsidy as a long term positive that will surely spell out magnifying effects in the Chinese solar market. Many large Chinese solar stocks are performing well, reflecting steep to significant gains in anticipation of the positive outcome of the subsidy.

If we look at the solar stocks, we see the US solar stocks not reflecting much improvement even after the Obama's solar initiatives. We believe that US is the most hard hit by the economic downturn and is feeling the real pinch of financial crunch, so it would take some time for solar the initiatives to become fruitful leading to rebound in US solar stocks. The leading solar companies of China like Suntech and SolarWorld, believing in the outstanding long-term prospects of the solar energy market in the United States are planning to build manufacturing facilities in United States in order to serve the growing U.S. market for large-scale utility projects and to take advantage of government incentives. Also, initiating manufacturing in the U.S. will drive further growth of green jobs. China's LDK Solar and Germany's Q-Cells, the world's largest solar cell maker have planned a joint venture as part of efforts to cut costs and tap markets in China and Europe. Thus, the existing solar stocks whether large, small or mid are falling prey to the wide turbulent economic environment and are trying to adjust to the conditions for their survival. The movements of such stocks are just unpredictable till the situations stabilize.

Apart from the existing solar stocks, there are several other solar stocks which possess potential to perform well in the long run. Among such emerging solar stocks we can consider Worldwide Energy and Manufacturing USA Inc. (WEMU), a U.S.-based solar module technology and China manufacturing company which is constantly performing well. Also, we can consider Perfectenergy International Ltd. (OTCBB: PFGY) selling its solar products in Europe, Asia and China with a sophisticated 67,000-square-foot manufacturing and research facility in Shanghai, China. PFGY's stock has largely been affected by the slashing subsidies of Europe but hoping to get benefited from Chinese solar subsidies. Nation wise, in the long run, we foresee France and Greece with immense potential to become successful emerging solar markets due to attractive tariffs. A feed-in-tariff of 30 Euro cents for commercial buildings has been introduced to encourage solar energy growth in France. The parliament in Greece has approved a feed-in-tariff that provides \$0.40 a KWh for systems that are less than 100 Kilowatts. Recently, a California based Company SolFocus has signed for 10 MW of concentrated solar power installations in Greece.

Thus, the solar industry albeit reflects a struggling situation at the moment with uncontrollable macro economic factors, optimism remains for its long term bright future. Infact this gloomy outlook would instigate a more mature solar industry with only capable and robust solar players. U S and China are expected to emerge as leading solar companies, threatening Europe's solar domination with new energy policies. As the clouds of economic recession are prevailing over the industry and no betterment is expected till 2010, the political support in the form of solar incentives is essential for an enduring growth momentum.