

GO Clean Energy

March 2009 Q&A with Solaria CEO Suvi Sharma



Suvi Sharma, the CEO of Solaria Corporation, is an experienced entrepreneur with more than ten years of experience successfully leading start-up ventures. Before joining Solaria in 2003, Suvi founded Ivus Inc., an India-U.S. IT service company, raising more than \$10 million in funding and growing the company to more than 150 employees. Prior to that, he was the youngest venture capitalist at Geocapital Partners, a \$500 million international private equity firm. Suvi is a graduate of Northwestern University.

Solaria Corporation designs, manufactures and markets silicon photovoltaic modules to solar project developers and electric utilities in the decentralized commercial market.

GO Clean Energy: Hi Suvi, thanks for agreeing to answer questions from GO Clean Energy. How would you describe the state of the solar photovoltaic industry today, particularly with oil now hovering at the \$50/barrel mark? It says in your website that “For the last eight years, the solar industry has experienced annual growth of over 40%. Robust capital investment, coupled with the rising cost of conventional energy, has cemented solar energy’s future as a viable mainstream power source.” Do you still say that now?

Suvi: Absolutely. The solar industry has been affected by the global economic downturn, as has virtually every industry, but I’m still very bullish on the solar market. The economic climate and a drop in energy prices will help create a much different, much more competitive industry. And we’re already seeing hints of a shakeout. But the fact remains that module and system prices are coming closer to meeting grid parity—the point at which solar power becomes equal to or cheaper than electricity generated by fossil-fuel burning power plants. Grid parity is a milestone solar can reach in the most price-sensitive markets as early as this year, increasing demand from solar project developers and in rooftop solar purchases.

GCE: Do you see any bright spots right now?

Suvi: The U.S. market has emerged as a major bright spot, much of which is due to the policies and outlook of the new administration. The recently passed stimulus package guarantees unprecedented support for solar and other renewables. An increase in solar development could have a significant long-term impact on the U.S. (and thus

global) economy by creating many, many new jobs and finally updating our energy infrastructure to meet our increasing energy demands in sustainable and smart ways.

GCE: Are we at the point where we might see an industry shakeout, where some of the financially weaker players might want to merge with financially stronger but technically less savvy players or close down totally?

Suvi: We're already seeing signs of a shakeout, with several strong solar players—like First Solar and Fotowatio—having announced in the last month the acquisition of significant solar project portfolios from California-based companies. As in any time of economic turmoil, the strongest players will now rise to the top much more quickly, focusing particularly on markets with the strongest growth potential.

GCE: For the benefit of our readers who may not be so familiar with the solar photovoltaic (PV) industry, there are basically two competing mainstream technologies. One is thin film, where materials like Cadmium Telluride are coated onto materials like glass, and the other is polysilicon based PV, where you deposit the materials on silicon that is basically the staple of the semiconductor industry. In layman's language, can you tell us why you (and Solaria) think that silicon and not thin film is still the way to go?

Suvi: Crystalline silicon represents about 90 percent of the solar market and remains the industry cornerstone amidst a variety of new, developing technologies, because it is the most mature and provides maximum energy output. Silicon technologies have been in the market for 20 years with a solid track record of success. This reputation demonstrates silicon's reliability and performance to risk-averse solar project developers and investors. This is why a majority of solar investment is in silicon-based technologies.

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GCE: What are the main technical challenges you feel that the photovoltaic industry in general needs to surmount? What about the silicon based PV manufacturers? And thin film PV's as well?

Suvi: Perhaps the largest challenge PV manufacturers and technology developers need to surmount is the move from innovation to commercialization. There is a tremendous amount of valuable research and development focused on creating the next generation of solar technologies that provide better efficiencies and cuts costs. Transferring technical successes from the lab, which allows for time-intensive and manual manufacturing processes, to high-volume commercial production on fully automated equipment, requires a tremendous amount of process and

manufacturing know-how. This step is often overlooked, and one of the most crucial in bringing new solar technologies to light.

Fortunately for Solaria, as these new, more valuable solar products do make the leap to mass production, our technology easily integrates with the industry-standard form factors to further leverage advances in PV technologies.

GCE: There was a silicon shortage some time back. With the lack of demand for semiconductors, does this mean your supply issues with silicon are now over?

Suvi: There was a silicon shortage, which is starting to ease this year, as many new producers, mainly from China, have come on the scene. Solaria was fortunate to not have been impacted by the shortage because in 2007 we secured what was one of the largest solar cell supply deals to date: 1.35 GW over ten years from Germany's Q-Cells AG, the industry's largest solar cell manufacturer.

Additionally, Solaria's modules are manufactured with proprietary cell multiplication technology (CMT) that allows them to achieve full performance with only half the amount of silicon cell material of standard PV modules. Even with a plethora of silicon on the market, we can cut costs by reducing by half use of the costliest material in a solar cell.

GCE: How long do you guarantee these systems for?

Suvi: We guarantee our products for 25 years, the industry-standard warranty. As I mentioned earlier, reliability and performance are two of the largest driving forces in the industry at the moment. Earlier this year Solaria received certification from the International Electrotechnical Commission (IEC), the industry's standards body, confirming that Solaria's line of CMT modules meets the most stringent guidelines for performance and quality assurance. All solar products targeting the European market must possess this certification, so this is a huge milestone for us. It provides a gateway to the solar marketplace and differentiates our technology as one of a handful of fundamentally new technologies to meet IEC requirements.

With grid parity fast approaching, the solar industry is reassessing what that future will look like. Until now, the conversation has been focused on traditional, centralized power plants versus rooftop applications. We feel the best growth opportunity lies in decentralized power generation, specifically in commercial installations. Decentralized, or distributed, power reduces the amount of energy lost in transmitting electricity because the electricity is generated where it is used, perhaps even in the same building. This also reduces the size and number of power lines that must be constructed.

GCE: What do you think can be done, in Asia for example, to jumpstart the demand for more renewable energy systems like solar photovoltaics? What are the major markets that you are seeing moving into 2010?

Suvi: Asia has been a major player in the global solar industry, though primarily on the manufacturing side. In order to be a strong market for the deployment of solar systems, I believe we'll need to see regional governments take a

strong role in supporting the industry. Japan has had great success in the past, building one of the world's largest solar markets, with strong support in the form of government incentives.

GCE: In your website it mentions that the way to go forward is through decentralized power sources near the point of need. Can you elaborate on this?

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Energies like coal, nuclear, natural gas, and even wind farms have to be centralized because they don't reach cost efficiency unless they are operating at several hundred MW, whereas solar can effectively deliver anything from a few kW to 250 MW or more.

Crystalline PV's inherent scalability allows for applications to be placed directly at the point of need, be it a 50 kW rooftop installation for an office park, or a 50 MW installation for a utility substation. Decentralized solar power could minimize the massive complications that come with conventional centralized energy sources, giving utilities and businesses more control, agility, and, most importantly, cost savings.

GCE: Suvi, thanks a lot for sharing your insights with our readers.

Suvi: My pleasure, Dennis.

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