

Suntech's story

Since founding in 2001, Suntech has grown rapidly to become one of the largest solar companies in the world. In fact, Suntech was the fourth largest manufacturer of PV cells in the world at the end of 2006, up from eighth position one year earlier. This startling growth and success in the solar industry is largely as a result of Suntech's unwavering commitment to delivering the highest quality and most cost-effective solar solutions to customers worldwide



120KW roof installation for the bus terminal in Kanazawa, Japan

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The history of Suntech – the road to success in solar

Suntech’s swift evolution was brought about by the strong leadership and clear vision of Dr. Zhengrong Shi. After completing a master’s degree in laser physics from the Shanghai Institute of Optics and Fine Mechanics, Dr. Shi moved to Australia to pursue further studies at the University of New South Wales (UNSW). It was there that Dr. Shi received his PhD in electrical engineering under the tutelage of Dr. Martin Green, a preeminent academic in solar research and director of the Centre of Excellence for Photovoltaic Engineering. Dr. Shi excelled at his research and is now considered a global authority on solar technology with multiple patents to his name.

After completing his PhD, Dr. Shi became research director at an innovative Australian PV company engaged in the commercialization of next-generation thin film technology. This invaluable experience opened Dr. Shi’s eyes to the commercial viability of solar technology in the global market place and inspired him to establish Suntech in Wuxi, China, as a company that could help bring solar products to every

home. Suntech’s dedication to low-cost manufacturing combined with world-class standards of quality control and performance enabled the company to profitably expand its capacity 15 times from 2002 to 2005. To support further expansion goals, Suntech listed on the New York Stock Exchange in December 2005. Since then, Suntech has accelerated its progress to become a global company and a leading player in the solar industry.

Serving the world’s solar needs

Suntech understands that customers drive product development. That is why Suntech’s researchers maintain close cooperation with all areas of production in order to constantly improve solar conversion efficiencies, photovoltaic (PV) equipment design, and advanced processing technologies.

At Suntech, product development is led by the passion to design and deliver energy solutions that not only keep pace with global needs, but anticipate them as well. As one of the largest solar module providers worldwide, Suntech has an established track record of delivering consistently high quality solar solutions to valued customers.

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Monocrystalline and Polycrystalline Photovoltaic (PV) modules

PV modules are at the core of the business, and Suntech is dedicated to delivering premium quality modules to all customers. High-performance poly and mono crystalline modules offer an exceptional array of features including stability, capacity and power-generating endurance over multiple applications. Product quality has been certified by a number of international standards including the UL Certificate, ISO 9001:2000, TuV, CE certificate and IEC61215:1993. In addition, the Suntech team works closely with customers to ensure that PV modules meet or exceed project specifications.

Suntech's portfolio of PV modules can be employed in a myriad of on-grid and off-grid solar applications such as:

On-grid

- Multi-megawatt 'Solar Farm' installations which feed power into shared utility grids.
- Powerful commercial, industrial and residential applications featuring consistent energy delivery and efficiency.

Off-grid

- Sustainable and reliable power sources for communications systems and signal transferring stations.
- PV system applications for municipal construction projects, lighting, agriculture, water pumping, purification and irrigation.
- Independent solar systems to power isolated dwellings and healthcare facilities in rural areas and developing countries.

Building Integrated PV (BIPV) products

The Suntech team is well aware of the variety of needs of today's consumers and is determined to develop the solutions that suit them. Through the acquisition of MSK Corporation, a global leader in the BIPV space, Suntech now offers a comprehensive range of BIPV products to meet growing demand for attractive solar solutions that can be assimilated into traditional building structures. BIPV products replace standard building materials such as roof tiles, curtain walls and glass with electrically connected solar modules that can offset some of the building costs and support the electricity needs of the building. The versatility of BIPV products means that they can be applied to residential and commercial developments either during development or

as a retrofit. Suntech's MSK BIPV solutions include the following:

MSK BIPV roofing solutions

Just Roof

The Just Roof solution is ideal for new homes with gabled or pitched roofs. BIPV modules replace all roof materials to create an all weatherproof roof with a clean aesthetic finish.

Re-Roof

Re-Roof tiles can be integrated into tiled roofs for new homes or for re-modeled homes.

Photovol Roof

This award winning solar roofing solution fits seamlessly into the roof structure and can be modified to match the color of metal roofing. The tough, light-weight panels provide long-term roof protection.

MSK Glass BIPV Modules

Light Thru Type

This technology sandwiches crystalline cells between two sheets of glass, allowing light to pass through the gaps.

Photovol Glass

Based on amorphous silicon thin film modules, Photovol Glass allows 10% light transmission to create a shaded interior.

The thin film and BIPV connection

As BIPV grows in popularity the demand for quality thin film modules, which are an essential component of most BIPV products, will increase in tandem. To satisfy this demand Suntech recently began construction on an amorphous silicon thin film R&D and manufacturing facility in Shanghai. The initial phase with 50MW of capacity is expected to begin operation by the middle of 2008. Suntech projects an average conversion efficiency of 6% to 9%. The thin film modules will be up to 6 square meters in size ensuring a relatively low balance of system installation cost when compared with other thin film solutions.

Leading solar innovation

Suntech's PV cells and modules already deliver among the highest conversion efficiencies internationally. Nonetheless, Suntech is determined to stay ahead of the solar innovation curve through investment in R&D. The principal goal is to improve the conversion efficiency and quality of monocrystalline and polycrystalline PV



cells and modules to lower the cost of solar energy solutions and drive the industry to grid parity. Solar innovation at Suntech begins at the top and the management team has extensive expertise in the research, manufacturing and commercialization of new PV technologies. Led by Chief Technology Officer Dr. Stuart Wenham, who also concurrently serves as Director of the Centre of Excellence for Photovoltaic Engineering at UNSW, Suntech has built a formidable R&D team made up of 202 staff, including nearly 120 global PV technology experts.

Through collaboration with the University of New South Wales, the world record holder for achieving the highest silicon solar cell efficiency, Suntech has jointly developed a number of next generation solar technologies. Most recently, Suntech has established a pilot production line based on the new, low-cost, 20% efficiency "Pluto" technology platform. The next generation cells are already achieving over 18% conversion efficiency in pilot production and are targeted to reach 20%



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conversion efficiency in 2008. Suntech’s “Pluto” technology not only increases PV cell solar conversion efficiency, but it does so without increasing the cost of production, it can also be applied to any grade of raw materials. This flexibility gives Suntech the ability to diversify silicon sourcing and deliver the optimal combination of price and performance to Suntech customers.

The essential solar partner

Suntech’s ability to rapidly expand production capacity whilst maintaining a commitment to quality is another reason why Suntech is an essential solar partner. International demand for Suntech’s PV modules is outstripping supply due to high customer satisfaction and a strong reputation for reliably delivering large volumes of superior quality and performance products on schedule.

To meet the surplus demand for solar products, Suntech has consistently accelerated capacity expansion and in the first quarter of 2007 Suntech added

another three 30MW production lines taking annual production capacity to 360MW. In addition, Suntech is on track with a key step in its move towards multi-gigawatt manufacturing with the construction of its new facility in Wuxi, China. The 540,000 square foot, 1GW capacity plant was scheduled to begin installation of new PV cell production lines in June 2007. With the acceleration of these initiatives Suntech has raised target 2007 year-end production capacity a second time to 480MW.

This capacity expansion is integral to Suntech’s ability to deliver large orders of reliable solar products to meet tight customer schedules. With customers in every major PV market in the world including Germany, Spain, Italy, North America, Japan and Korea, Suntech is focused on building the production capacity to serve them all.

Spreading the word

While demand for solar products is strong, solar energy still constitutes only a small

proportion of world energy production and building awareness of the viability of solar energy is a critical task. Aside from unilaterally engaging journalists, trade organizations, and opinion leaders to build popular support for solar power, Suntech also recently joined the Solar Energy Industries Association and the Global Roundtable on Climate Change. Suntech works with these two associations to collectively foster progressive attitudes and policies that promote both solar energy and the prevention of climate change.

Through collaboration with these partners, Suntech is committed to building solar power’s share of the total energy mix, and ensuring that solar energy becomes a major clean and renewable power source of the future.

Suntech’s mission

At the forefront of addressing tomorrow’s energy needs today, Suntech combines pioneering solar technology with nature’s most abundant resource to deliver the cleanest, most affordable and energy efficient solutions for a green future. ■