

Overview of the solar panel industry

[Business](#), [Industries](#)



Global Business Operations Solar Panel Industry Student Name: student
Number: Introduction The solar panel industry is a niche market dominated by a small number of large firms. Five out of the top ten biggest players in the industry are Chinese firms. Solar panels capture sunlight and convert it into electricity, in one of two forms; industry, due to the large market share dominated by a small number of players, furthermore, the solar panel industry not only cooperates with, but also competes with other industries such as power production and component manufacturing industries.

The Solar Panel Industry The Shape of the Solar Panel Industry With five out of the biggest solar panel producers worldwide being Chinese, it is no surprise that 45% of solar panel production across the globe is by Chinese firms. The solar panel industry is the fastest growing power technology in the world, with reported yearly increases in capacity of 50%. Consisting of mainly 10 firms, the industry isn't large in terms of suppliers, however, the combined revenues of these 10 firms account for \$21. Billion, thus the industry is large in revenue as well as production. Growth & Global Presence The growth of the solar panel industry is fairly new, beginning in the early 1980's, thus the industry is not only dominated by a few large players, but it is also maintaining its volume position as it is not going through consolidation and turning into a fragmented industry; the large firms are still growing. Competition within the industry is tight, especially since all major firms have a global presence.

Any large firm involved in solar panel production without a global presence is sure to be overtaken by competitors. Product Variety & Core Business Solar panels are generally a very homogeneous product, all firms that produce

<https://assignbuster.com/overview-of-the-solar-panel-industry/>

them apply essentially the same product with minor variations, this makes it even more difficult to develop a true competitive advantage within the industry. The industry is mainly based on business-to-business sales; power production firms order solar panels from the producers.

Other revenue streams come from foreign solar panel retailers purchasing small orders and distributing them to private buyers such as homes or offices. Innovation, R&D, and Demand conditions In order to develop and maintain a competitive advantage within the solar panel industry, it is paramount to invest in innovating and research & development. As it stands, the industry remains very linear in terms of product innovation; investments are heavy however no new technologies have yet been discovered or implemented.

Since its inception, the technology implemented within solar panels has definitely increased, however there have been no significant breakthroughs that would fairly stable; prices have been more or less constant and competition tight but not extensive as the players aren't many. The industry took a blow in 2007 following the global crisis, however it recovered in 2010 and has been growing more than ever at an unprecedented pace.

Vertical Integration & Production Process The Chinese firms mainly adopt vertical integration from the raw materials to the finished product, whereas USA and Japanese firms, which are the other big players, tend to outsource some production as well as import components from suppliers such as Busch. This difference arises due to the costs involved in producing and assembling solar panels; in China, availability of resources is very high, as

well as cheap labor and land, thus incurring less costs, hence why Chinese firms prefer to vertically integrate their production process.

Whereas for American and Japanese firms, cheap labor and production space is not available, thus it is more cost effective to outsource production and import components. Vertical integration itself is not a fully efficient way of production in the long run, as demonstrated by the automotive industry in the early 20th century. Ford adopted a full vertical integration production process, and while for years it remained the market leader in the USA, eventually Toyota adopted a Just-in-time production process and overtook Ford in USA market share.

This is mainly due to the incurred costs of vertical integration; at an early stage of an industry as a whole, vertical integration is cheaper, however as an industry and its accompanying technologies advance, third-party firms enter niche markets of component production and it eventually becomes cheaper to outsource most of the production process. Economies of Scale
The biggest advantages to the large solar panel producers arise due to their economies of scale. With a huge production capacity and an efficient supply chain, every step of the value chain from production to delivery becomes much cheaper per unit.

Economies of scale acquired by solar panel producers are down to their rapid growth mainly due to their early entry into the market. There are no physical barriers to entering the solar panel industry; governments actually subsidize firms who get involved in renewable energies through tax exemptions and monetary aid. However, the barriers to entry are known as 'natural barriers',

meaning that the barriers to entry that do exist are not due to regulation, but rather to the strength and size of the competitors, which in turn relates to their economies of scale which allow them to sustain production at such high capacity and cost efficiency.

Value Chain Configuration Sunsets is Chinese solar panel producer, up to 2010 it was the world market leader in the solar panel industry, today it has gone down to be the 5th biggest firm. After a series of financial troubles related to defaulting on US government bonds in 2011, the firm has reported revenues of \$3.1 billion and net loss of \$1 billion (2011). Sunsets was founded in 2001 and went public on the New York Stock Exchange in 2005, share price dropped 40% following its first default on government bonds.

The following diagram shows Sunsets's value chain process, which will be explained in more detail underneath the diagram: The first segment of the value chain is inbound logistics, since Sunsets is a vertically integrated firm, it produces its own components which are later used in the production of solar panels. The next part of the value chain is operations; this part is the most important in Sunsets's value chain as it is where production takes place. The core business of Sunsets is the production of solar panels, without an impeccable product they would quickly cease to be one of the market leaders.

The third step shown in the diagram is outbound logistics, this involves Sunsets distributing the finished product to its customers. Supply chain management is very important, especially since Sunsets is vertically integrated, they have their own distribution channels rather than outsourcing

them, thus their customers must receive their products on time and in good condition. Marketing and sales isn't such an integral part of the value chain, as the core revenue stream for solar panel producers is business-to-business sales rather than business-to-customer, thus jugular marketing methods are not as effective.

The final step of the value chain is service, mainly involving post-sale service. Given the nature of the product, solar panels actually have an average life p of 25-30 years, thus minimal service is required, however, Sunsets focuses more on actually turning the service step into a long-term relationship with customers for repeat business and long-term contracts. Sunsets is present globally, with large volume sales to Australia, USA, China, Spain, AJAX, and Brazil, it is basically present in every continent. The main customers for

Sunsets and other solar panel producers are power plants and solar farms, who in turn sell on the electricity they produce with the solar panels. It is a large market with very few players as power production is one of the hardest markets to enter, with extensive barriers to entry. Sentence's overall performance is dubious. On the one hand, it lead the market for many years due to its excellent quality and reputation in production, and on the other hand, it crashed due to mismanagement of resources and financial troubles.

In terms of cost efficiency, Sentence's vertical integration is seemingly flawless as the hole production process is streamlined and very well coordinated, thus the conclusion in terms of performance is that operationally Sunsets is performing exceptionally well, however

administratively it is performing horribly and is definitely behind its competitors. Out of the top 10 dominating firms, only two firms are running at a loss, one of which is Sunsets. Recommendations The main issue for Sunsets is mismanagement of funds, thus the main recommendations would be to change the CEO, which has actually been done.