

First Solar hasn't always had a clear path to securing their global solar energy business. A strong reliance on government subsidies has created a volatile market overall leading to significant loss in stock prices and market shares. With a large staff turnover and a slight rebound in the company stock and earnings, First Solar is set up for a period of continued growth not only in the United States but globally. Based off of the company's history, our team has identified three external forces that are directly affecting the solar industry and First Solar's business and three target markets that should become First Solar's top priority.

### **Forecast**

#### **Trend 1: Global Warming**

Global Warming is directly affecting First Solar's business. As society becomes more aware of the changes global warming is causing they will seek out ways to provide renewable cleaner energy. The greenhouse effect caused by the burning of fossil fuels is creating environmental changes that are slowly ruining the ecosystem. Countries are switching from fossil fuels to renewable energy; specifically solar energy. First Solar is able to capitalize on this due to selling a renewable energy.

#### **Trend 2: Government Policy and Social Expectation**

The solar energy industry had a strong reliance government subsidies in order for consumer adoption. Given that society has an expectation of producing more renewable sources the government policies have followed. Multiple governments are enacting requirements for solar energy which in return has created a less volatile solar industry market. With these requirements come less subsidies but a reliable market. First Solar can take advantage of country requirements, their current cash standings and their ability to vertically integrate when considering potential target markets to move into.

#### **Trend 3: Solar Prices**

In the early 2000 the price to produce solar panels was exponentially higher than it is today. Advancement in technology allows solar energy to be produced at a comparable rate to fossil fuels. Due to decreases in production prices, the price consumers pay for solar energy is generally more affordable than the most commonly used fossil fuels. First Solar is able to use the lower prices to branch out into new markets that originally could not invest the money into solar energy.

### **Target Markets**

When choosing the priority target markets we used a specific criteria.

- Sunshine
- Gross Population
- Energy Consumption
- Industrial Growth
- Government Regulation and Funding
- Energy Prices

#### **Market 1: India**

India is an area that has high sunshine and a consistently growing population. With a growing population they have a growing need for more energy, specifically renewable energy. They currently have a high energy consumption that is forecasted to continue growing. India a slowly become more industrial and government policies and funding are encouraging for solar energy. Energy prices in India have been steadily dropping allow more consumers to have access and solar energy is a comparable price.

First Solar has entered this market and will continue to grow in this market by following through on already promised development. The financing for this opportunity will come from First Solar's





## Executive Summary

Team 3B

secured funding from India's subsidiary program. The expected cost and revenues are the cost of building a 45 MW AC capacity plant and the revenues we expect will heavily outweigh the costs. The risks in India are the potential loss of subsidies funding and public policies effecting expansion. India has a high awareness for global warming, government policies in effect to encourage First Solar's continued expansion, and the technology is advanced enough to produce the energy at a reasonable rate.

### Market 2: Japan

Japan is an area that has high sunshine and high population. Japan has a growing need for more energy, specifically renewable energy. They currently have a high energy consumption that is forecasted to continue growing. Japan is an industrial country and government policies are encouraging for solar energy. Energy prices in Japan have been steadily dropping allow more consumers to have access and solar energy is a comparable price.

First Solar should enter the Japanese market by acquiring a minority stake in the current distributors of the electric companies. This will be funded by cash and additional debt in the bond market. Once a minority stake is held then a PV power plant can be built. The expected costs come from loss of cash to gain a minority stake and build a power plant but revenues are expected to be high in the long run. The risk runs in government subsidy abuse and the need to avoid that and current importing of fossil fuels is not that costly. Japan has a need to reduce global warming and the KYOTO policy supports that; technology in Japan also is at a level to provide affordable solar energy.

### Market 3: Brazil

Brazil is an area that has high sunshine and high growing population. Brazil has a growing need for energy, with a focus on renewable energy. There is currently a high energy consumption that is forecasted to continue growing. Brazil has a growing industrial economy and government policies are encouraging for solar energy. Energy prices in Brazil have been steadily dropping allow more consumers to have access and solar energy is a comparable price.

First Solar should enter the Brazil market by purchasing a stake in Eletrobras, the main source of electric power in Brazil. This will be finance from the cash First Solar already has. Due to the need for solar energy First Solar can build a PV power plant to supplement the loss Eletrobras is seeing from lack of hydroelectric power. We expect the costs to occur in building the plant and gaining share in Eletrobras and with that the need for solar energy will produce long term high revenues. The risk lie in the high tax for Brazil, local content rules and low development prices

## **Conclusion**

Overall First Solar has an established base as a company, with these recommendations and implementation methods we can expect the global market share to grow significantly. Global warming is a serious problem that needs to be addressed in the world today and First Solar is on the forefront of the solar technology industry and is in the position to make a dramatic impact. Our plan focuses on prioritizing in markets we can easily get into along with having continued support. With implementation of our plan the future is bright for First Solar as long as the sun is shining.