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Situation:

First Solar has found great success in the past as a company that's been extremely cognizant of emerging trends and shifting times, advantageously growing in an industry marked by cost and change. As such, it is crucial to recognize and understand the future impactful trends in an increasingly global market to ensure that First Solar will find its way to sunlight.

Forecast:

In a global market, there are countless trends or forces that could potentially impact and change the opportunities present. Understanding that First Solar's core business is driven by cost advantages, scale competencies, technological innovation, and financial integration allows these trends to be narrowed down to the top three most impactful and critical ones specifically for First Solar.

1. Distributed generation is the biggest source of solar power growth across all continents

This market force creates a threat for First Solar's current business as its primary business has a CdTe material reliance—as such, it is not well suited for this trend towards distributed generation, which relies on C-Si solar products. The trend globally is shifting away from First Solar's biggest strengths.

Conclusion: First Solar must look to expand to markets that match its strengths (CdTe reliant) while also remaining cognizant of how to transition to compete in the Distributed Generation market.

2. 80% of countries will achieve grid parity with solar power in the next two years

Solar power will quickly become just as cost efficient as traditional fossil fuel provided utility grade energy. This foreshadows huge market viability in the near future, but also the steady disappearance of solar focused government subsidies as solar energy becomes self-sustainable. First Solar faces a lot of opportunity, but also shrinking government aid for market entry.

Conclusion: First Solar must take advantage of existing subsidies for easier market entry while also leveraging the asymmetries created by mass grid parity to drive future business.

3. There is increasing saturation of upstream market as well as increased consolidation of solar companies globally

Increased upstream competition will continue to drive module prices down and threaten margins. The bulk of profitability in the solar business will thusly move downstream, with products such as complete systems and PPAs being the key drivers of growth in the future.

Conclusion: First Solar must focus on downstream innovation and business to drive its success in new markets and remain cognizant of shifting customer needs and opportunities for value add.

Country Selection Criteria:

Given the above market forces, country selection criteria can be created to maximize First Solar's ability to succeed in new markets. Starting from the broad category of 'Insolation' or the amount of sunlight a particular country receives, each subsequent criteria narrows down the existing pool of high potential countries.

1. Insolation
2. Market Growth/Expected Power Demand
3. Grid Parity Progress
4. Vertical Integration Potential
5. Government Policies/Subsidies

From these criteria, the developing solar markets in India and Thailand as well as the developed United States market hold the most promise for First Solar and should have top priority for the next five years of growth.

Strategic Recommendations:

Thailand:

With annual demand of 800 MW (Top 5 demand in APAC) as well as projected growth of 5GW additional capacity by 2020, Thailand is an extremely attractive market to capture.

- **Cost Advantage:** Because Thailand has not yet achieved grid parity, having a cost advantage allows First Solar to build a huge competitive advantage early. Addressing capacity issues the country is facing with affordable solar energy will secure long-term PPA contracts and lock out competitors.
- **Target customers** include existing utility companies, commercial players, as well as customers in need of backup power sources to counterbalance Thailand's frequent blackouts. Aligning itself with these customer needs will allow First Solar to quickly build market share and scale.
- **Attractive government FIT subsidies and regulations** promoting foreign renewable energy investment lowers barrier of entry for First Solar and increases attractiveness of Thailand market.

India:

With recent annual growth of 1 GW and goal of 100 GW of solar by 2020, India dwarfs the majority of the world's demand and is the next massive solar energy player that solar companies must tap into to remain relevant.

- **Insolation** levels of 5.7 kilowatt-hours/sq. meter/day give India some of the most abundant sunshine in the world. This makes solar power extremely cost efficient, allowing it to easily compete with and augment incumbent utility power providers.
- **Scale Advantage:** India has a massive energy shortage and demand far outscales supply. First Solar's scale competencies are a natural fit, allowing them to sign large customers looking for large companies able to provide large and reliable quantities of energy to PPA agreements.
- **Government Subsidies** totaling up to 30% discounts for consumers, FIT policies, and US solar loans totaling four billion dollars create an attractive foreign investment market for First Solar.

United States:

With all 50 states projected to reach grid parity in next two years and an existing market size of 15 GW or 55 billion dollars.

- **Financial Integration:** Use YieldCo. as a financial vehicle to aggregate new scale operations abroad and create additional sources of cash. Power systems built in developing markets can be bundled and securitized by the parent company to be sold to YieldCo.
- **Technology/R&D Advantage:** Influx of cash can then be used to strengthen R&D capabilities to compete and capture the dominant market of distributed generation in the U.S. and other developed markets. Technological advancements in CdTe efficiencies, increased competencies in C-Si, or developing the future generation of solar tech will all achieve this advantage.

Impact:

With this set of strategies, First Solar will be able to grow its business both in **scope** and **scale**. Its project pipeline will become more geographically diversified, and the number of business segments the company can compete in will increase. Together, this growth will grow its revenue to **\$6 billion** and its net income to **\$200 million** by 2019.