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Solar Power/CleanTech

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Solar Photovoltaics: China doesn't get it, but what about the U.S?

Trade wars are at best a negotiating tactic; better for the U.S and China to drive domestic demand.

Dec 3, 2011: China rejects U.S. ruling on Chinese solar imports: In rejecting U.S. approval of a probe into Chinese solar industry trade practices, China's Ministry of Commerce noted that "the ruling was made without sufficient evidence showing U.S. solar panel industry has been harmed," and that the decision "shows the U.S.'s strong inclination to trade protectionism".

Dec 2, 2011: U.S. approves probe into Chinese solar industry trade practices: The U.S. International Trade Commission voted that U.S. solar manufacturing industry has been harmed by Chinese solar panel imports, thereby approving a formal Commerce Department investigation into charges of unfair Chinese trade practices. The investigation sets stage for imposing anti-dumping duties on imports, with a preliminary decision by January 12, 2012, and a final decision taking up to a year. Should "critical circumstances" finding be made, it would allow retroactive duties on some imports.

November 9 and November 25, 2011: the preliminary appetizers: - Earlier on November 25, China's Ministry of Commerce has initiated a trade barrier investigation into policy support and subsidies for the U.S. renewable energy sector noting that U.S. policies "constitute a trade barrier against the export of Chinese renewable energy products" in response to U.S. Commerce Department opening up a preliminary anti-dumping/countervailing duty investigation of solar cells from China on November 9, acting on a complaint by the U.S. arm of Germany-based SolarWorld AG and six other companies.

What is at stake? The trade dynamics

- **U.S. exports of solar products worldwide climbed 83% to $5.63B in 2010** driven by largely by sales of raw materials like polysilicon, and manufacturing equipment that layered irrational capacity expansion seen in China.
- U.S. solar exports - specifically to China - are unlikely to grow rapidly from here on even in favorable market conditions as local sourcing of manufacturing equipment and polysilicon takes hold aided by China's state sponsored capitalism.
- Meanwhile, **China's solar product exports to North America (with the majority to the US) totaled $3.5B in 2010 or 11% of its global solar product exports**, with growth trajectory likely to accelerate with the U.S. market expansion.

What can U.S do? Solar PV provides ample jobs, but does the U.S have a sensible energy policy?

We note that ~83% of U.S. energy generation is based on fossil fuels (EIA – Annual Energy Review 2010), and trade imbalance for fossil fuels was at $268B deficit in 2010 (U.S. International Trade in Goods and Services Report, U.S. Census Bureau, March 10, 2011). While it is a shame that U.S. still does not have an energy policy despite fitful starts in the Congress, either reducing fossil fuel usage with economically viable or soon to be economically viable renewable energy sources is desirable given the drag that fossil fuels impose, more so when it is imported. The axiom of the current energy paradigm of cheap and readily available fossil fuels has periodically come under strain as these fuels are often not cheap, when all costs including the cost of protecting the shipping lanes is included. Further, in the context of current macroeconomic dislocations and global economic weakness, capital efficiency and jobs growth play a key role in the search for alternatives to fossil fuel energy.

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Our prior work shows that solar PV job creation (i.e. MWp of module manufacturing, construction/installation, distribution/sales, operations/maintenance, R&D/design and other indirect jobs over 30-year system lifespan) tracks at ~42.5 job-years/MWp. Normalizing the manufacturing component for overseas production, solar PV job creation in the U.S. tracks conservatively at ~35.5 job-years/MWp. Translating this in job-years/$1M invested, we conservatively estimate that solar PV job creation in the U.S. tracks at ~8 job-years/$1M invested, and is 3.7x that of natural gas, 2.1x that of coal, 1.9x that of wind, and 1.9x that of biomass, and gets better with lower input costs. While U.S can pressure China on its solar industry competitive/trade practices, a real long-term solution that serves U.S. interests best would be the creation of domestic downstream demand that can over time support a robust ecosystem across the solar PV value chain. Absent that, U.S. energy policy will be shadow boxing in the dark.

What can China do? Invest in energy (which it imports anyway) instead of real estate and ghost cities

- We note that China's latest PMI was below 50 (first time since Feb. 2009) indicating a contraction in the economy, and that the recent cut in bank reserve requirements injects liquidity to drive growth in a weakening economy. We reckon that an investment in energy (downstream solar PV installations) would be a better bet as it can stimulate domestic demand and also absorb much of solar PV industry's excess capacity as opposed to the current alternative of building overcapacity across industries and constructing empty shells of real estate and planned ghost cities across the landscape.
- **China-based solar PV companies have excess capacity, have excess debt tied to Chinese banks, and employ a rising tide of Chinese labor force.** Further, China is energy inefficient, its imports of primary energy (mid-teen %) are rising and the country needs a way out.
- **We believe China can mandate large scale solar PV installation demand and also addresses multiple issues in a cost efficient way** that range from rescuing solar PV industry from collapse, saving Chinese banks from solar company debt defaults, saving labor from unemployment, supplanting imported energy with domestic energy, engaging in fair competitive/trade practices, and also meeting its climate/environment goals.
- **How about 10GWp of solar PV installations per year for the next five years for starters?** In any case, China's solar PV installation goals preliminarily stand at 10GWp by 2015 and 50GWp by 2020, but are likely to track higher as installation prices come down.

What U.S. needs to understand in dealing with China:

(1) Capital is fungible and can be used as a tactical weapon even as it becomes unsustainable in the long-term;
(2) Lies are fungible and lying can be part of a corporate/state policy to further their ends; and
(3) The role of lain/mianzi (face), guanxi (relationship), ganqing (feelings), renqing (favor), and bao (reciprocity), and the interrelationships of these core social concepts in high context specific cultures like China.

What China needs to understand in dealing with the US:

(1) Free trade does not mean asymmetric competition, and a free-ride trade without consequences;
(2) Tactical policy deficiency does not mean strategic weakness on innovation/competitiveness; and
(3) Straight talk, realism, and a sense of fairness in dealing with low-context specific cultures like the U.S.

China's asymmetric warfare in solar PV is real; CEO comments in defense are nothing but fiction

The CEOs of Suntech Power, Trina Solar, Yingli Green, and Canadian Solar in defending the China's solar PV industry/trade policies on November 29 in Beijing, noted that China's success in nurturing its solar industry comes from "the wisdom and intelligence of Chinese entrepreneurs". These comments, just like China's trade barrier investigation into policy support and subsidies for the U.S. renewable energy sector on November 25, are laughable on their face for they are nothing but fiction.

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We reiterate our view that China is a state sponsor of predatory capitalism and asymmetric warfare in solar PV. This does not help in weeding out inefficient players but poisons the profit pool for everyone. China has transformed global solar PV industry in a few short years by practicing state sponsored capitalism that has benefited the end customers while it emasculated the industry with insidious and predatory practices as listed below:

- Cash grants, input cost subsidies, currency peg/control, and policy ambiguity are cobbled together as starting points.
- Provision of cheap/easy access to capital at 5% to 6% rates; China state banks set aside >$43B in L-T solar funding.
- Easy capital set the stage for irrational capacity expansion but aided domestic employment as a social welfare scheme.
- Integrated scale + cheap labor = low cost; with profit not a concern, ASP wars helped destroy overseas competition.
- 15% preferential tax rate/concessions via "high and new technology enterprises strongly supported by the State" label.
- Companies generally lack fiduciary responsibility - balance sheets loaded with debt; none earn their cost of capital.
- No U.S. accounting/audit oversight is possible for U.S. listed Chinese companies in view of China's state secret laws.
- Competing against a sovereign that misprices capital, tolerates capital inefficiency, and acts as a backstop is suicidal.

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