

Micro to Macro Monthly **BETA**

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The Sun is Shining

The sky was falling when you heard from me last month – but even then the sun was shining. Indeed, every morning I see light streaming in through the window. The *energy* that light carries is the power source for virtually every living being on this planet. Perhaps that's partly why a recent consumer survey by Pike Research found 79% of respondents had a positive view of solar energy, compared to 47% for coal and only 42% for nuclear.

Solar power is cool. It's hip to go green and, increasingly, it also makes good business sense. Production costs for "PV" or photovoltaics - devices that convert sunlight directly into electricity - are in major decline. According to Solarbuzz, a prominent market analyst firm, PV-module prices have fallen by 18% this year. They calculate that current list prices for modules yield electricity at 20 cents per kilowatt hour for commercial projects, and that number is falling. The holy grail of photovoltaics is known as "grid parity." It happens when solar power costs the same as electricity from a utility. In Germany, Italy, Spain, and some other countries it's already happened. We've seen massive sector growth in those places. That growth is beginning now in the US, Brazil, India, and China...

This is a tipping point for solar power.

Put Some Green In Your Portfolio

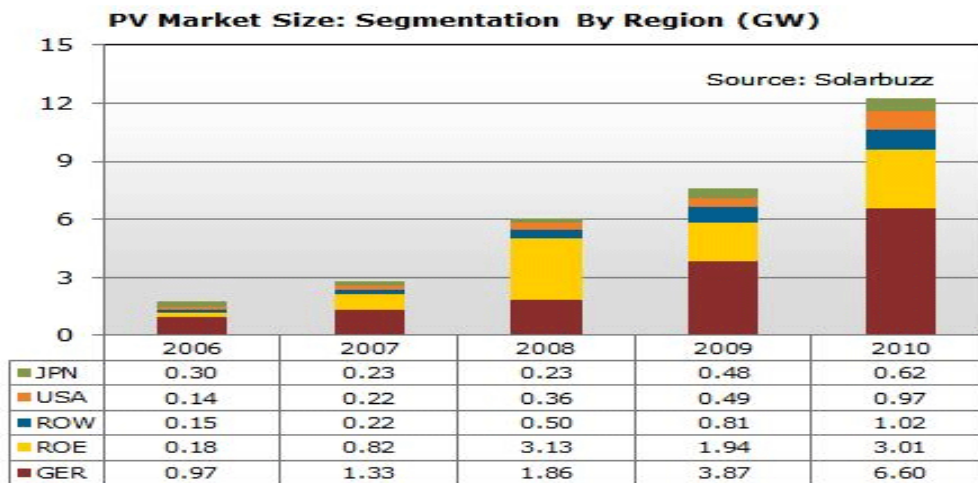
Frightened by news that Germany and Italy are going to scale back government incentives in 2012, investors have fled the solar sector. What they don't realize is that these incentives just *aren't needed anymore*. Germany and Italy have achieved grid parity. More than that, incubation of the nascent PV industry in Europe has created

dramatic, continuing decreases in costs. PV is now ready for the big time: development projects in the US and BRIC countries.

Energy is the biggest business in the world – it is the engine of industry. By accumulating shares in successful solar companies with a track record of success now, you can help yourself to a chunk of the fastest growing scalable market around.

Why Solar is Oversold

Two years ago, there was a similar crash in PV companies when Spain removed incentives. This chart shows the PV market by country since 2006. Red and yellow represent Germany and the Rest of Europe (ROE): most of the ROE demand is Italy now, but in 2008 it was Spain.



Now consider the relative size of the economies for Japan, the USA, Brazil, India, and China (BRIC countries - “Rest of World” in blue). As solar installations ramp up there, decreases from Germany and Italy will seem much less important. The US market doubled in 2010, and is expected to do so again in 2011. In April, backlog to service projects in the US broke 12 GW – the size of the entire 2010 market. On Friday, China announced a new (doubled) target of 10GW installed by 2015, and 50GW by 2020. Photovoltaic power is also fully distributable – meaning you don’t need centralized

generation. That's hugely important in developing countries like Brazil and India where grid infrastructure is poor, but electricity is expensive and sunshine is plentiful.

How to Play It

Solar is notoriously tough to understand, so it's tough to invest in successfully. Decreased incentives in Germany and Italy will adversely impact market growth in late 2011 and 2012. Also, there's some risk associated with the crises in Japan: up to 60% of the c-Si (crystalline silicon) used in global PV production is made there. Thus, we'll see a spike in prices for manufacturers, driving down short term profits.

Therefore, we're going to look for companies that (1) are well capitalized, (2) have exposure to markets in the US and China, (3) have protection from spikes in c-Si spot prices. What follows is a table showing 10 of the largest solar players traded on US exchanges, with a few added tidbits.

Company Name	Exchange:Ticker	Country	Technology	MKT Cap	P/E	P/B
First Solar	(NASDAQ:FSLR)	USA	TF	\$11.1 B	18.5	3.1
Sharp	(PINK:SHCAY)	Japan	c-Si, TF	\$10 B	45	0.8
SunPower	(NASDAQ: SPWRA)	USA	c-Si	\$1.2 B	13.2	1.3
Trina Solar	(NYSE:TSL)	China	c-Si	\$2.1 B	6.5	1.8
Yingli Green Energy	(NYSE: YGE)	China	c-Si	\$1.7 B	8.2	1.3
Suntech Power	(NYSE: STP)	China	c-Si	\$1.6 B	6.8	0.8
LDK Solar	(NYSE: LDK)	China	c-Si	\$1.5 B	4.8	1.3
JA Solar Holdings	(NASDAQ:JASO)	China	c-Si	\$1.1 B	4	1
Hanwha SolarOne	(NASDAQ: HSOL)	China	c-Si	\$451 M	3.8	0.6
Canadian Solar	(NASDAQ: CSIQ)	China	c-Si	\$424 M	8.4	0.8

First Solar is a pioneer and, by a factor of 10, the dominant producer of Thin Film PV. They enjoy a dramatic manufacturing cost advantage over competitors by using TF because they don't have to buy c-Si: it's why TF is the fastest growing segment of the solar market. The cheapness of this tech comes at the cost of some efficiency loss. First Solar has impressive scalability, though, is based in the US, and was recently punished too harshly over lowered guidance for 2012. With nearly \$1

billion in cash on their books, they meet our criteria. I expect a steady appreciation of their business, with possible pullbacks in the near-term. I sold the May \$120 puts for \$2.25 – they will expire in 10 days, yielding about 2%. That's a simple ARR near 70%. I'll do it again in June, and repeat until I get to acquire the stock; then I'll start selling covered calls.

My small-cap pick is **Hanwha SolarOne** (NASDAQ:HSOL). Formerly known as SolarFun (NASDAQ:SOLF), they changed names in January to reflect 50% ownership by Hanwha Corporation – a South Korean conglomerate with business interests all over the world. Their involvement with Hanwha is of huge benefit to HSOL, because it makes them a vertically integrated company. The partnership guarantees access to markets and locks in a stable, reliable supply of c-Si wafers. They have tremendous revenue growth and a strategy of reinvestment, yet sell for less than 4 times earnings. That's nuts. I'm taking the same acquisition strategy here, selling out of the money \$6 May puts for \$0.25 – 4% in 13 days, a simple ARR over 100% - until I get to buy the stock. I'm also watching long-term calls, but recent volatility means that premiums favor a strategy of selling, not buying options.

On Existing Positions:

The Cameco calls we sold for \$1 will expire worthless in 10 days. Look to repeat that trade in June. The stock is down a bit following earnings, which were lower than originally expected due to a strong Canadian dollar; nothing substantive has changed.

Telestone prices remain depressed despite an excellent earnings release (with a decrease in DSO's) and the purchase by Chairman/CEO Daqing Han of 100,000 shares. My analysis here remains the same.