SOLAR SECTOR UPDATE

From... MAC Global Solar Energy Index

the tracking index for

Guggenheim Solar ETF* (NYSE ARCA: TAN)

APRIL 9, 2014

The MAC Global Solar Energy Index (SUNIDX) is licensed as the tracking index for the Guggenheim Solar ETF* (NYSE ARCA: TAN).

For more information, visit: www.GuggenheimInvestments.com/tan*

Note: Index performance does not reflect transaction costs, fees or expenses of TAN.

Solar Index Performance

The MAC Solar Index, which is the tracking index for the Guggenheim Solar Energy ETF (NYSE ARCA: TAN), is up by 23% so far in 2014 (through April 9), adding to the 127% rally seen in 2013.

The rally in solar stocks over the past year has been driven mainly by a surge in end-market demand, the stabilization of polysilicon and solar panel pricing (see charts on p. 3), and the improved profitability of solar manufacturers. The surge in demand seen over the past year has allowed the solar industry to move past the 2011-12 shake-out that was driven by over-capacity and a sharp decline in polysilicon and solar cell/module pricing. That sharp decline in solar pricing, however, led to a surge in demand as solar power becomes economical for a much wider customer target market.

2014 starts with record-breaking demand

World solar PV demand in Q1-2014 exceeded 9 gigawatts (GW), according to NPD Solarbuzz. That was a new first-quarter record and was up +35% y/y. Solar demand will exceed 40 GW in 2014 and then grow by another 25% to 50 GW in 2015, according to NPD Solarbuzz. The research group also forecasts that the global solar industry will grow by more than +25% per year over the next four years and will reach 100 GW of production by 2018. The surge in Q1 solar demand was mostly due to strong growth in Japan and the UK. Global solar PV installations in 2014 of more than 40 GW translates to more than $86 billion of revenue for the industry, according to IHS.

U.S. solar PV soared by 41% in 2013 and became the second largest source of new electricity

U.S. solar PV installations soared by 41% in 2013 to 4.751 GW, according to the "2013 Year-in-Review" report from SEIA and GTM Research. U.S. solar PV in 2014 will grow by another 26% to 6 GW, according to the report. The

MAC Global Solar Energy Index (SUNIDX)

report notes that more U.S. solar has been installed in the past 18 months than in the previous 30 years combined. The report also notes that U.S. solar PV installations in 2013 totaled $13.7 billion in terms of industry revenue.

Moreover, solar PV in 2013 became the second largest source of new electricity capacity generation in the U.S., rising to a 29% share of new electricity generation from a 10% share in 2012, according to the SEIA/GTM report. Solar PV's 29% share of new electricity generation in 2013 handily beat coal's 10% share by 20 percentage points and was only 17 points behind the natural gas share of 46%.

The cost of installing solar PV in the U.S. fell by -15% y/y, according to the SEIA/GTM report, which makes solar attractive to an increased number of end-users. The report found that PV module prices increased slightly during 2013

but that the overall cost of solar fell -15% due to lower prices for inverters (which fell -15% to -18%), racking systems (which fell -14% to -24%), and other downstream innovations such as lower financing costs. Regarding pricing by segment, solar PV costs fell by -9% in the residential market, -16% in the commercial market, and -14% in the utility market, according to the SEIA/GTM report.

Solar reaches grid parity in more markets

Solar PV has now reached grid parity in the commercial market segments in Germany, Italy, and Spain, according to a comprehensive analysis by research group Enclareon in their new report, "PV Grid Parity Monitor: Commercial Sector." The report found that the levelized cost of solar PV in those segments has fallen below the price of electricity charged by the utility in those areas.

The report found that solar PV in the French commercial segment has not yet reached grid parity because of low French utility electricity prices in the commercial segment. The report found that the commercial segments have also not yet reached parity in the Latin American countries of Mexico, Brazil and Chile because of higher PV installation costs and a high discount rate.

Meanwhile, Deutsche Bank in January released a report showing that solar PV has reached grid parity without subsidies in a variety of markets. Residential markets that have reached grid parity include California, Germany, Italy, Spain, Greece, Japan, Thailand, Australia, South Africa, Turkey, and Israel. Deutsche Bank analysts also found that solar PV has reached grid parity in the industrial segments in China, Germany, Italy, Greece, and Mexico. Deutsche Bank analysts expect solar PV to be sustainable at grid parity in three-quarters of the world's market by next year.

Citigroup released a major report in March saying that the "Age of Renewables" has begun. Citigroup analysts said, "We predict that solar, wind and biomass will continue to gain market share from coal and nuclear into the future." The Citigroup report was downbeat on coal since it says that coal has been priced out of the market by stricter regulations with a levelized cost of 15.6 cents/kWh for new plants. Citigroup believes that nuclear will not be able to compete on its economic merits, either. Citigroup notes that the new Vogtle nuclear plant under construction in Georgia will have a levelized cost of about 11 cents/kWh. Citigroup is also cautious about the costs of natural-gas-fired electricity plants, noting that natural gas prices have more than doubled in the past two years and that natural gas prices are likely to rise further as the U.S. starts to export liquid natural gas (LNG) in quantity.

Utility-based solar PV falls below 5 cents/kWh

Solar PV reached a pricing milestone with news that Austin Energy entered a 25-year power purchase agreement for solar power from SunEdison at a record-low cost of "just below" 5 cents per kWh. The low cost was helped by the federal Investment Tax Credit but not by any state-level tax break. Austin Power reportedly received about 30 other proposals with solar PV costs near 5 cents/kWh. The cost of solar PV was below Austin Energy's cost estimates for other types of new power plants such as natural gas at 7 cents/kWh, coal at 10 cents/kWh, and nuclear at 13 cents/kWh.

IPCC issues comprehensive new climate warning

The UN Intergovernmental Panel on Climate Change (IPCC) in early April issued a new warning on climate change in its "Fifth Assessment Report" (AR5). The comprehensive report concludes that the world needs to cut emissions by 40-70% by 2050. The report recommends that low-carbon sources of energy (including solar power) need to rise to 51% of total energy sources by 2050, more than triple the 17% share seen in 2010. The report says that in order to meet climate goals, investment in fossil fuels should drop by -$30 billion per year and that spending on renewables needs to go up by +$147 billion annually.

SolarCity's second securitized solar note sees strong demand

SolarCity on April 3 sold another $70 million of notes securitized by solar leases and power purchase agreements. The yield on the latest deal of 4.59% was 21 basis points below the 4.80% yield on SolarCity's first securitized note sold in November 2013. This month's note offering saw strong demand and was oversubscribed, according to Roth Capital Partners. Now that SolarCity has paved the way with two securitization deals, many other solar companies are expected to tap the securitization market as well to gain access to low-cost financing and build more solar projects.

U.S. continues trade investigation against China

The U.S. International Trade Commission on Feb 14 announced it will continue its investigation of Solarworld's complaint that Chinese solar panel producers are taking advantage of a loophole by sourcing solar cells from Taiwan, thus avoiding the duties that the U.S. levied last year on Chinese solar panel manufacturers. The ITC will soon issue further rulings about whether new duties will be imposed to close the loophole. U.S. solar installation companies are not happy about the new investigation since it may result in higher solar panel prices for U.S. end-users.

Solar Pricing

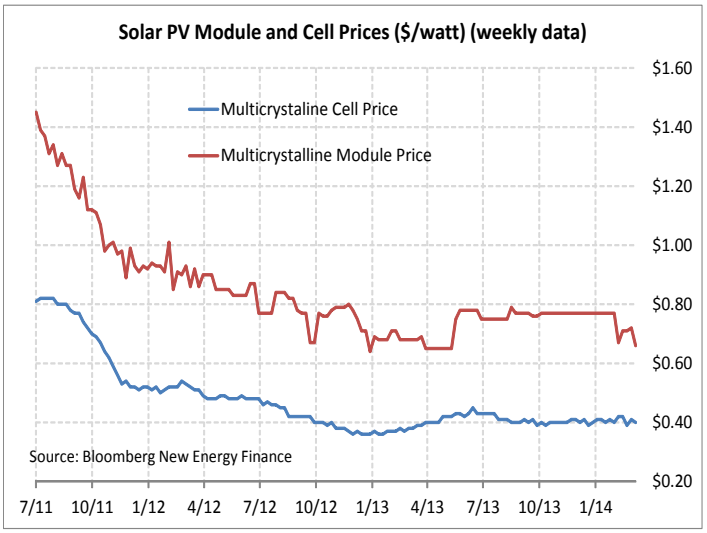
Prices for solar cells and modules hit record lows in late 2012 but then recovered modestly and moved sideways during 2013. Specifically, the price of multicrystalline solar cells posted a record low of 36 cents per watt in late 2012 and early 2013, recovered to a 1-1/2 year high of 45 cents in June 2013, and then faded to the sideways range of 39-41 cents during the remainder of 2013, according to data from Bloomberg New Energy Finance. Multicrystalline solar cells prices are currently at 40 cents per watt, up +11% from the record low of 36 cents posted in late 2012.

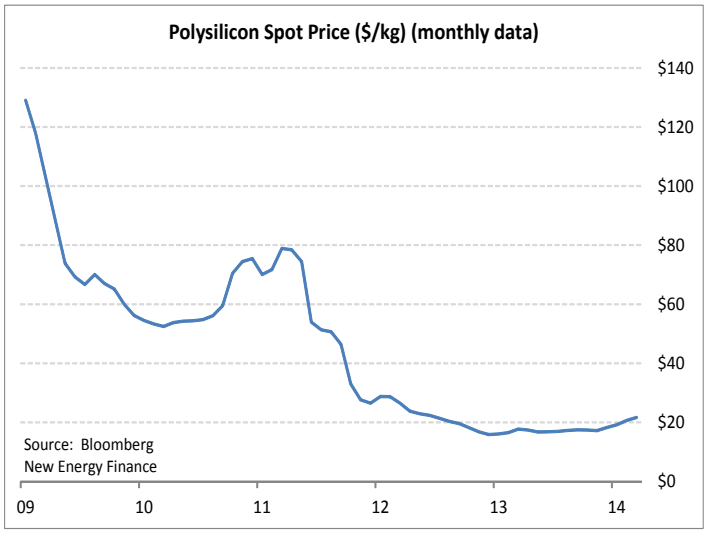
Meanwhile, solar module prices posted a record low of 64 cents per watt in Dec 2012, recovered to a 14-month high of 79 cents in Aug 2013, and then moved sideways near 77 cents in the last several months of 2013, according to data from Bloomberg New Energy Finance. Solar module prices eased in Feb/Mar 2014 and are currently at 66 cents, slightly above the record low of 64 cents posted in Dec 2012.

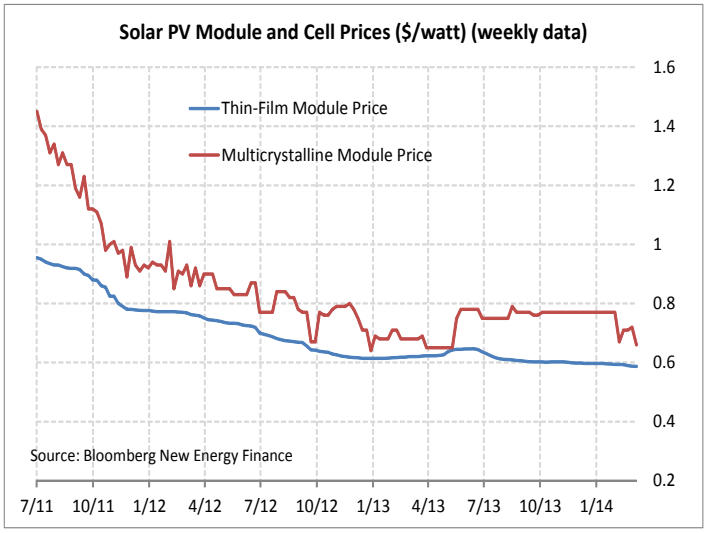
Spot polysilicon prices posted a record low of $15.83 per kilogram in Dec 2012 and then recovered to the $17 area by spring 2013, according to data from Bloomberg New Energy Finance. Polysilicon prices showed further strength in late 2013 and closed the year at $18.32, up +15.4% y/y. Polysilicon prices in early 2014 continued to move higher and are currently at a 1-3/4 year high of $21.67.

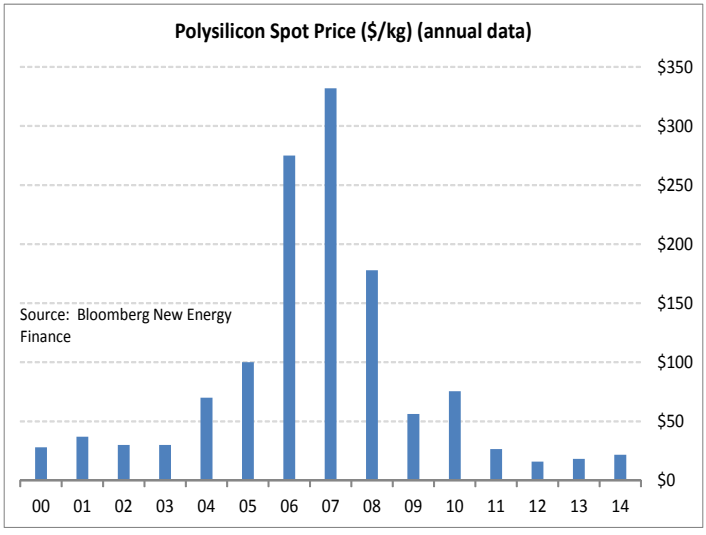
Solar pricing in 2013 stabilized mainly because of stronger demand and reduced production capacity after the 2011-12 shakeout that forced smaller and higher-cost producers out of the market. In addition, the large players are now calibrating their production more closely to demand.

The price of thin-film modules made by First Solar and others traded sideways in the range of 60-64 cents per watt during 2013 but then faded in early 2014 and are currently at a record low of 58.5 cents per watt.









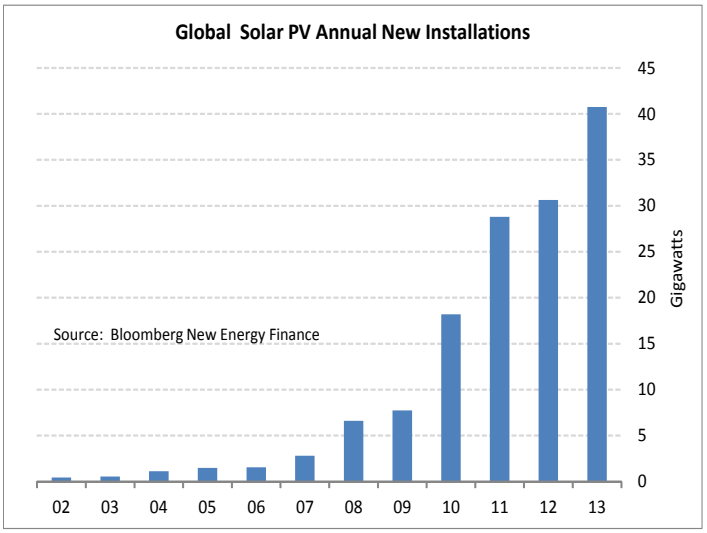
Solar PV Annual New Installations

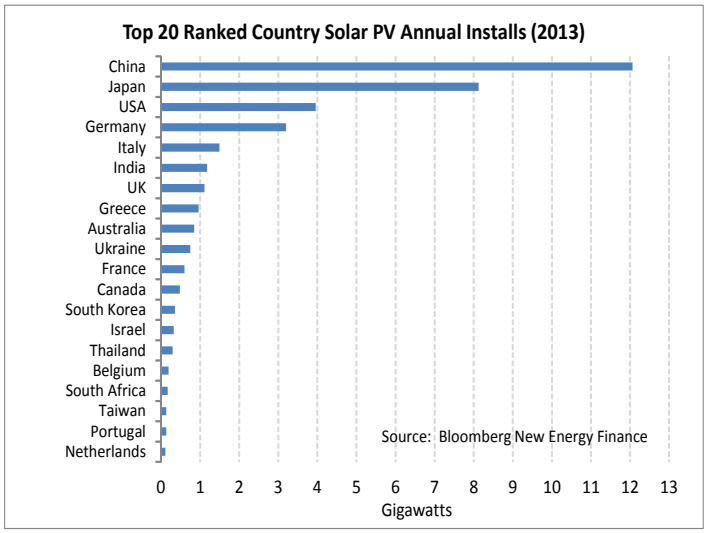
Global new solar PV installations in 2013 grew by +33% y/y to a record 40.7 gigawatts (GW) from 30.6 GW in 2012, improving sharply from the poor +6% growth rate seen in 2012, according to Bloomberg New Energy Finance. Global solar PV installations have grown by a compounded annual rate of +44% over the last 5 years and have risen six-fold from 2008.

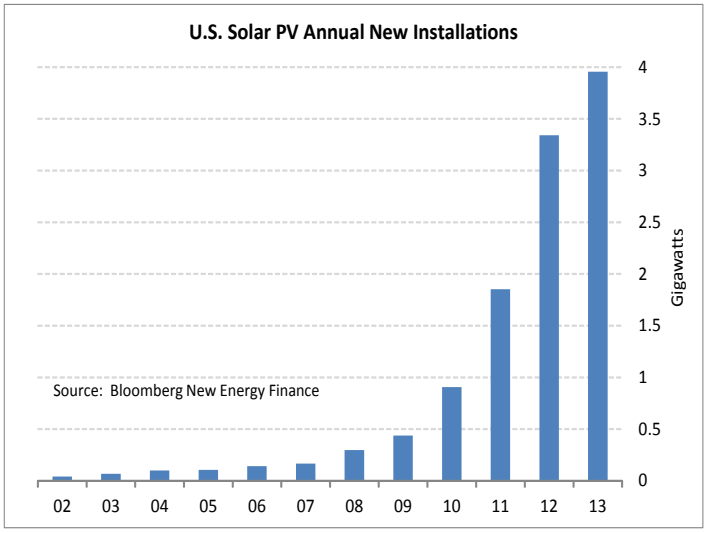
China leapfrogged Germany into the number one world spot for annual PV installs with 12.0 GW of installs in 2013, up by +232% from its 2012 level of 3.6 GW. Japan took second with 8.1 GW of new installs in 2013, up by +230% from 2.5 GW in 2012. The U.S. stood third in new installs at 4.0 GW.

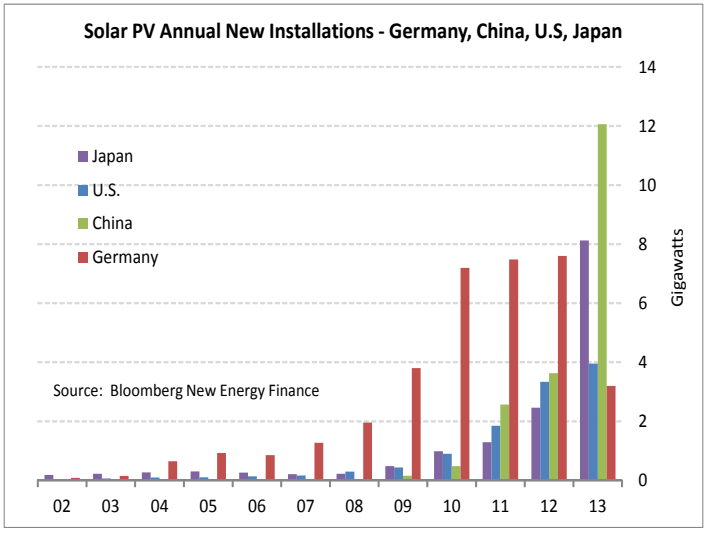
The sharp increase in installs in China, Japan and the U.S. more than offset the declines in Europe caused by reduced subsidy support. German installs in 2013 fell by -58% to 3.2 GW from 7.6 GW in 2012, although that was still large enough to put Germany in fourth place for world installs. Italian installs fell by -58% to 1.5 GW from 3.6 GW in 2012. French installs fell by -44% to 600 MW from 1.1 GW in 2012. The diversification of solar PV installs beyond Europe was a very healthy development for the solar industry.

U.S. solar PV installations in 2013 grew by +18% to a record high of 4.0 GW from 3.3 GW in 2012, according to data from Bloomberg New Energy Finance. U.S. PV installations over the last 5 years have grown by a compounded annual growth rate of +68%. SEIA is forecasting that U.S. PV installs will grow by an annual compounded growth rate of about +30% over the next three years to 9.2 GW by 2016. The states with the largest new PV solar installations in 2013 were California (2,621 MW), Arizona (421 MW), North Carolina (335 MW), Massachusetts (237 MW), and New Jersey (236 MW), according to the SEIA.









Solar PV Cumulative Installations

The amount of cumulative PV electricity generation capacity across the world grew sharply by +40% to 146 gigawatts (a gigawatt is 1 billion watts) by the end of 2013, according to data from Bloomberg New Energy Finance. In just five years, global cumulative solar PV electricity generation capacity has increased by nine-fold from 16.8 gigawatts in 2008 to 146.0 gigawatts in 2013, representing a compounded annual growth rate of +43%.

Germany at the end of 2013 had the world's largest amount of cumulative installed solar electricity generation capacity by far at 35.4 gigawatts, according to Bloomberg New Energy Finance. Germany's cumulative solar electricity capacity in the past 5 years has risen more than five-fold from 6.1 GW in 2008 to 35.4 GW in 2013.

China moved into second place in 2013 with 19.1 GW of installed PV, representing 13.1% of installed global PV capacity. China's cumulative solar electricity capacity in the past 5 years has risen 136-fold from 140 megawatts in 2008 to 19.07 GW in 2013.

Italy was in third place in 2013 with 18.0 GW of installed PV, representing 12.3% of world capacity. Japan was in fourth place in 2013 with 15.6 GW of installed PV, representing 10.7% of installed global PV capacity.

The U.S. was in fifth place in world PV cumulative capacity in 2013 at 12.5 GW representing 8.6% of world capacity. U.S. cumulative solar electricity capacity over the past five years rose by more than nine-fold from 1.37 GW in 2008 to 12.5 GW in 2012 and showed an annual compounded growth rate of +47%.