

SOLAR SECTOR UPDATE

From... MAC Global Solar Energy Index

the tracking index for

Guggenheim Solar ETF* (NYSE ARCA: TAN)

Solar Index Performance

The MAC Solar Index, which is the tracking index for the Guggenheim Solar Energy ETF (NYSE ARCA: TAN), rallied sharply starting in mid-November 2011 and posted a new 1-year high in mid-February. The MAC Solar Index lost ground from mid-February through the end of March on some disappointing company-level shipment and earnings news, but then bounced higher in early April after First Solar (FSLR) substantially raised its guidance.

The rally in solar stocks from mid-November through mid-March was based mainly on the stabilization of solar cell and polysilicon prices (see charts on p. 3), which suggested that the worst of the pricing pressure might be over. There was also positive demand news as the Chinese and Japanese governments pursued strong solar support programs. The improvement in solar demand was seen by the fact that Wacker Chemie, the world's second largest polysilicon producer, announced on February 11, 2013, that it was ending short-time work schedules and increasing production to meet renewed demand.

Solar stocks were also supported in early January when Warren Buffett's Berkshire Hathaway (BRK/A) subsidiary MidAmerican Holdings finalized the purchase from SunPower (SPWR) of the 579-megawatt Antelope Valley Project, the world's largest PV solar power plant. That was a big vote of confidence for solar power from Warren Buffett and signified that solar economics are working in the U.S.. The purchase price was not disclosed but it was thought to be in the \$2.0-2.5 billion range.

Solar stocks also received some support in mid January when President Obama in his inaugural address prominently mentioned the need to address climate change. Mr. Obama said that he would address climate change with executive action if Congress refused to address climate change with legislation. The Environmental Protection Agency in various Supreme Court and appeals court rulings has been authorized to regulate CO2 emissions. The EPA

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MAC Global Solar Energy Index (SUNIDX)



without additional legislation from Congress therefore has the authority to progressively clamp down on CO2 emissions, thus slowly regulating coal-fired plants out of business. The Obama administration has a goal of obtaining 80% of electricity from clean sources (including nuclear and natural gas) by 2035.

Natural gas-fired power plants are likely to take up much of the slack as coal-fired plants slowly die out, but there are still significant concerns about natural gas. Natural gas raises environmental concerns due to (1) the fact that there are still CO2 and other emissions from burning natural gas, and (2) concerns about fracking stemming from ground surface damage, heavy water usage, possible ground water contamination, and even earthquakes in some regions. In addition, as the U.S. moves towards exporting liquid natural gas (LNG) in coming years, the price of natural

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***Please note: This material contains the opinions of MAC Global Solar Energy Index but not necessarily those of Guggenheim Funds Distributors, LLC.**

gas is likely to rise and make natural gas a more expensive option. Solar energy, by contrast, is one of the very few energy solutions that offers zero emissions and a free source of energy (the sun) after the up-front fixed equipment cost.

In his State of the Union address in February, President Obama stressed his administration's goal of doubling renewable electricity generation by 2020. The President called on Congress to make the renewable energy Production Tax Credit permanent and refundable as part of comprehensive corporate tax reform.

The solar industry is fortunate that a 30% solar investment tax credit (ITC) has been in place since 2002 and will last through December 31, 2016 under current legislation. However, the sequestration that took place on March 1, 2013, did result in a reduction in the amount of funds that are available under the 1603 Treasury program that gives solar developers a direct federal grant in lieu of the ITC (see SEIA.org for a comprehensive overview of solar energy tax policy).

China's aggressive solar program

Solar stocks received a boost in January after China's National Energy Administration announced on January 8 that the government is targeting the installation of 10 gigawatts of new solar power installations in 2013. That would be a 43% annual growth rate from 7 gigawatts of installed solar in 2012 and more than three times the 3 gigawatts of installed solar in 2011. In late January, Chinese officials raised the nation's solar target for 2015 to 35 gigawatts from the previous target of 21 gigawatts. The government's targets for solar installations represent a compounded annual growth rate of 70% for the 2013-2015 period.

In order to support this rapid growth rate, the Chinese government has a feed-in tariff (FIT) program in place that specifies what electric companies must pay for solar power. The Chinese Ministry of Housing and Urban-Rural Development in January approved a plan to provide subsidies for roof-top solar that totaled 1.82 billion yuan (\$300 million) for a group of 126 approved projects. The Chinese government in December that it would adjust regional feed-in tariffs for solar and give solar PV preferential value-added tax policies similar to the policies available for wind farms. In addition, the Chinese government in December 2011 announced an additional \$1.1 billion of subsidies to the solar sector, thus doubling its support for 2012.

Europe and China near the end of their respective trade investigations

Europe is due to rule soon on whether it will levy tariffs on Chinese solar panels due to charges of dumping and unfair subsidies. Meanwhile, China has threatened to levy a tariff on European polysilicon. The U.S. last year levied tariffs on Chinese solar cells, but the net effect was minor since global solar companies have a number of ways to circumvent the tariffs. The solar trade investigations have had a negative effect on solar stock prices, but once the trade tariffs are settled the global solar industry should then be able to adjust through outsourcing and regional manufacturing.

Industry Consolidation

The solar industry over the past two years has gone through a difficult period of consolidation due to severe over-capacity caused by too many solar companies (primarily based in China) flooding into the market. The solar industry is slowly seeing rationalization where the weakest and the high-cost producers have been forced to close their doors. The reduction of capacity will eventually allow profit margins to recover with an industry that is dominated by a limited number of large players with the lowest costs and the best technology.

An example of the solar industry consolidation process was seen in March when Suntech, the world's largest solar panel maker, was forced into bankruptcy. Suntech's bankruptcy had generally been expected after Suntech was unable to renegotiate the \$540 million in convertible bond payments that were due on March 15. Suntech continues to operate for the time being and the regional Wuxi government in China is expected to eventually take over control of the company.

While solar manufacturers have been hard hit by the industry glut in the past two years, the process has been imperative for the long-term health of the industry. The price of solar panels has plunged in the past two years, thus making solar much more affordable and bringing it close to, or even below in some regions, the cost of other types of electricity generation. Solar pricing will continue to fall in coming years from improved technology, economies of scale, lower balance of system costs, and more efficient financing options. As solar pricing continues to fall, solar demand will increase as solar power becomes more competitive and attractive. This steady decline in pricing should allow the solar industry to enter its long-term growth market without subsidies.

Solar Pricing

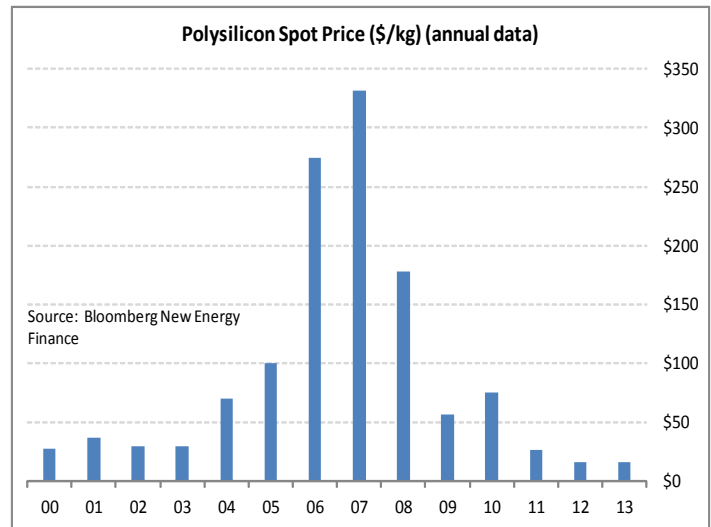
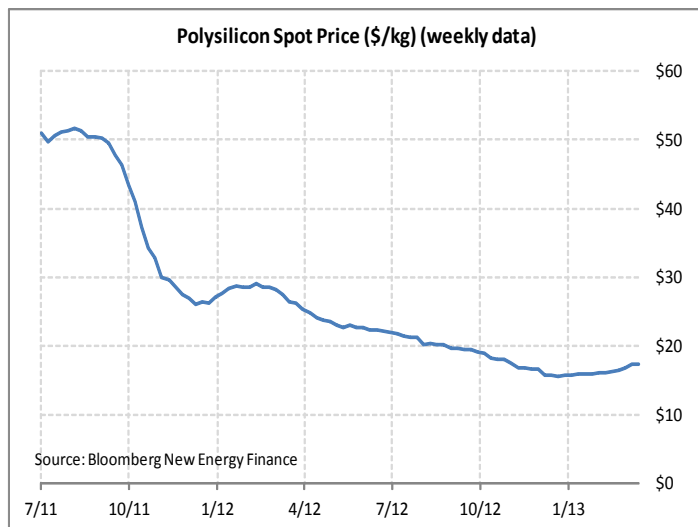
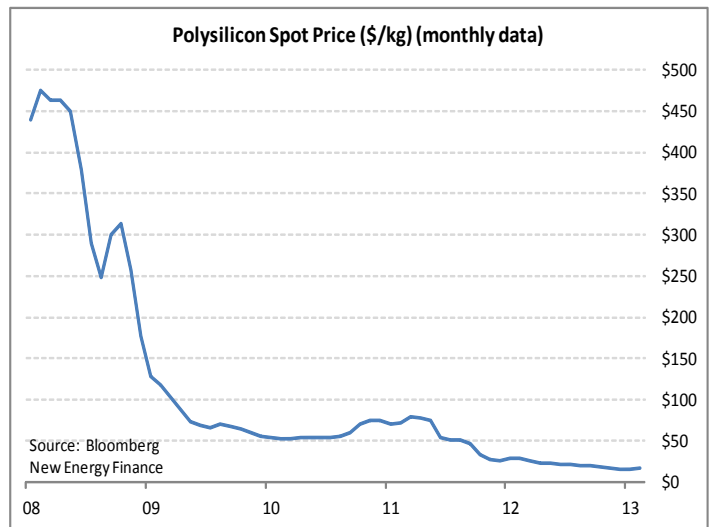
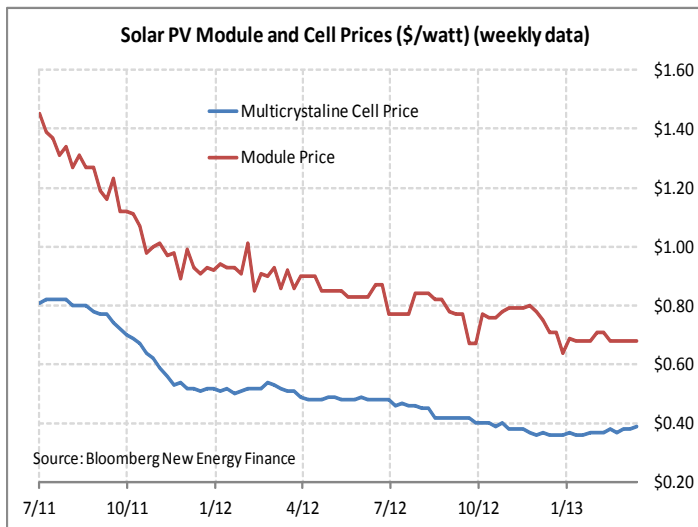
Prices for solar cells and modules hit record lows in late 2012 and then moved sideways to slightly higher in early 2013. The price of multicrystalline solar cells hit a record low of 39 cents per watt in late 2012 and then moved slightly higher to a 5-month high of 39 cents per watt by late March, according to survey data provided by Bloomberg New Energy Finance. Multicrystalline solar cells are manufactured from wafers that are cut from pure polysilicon. The cells are then assembled into a module assembly that includes a frame, an encapsulate, and wiring. Meanwhile, solar module prices hit a record low of 68 cents per watt in January and are currently bumping along sideways near that level.

Spot polysilicon prices hit a record low of \$15.83 per kilogram in late December 2012, according to survey data from Bloomberg New Energy Finance. The spot price of polysilicon prices then rebounded mildly higher in early 2013 by

11.1% to post a 4-month high of \$17.59 in the week ended March 18.

Solar pricing has stabilized in the past several months mainly because production has slowed as smaller and high-cost producers have been forced out of the market. In addition, the large players have stopped building new capacity and most are running production below their current capacity.

Solar-grade polysilicon is manufactured in huge chemical plants that take common-place silicon and refine it into very high purity using one of several main processing techniques. Polysilicon is also used to manufacture semiconductor chips for the computer industry. Thin-film solar modules made by First Solar and others do not use polysilicon and instead use a different process to place a semiconductor PV coating on a substrate backing.



Solar PV Annual New Installations

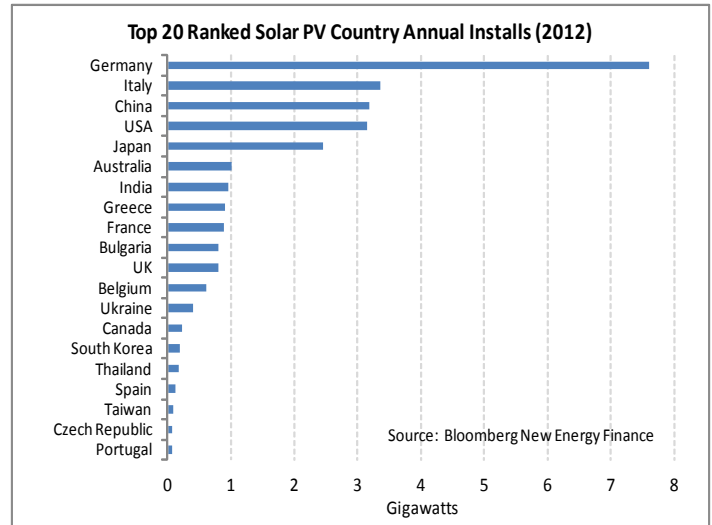
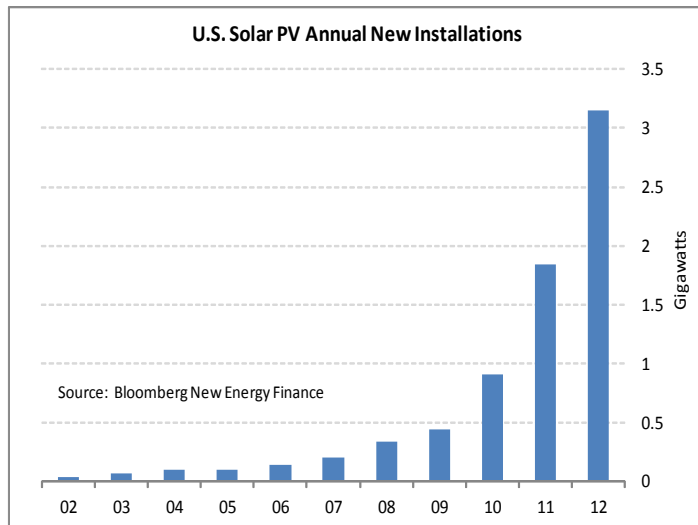
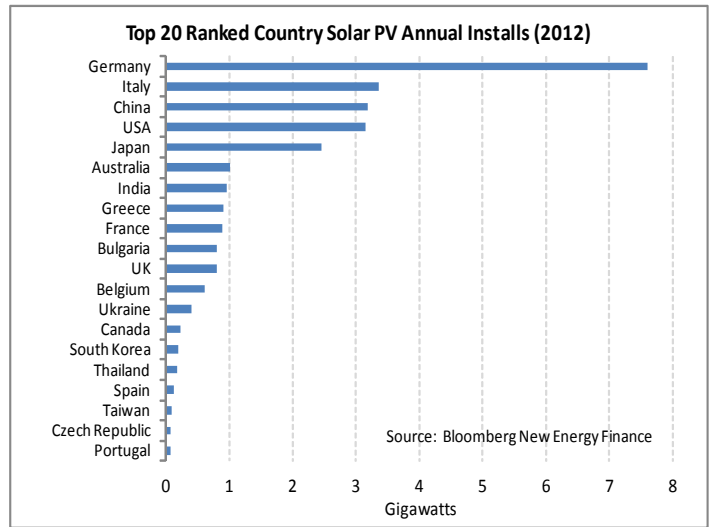
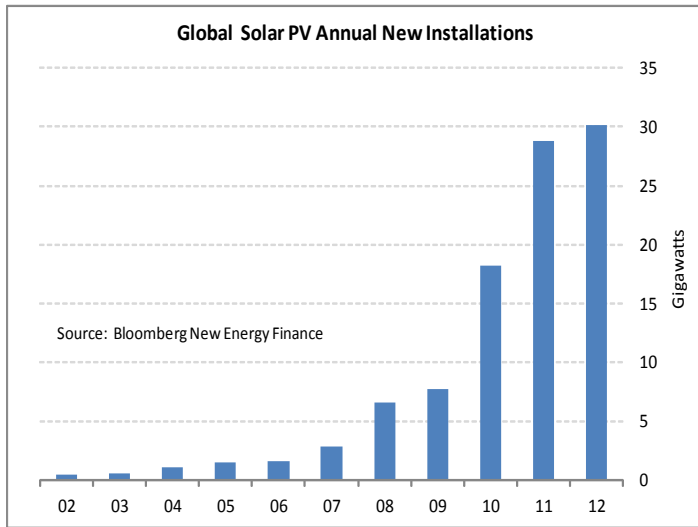
Global annual solar PV installations in 2012 grew by +4.7% y/y to 30.1 gigawatts, slowing sharply from the growth rates of +58% in 2011 and +135% in 2010, according to Bloomberg New Energy Finance. Nevertheless, the 2012 installation level of 30.1 gigawatts was more than ten times the 2.8 gigawatt level seen five years earlier in 2007.

Germany was once again the country with the largest amount of new solar PV installations in 2012 at 7.604 gigawatts. However, that was only a small 1.6% increase from 2011's pace of 7.485 gigawatts as Germany cut back on solar incentives. There were sharp drops in 2012 of -58% for installed solar in Italy, -45% in France, and -67% in Spain. The weakness in European solar was offset by increases elsewhere such as in the U.S. (+71%) and China (+24%).

For 2013, IHS is forecasting that the rankings for annual new solar PV installations will be: China, U.S., Germany,

Japan, and Italy. Solar installations in general are expected to be more evenly spread across the world, as opposed to the years of 2004-2011 when Europe dominated installations. This will be a healthy development for the solar industry, which will have a more diversified customer mix and will not be as vulnerable to subsidy shifts in specific countries.

The U.S. had a huge year in 2012 with new solar PV installations growing by 71% to 3.150 gigawatts from 1.845 gigawatts in 2011. Solar energy economics for customers substantially improved with the average price of a completed system in 2012 dropping -27% y/y, according to Solar Energy Industries Association (SEIA). The states with the largest PV solar installations in 2012 were: California (1,033 MW), Arizona (710 MW), New Jersey (415 MW), Nevada (198 MW), and North Carolina (132 MW), according to the SEIA.



Solar PV Cumulative Installations

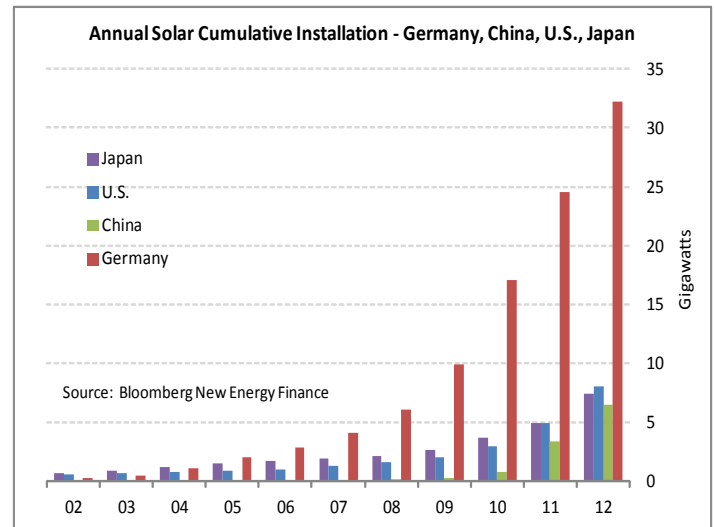
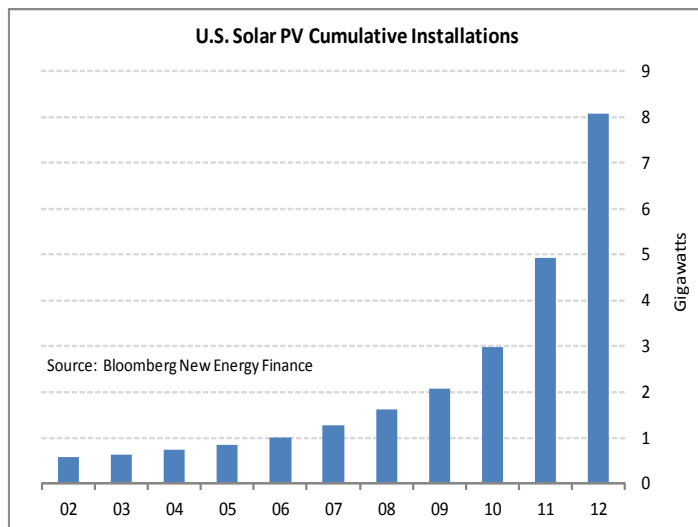
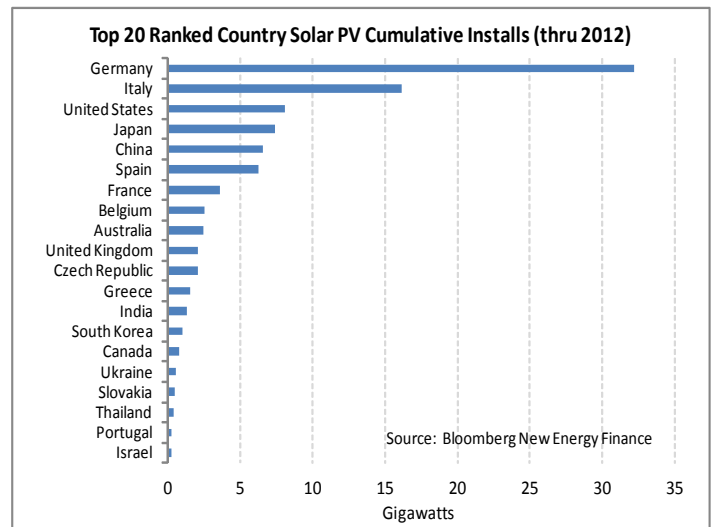
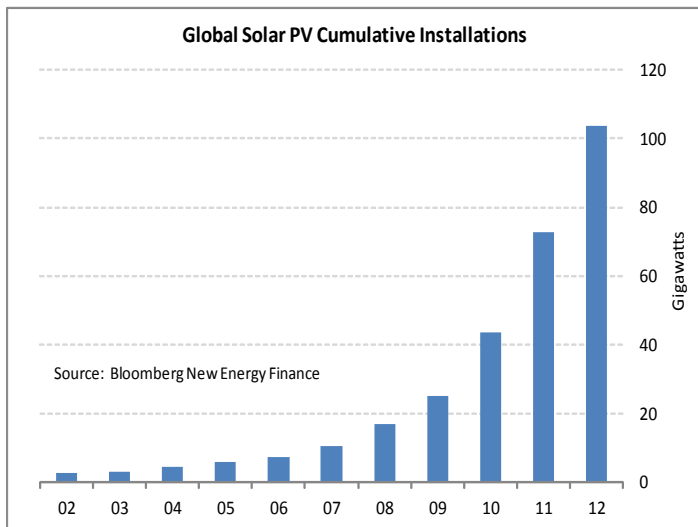
The amount of cumulative PV electricity generation capacity across the world exceeded the 100 gigawatt threshold to hit 103.8 gigawatts (a gigawatt is 1 billion watts) by the end of 2012, according to data from Bloomberg New Energy Finance. In just five years, global cumulative solar PV electricity generation capacity has increased by ten-fold from 10.4 gigawatts in 2007 to 103.8 gigawatts in 2012, representing compounded annual growth of 58%.

Germany at the end of 2012 had the world's largest amount of cumulative installed solar electricity generation capacity by far at 32.2 gigawatts, according to Bloomberg New Energy Finance. Germany had 31% of world solar capacity at the end of 2012. Italy by the end of 2012 had the second highest solar capacity at 16.1 gigawatts representing 15.5% of the world total. The countries having the next largest

solar capacity by the end of 2012 were the U.S. at 8.1 gigawatts, Japan at 7.4 gigawatts, China at 6.5 gigawatts, and Spain at 6.2 gigawatts.

U.S. cumulative solar electricity capacity rose to 8.069 gigawatts at the end of 2012, representing 7.8% of the world total. That is enough to power about 1.3 million households. U.S. cumulative solar electricity capacity over the past five years rose by more than six-fold from 1.267 gigawatts in 2007 to 8.069 gigawatts in 2012.

China's cumulative solar electricity capacity in 2012 rose to 6.539 gigawatts, representing 6.3% of the world total. China's cumulative solar electricity capacity in the past 5 years has risen by 65-fold from 100 megawatts in 2007 to 6.539 gigawatts in 2012.



MAC Global Solar Energy Index (Ticker: SUNIDX)

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Guggenheim Solar ETF* (NYSE ARCA: TAN)

MAC Global Solar Energy Index (SUNIDX) provides investors with a means to invest in the exciting solar energy sector

Solar power has become big business worldwide thanks to major advances in solar technology that came from materials sciences and the sister technology fields of silicon semiconductors and thin-film deposition. Some important points to consider:

1. Advances in solar technology have pushed solar costs steadily lower and have allowed solar energy to already become competitive with traditional grid pricing in areas of the world where electricity prices are high or where variable day-time electricity prices are high.
2. As solar prices steadily decline, the demand for solar energy increases as it becomes more cost-effective for end-users to purchase.
3. The global solar industry is already big business, having grown in revenues from \$2.5 billion in 2000 to \$77 billion in 2012, representing compounded annual growth of 33%, according to IHS.
4. SUNIDX allows investors to easily get exposure to the geographically-diversified global solar industry. Of the 24 companies in SUNIDX, 10 have their headquarters in China, 6 in Europe, and 8 in North America.
5. SUNIDX provides diversification across all major solar companies, solar technologies, value-chain levels, and geographies. The index includes vertically integrated solar companies as well as companies that specialize in installing solar projects, producing solar capital equipment, producing key components such as inverters and encapsulates, and producing polysilicon and solar wafers, cells and panels.

Key Drivers of the Solar Energy Investment Case

- **Solar energy meets the need for clean power that reduces greenhouse gas emissions and pollution**, thus promoting energy security, public health, and the environment.
- **\$4 trillion in global electricity generation capacity is needed by 2030** (IEA), creating a huge market potential for solar energy.
- **Solar energy currently accounts for less than 2% of world electricity generation**, leaving room for decades of growth.
- **Fast advances in solar technology are steadily pushing down the cost** of solar energy.
- **Solar energy is a distributed source of power generation**, allowing businesses and residential electricity users to protect themselves from grid unreliability and future increases in electricity prices.
- **Solar energy is supported by government subsidies**, incentives and renewable energy mandates across the world.

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SUNIDX Index Methodology

- Global passive solar energy index of qualified solar stocks listed on exchanges in developed countries.
- Modified market cap weighting.
- Diversified solar index including all solar technologies (crystalline and thin-film photovoltaic solar and solar thermal), the entire value chain (raw materials, manufacturing, installers, etc), and related solar equipment such as power inverters, encapsulates, etc.
- Liquidity minimums for initial inclusion in the index include at least \$150 million market cap and \$2 million in 3-month average daily trading value.
- Pure-play solar stocks (solar revenue above 2/3) have an Exposure Factor of 1.0; Medium-Play stocks (solar revenue between 1/3 and 2/3) have an Exposure Factor of 0.5, which cuts their index weighting by half (Note: MEMC Electronic, STR Holdings, and Advanced Energy Industries are the only Medium-Play stocks).
- Quarterly index review on third Friday of March, June, Sep, Dec.

MAC Global Solar Energy Index



As of 12-Apr-2013	MAC Solar Energy SUNIDX	MSCI World	S&P 500 Index	Russell 2000	WilderHill Clean Energy (PBW)	First Trust Wind Energy (FAN)	Crude Oil (Nymex nearest future)
Compounded Annual Growth							
5 year	-39.8%	-0.1%	3.6%	6.5%	-26.4%	na	-3.7%
3 year	-40.0%	5.8%	9.9%	10.2%	-23.8%	-17.1%	2.7%
1 year	-20.5%	13.4%	14.5%	16.6%	-15.2%	5.9%	-11.9%
ytd	13.1%	8.8%	11.4%	11.0%	9.6%	13.0%	-0.6%
Standard Deviation							
5 year	54.3%	22.4%	26.0%	32.8%	42.4%	38.4%	43.4%
3 year	42.1%	17.5%	18.6%	26.0%	32.0%	27.7%	29.4%
1 year	38.0%	12.5%	12.9%	16.2%	23.4%	22.3%	25.0%
Sharpe Ratio							
5 year	-0.74	-0.01	0.13	0.19	-0.63	na	-0.09
3 year	-0.95	0.33	0.53	0.39	-0.75	-0.62	0.09
1 year	-0.54	1.07	1.12	1.02	-0.65	0.26	-0.48

Correlations (Daily returns, last 5-years or since index inception) Data as of 12-Apr-2013	MAC Solar Energy (SUNIDX)	MSCI World	S&P 500 Index	Russell 2000	Wilder-Hill Clean Energy ETF (PBW)	First Trust Wind Power ETF (FAN)	Nymex Crude Oil
MAC Solar Energy	1.00						
MSCI World	0.77	1.00					
S&P 500 Index	0.69	0.89	1.00				
Russell 2000	0.68	0.82	0.94	1.00			
WilderHill Clean Energy	0.86	0.81	0.84	0.86	1.00		
Wind Power ETF (FAN)	0.77	0.83	0.83	0.79	0.80	1.00	
Nymex Crude Oil	0.40	0.38	0.38	0.34	0.38	0.45	1.00

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Stocks in the Index

(as of 11-Apr-2013)

Company Name	Ticker	Weight
First Solar	FSLR:US	17.77%
GCL-Poly Energy Holdings	3800:HK	10.53%
Power-One Inc	PWER:US	6.30%
MEMC Electronic Materials	WFR:US	6.25%
GT Advanced Technologies	GTAT:US	6.11%
Meyer Burger Technology	MBTN:SW	4.97%
SunPower Corp	SPWRA:US	4.48%
Hanergy Solar Group	566:HK	4.43%
Renewable Energy Corp.	REC:NO	4.39%
Trina Solar	TSL:US	4.32%
Advanced Energy Industries	AIES:US	4.30%
Solarcity Corp	SCTY:US	3.75%
SMA Solar Technology	S92:GR	3.59%
Yingli Green Energy	YGE:US	3.27%
JA Solar Holdings Co.	JASO:US	2.28%
Canadian Solar	CSIQ:US	2.26%
SolarWorld	SWW:GR	1.89%
ReneSola	SOL:US	1.66%
Comtec Solar Systems	712:HK	1.60%
Manz AG	MSZ:GR	1.54%
JinkoSolar Holding	JKS:US	1.26%
Conergy	CGY:GR	1.05%
STR Holdings	STRI:US	1.00%
Hanwha SolarOne	HSOL:US	1.00%

Index Breakdown

MAC Global Solar Energy Index	SUNIDX
Tracking index for Claymore/MAC	
Global Solar Energy Index	TAN
Number of Securities	24
Weighted Average Market Cap	US\$300 bln
Index Inception Date	3/31/2008

Headquarter Weightings

China	42%
Europe	25%
U.S. & Canada	33%

Stock-Listing Weightings

U.S.	63%
Europe	25%
Asia	12%

Market Cap Weightings

Large (\$5+ bln)	0%
Mid (\$1-5 bln)	8%
Small (<1.0 bln)	92%

Sector Weightings

Industrials	96%
Materials	4%

About MAC Indexing

MAC Indexing, an equity research and index specialist firm, is the manager of SUNIDX, the first solar index in the ETF industry. For further information, see www.MACSolarIndex.com.