

FLASH – ALTERNATIVE ENERGY



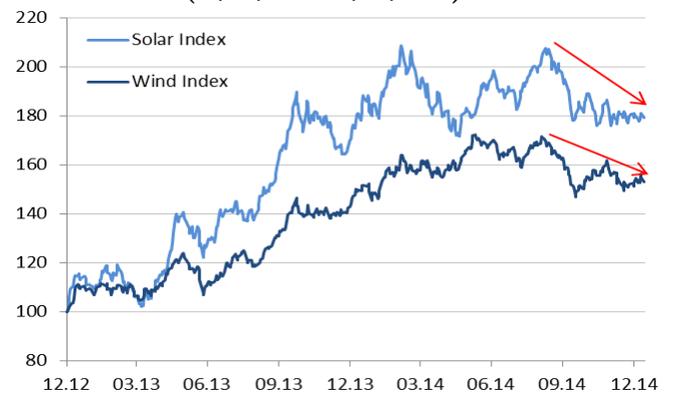
January 13, 2015

Solar and Wind Energy Industry: Is there still the perception of a correlation with crude oil prices?

Key Points:

- Solar and wind-energy equities drop by -9% since early September 2014
- Fundamentals remain sound: ongoing demand and healthier microeconomic conditions
- The correlation between oil prices and stocks of alternative energy companies, which were negative between 2012 and 2013, reached 0.6 for wind energy and 0.4 for solar energy at year-start
- No real link between these technologies and the oil market: oil generates less than 5% of global electricity
- An « emotional link », coupled with indirect effects due to ETF sell-off on energy equities, which could finally benefit alternative energy segments in 2015

**Price Evolution – Solar Index & Wind Index
(31/12/2012-12/01/2015)**



Source: Bloomberg, BBGI Group SA

The current plunge must be placed into perspective given the increases recorded since the trend reversal observed at the end of 2012. Still, it remains the longest fall ever observed during the period. Meanwhile, fundamentals have never been better for the industry as a whole.

What are the reasons behind the recent fall?

Should we draw a parallel between the recent correction and that of black gold?

What should we expect for 2015?

Crude oil price fall: -57% since mid-June 2014

As we set off into 2015, it is difficult to remain indifferent to the sharp drop in oil prices. WTI Crude, which was still largely traded over \$100 at the beginning of June, lost more than half of its value and closed at \$46.07 on January 12, 2015.

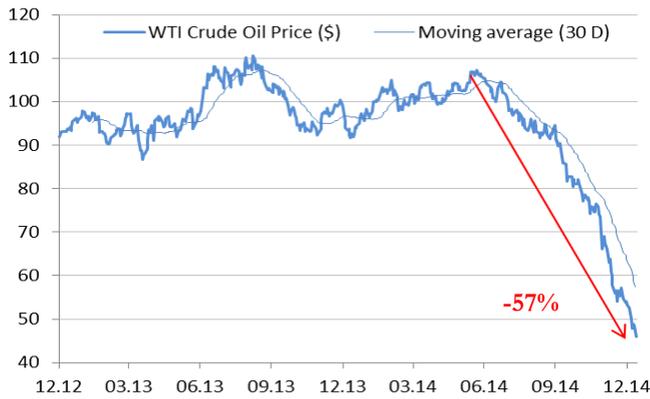
Before that, oil prices had stabilized in a range between \$90 and \$110 beginning 2013. Prices are currently at their lowest since April 2009.

Recent price evolution in solar and wind energy sectors

In our last case study on October 29, 2014, we had mentioned the price correction which had been observed on both the solar and wind energy markets. In the wake of global equity markets, both segments had actually suffered from their more dynamic traits back in the month of October.

Since then, prices have stabilized, but without a real return to the rise. Since the peak of early September 2014, the prices of solar and wind companies have lost -9.2% and -8.8%, after having increased by +100% (Solar Index) and +70% (Wind Index) since the end of 2012.

Crude Oil Price (31/12/2012-12/01/2015)



Source: Bloomberg, BGI Group SA

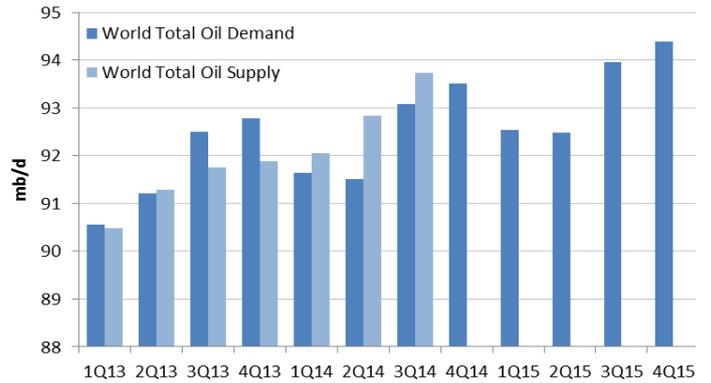
Numerous are the reasons which led to such a decline. Just to mention some of them - since they are not of interest to this specific analysis - they include oversupply, the slowdown in demand and geopolitical tensions.

If we look at oversupply, high prices since 2012 spurred companies in the U.S. and Canada to start drilling for new, hard-to-extract crude in North Dakota's shale formations and Alberta's oil sands. At the same time, demand for oil began tapering off in the first and second quarter 2014, due to a lagging euro zone economy and no direct balancing effect in Asia. The deteriorating conflict in the Middle East actually disguised oversupply, as Libya drastically cut its production and Iraq had to bear the brunt of sanctions on its crude exports from the United States and the European Union. In fall, the poor performance of the German and the Chinese economy justified further setbacks on the price of crude. The status quo decided by OPEC in late November 2014 precipitated the already falling prices.

Thus, despite the good results of the U.S. economy and the convergence of global economic cycles, oil experienced its biggest drop since 2008. In our October 20, 2014¹ Weekly Analysis, we said that Europe accounts for only 15% of global oil demand. It is our view, that plummeting oil prices are often too quickly associated to the precarious euro area economy. In our opinion, falling oil prices have also placed further strain on countries such as Iran, Venezuela and Russia.

The differential between supply and demand is illustrated in the following chart. While the trend pointed towards underproduction in 2013, overproduction was indeed more pronounced in the second and third quarter of 2014. For the coming quarters, however, the IEA is planning an increase in demand for all of 2015 compared to their levels in the corresponding quarters of 2014.

World Total Oil Supply and Demand (IEA data)



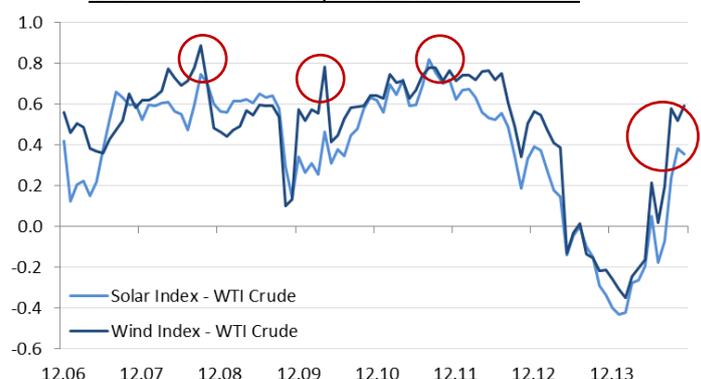
Source: International Energy Agency (IEA), BGI Group SA

Is there a new correlation between the solar and wind energy prices and a barrel of crude?

In the absence of factors which can explain the current contraction in solar and wind energy prices, aside from the general slowdown in equity markets, the issue of a correlation with crude oil prices could come into focus.

Historically, the correlation between the solar energy sector, followed by wind power, with crude oil prices was very strong in the first years of development of the abovementioned technologies. The basic idea is quite simple, and was based on the fact that high oil prices were a key factor in order for consumers to turn to alternative forms of energy. This assumption, which might be correct to a certain extent, cannot explain the massive development of alternative energy which took place in recent years. Most economic observers have stressed the slowing of this correlation in recent years. The graph below illustrates the evolution of the correlation and includes a period of strong link (sometimes equivalent to that observed between oil companies and oil prices) and a detachment period in 2012-2013 which corresponds to the trend reversal in the two sectors.

**Correlation Coefficient (12-month)
Solar & Wind Index / WTI Crude Oil Price**



Source: Bloomberg, BGI Group SA

¹ Oil-price drop does not accurately reflect supply and demand – Weekly Analysis October 29, 2014

However, the correlation which also turned negative in 2013, seems to be picking up since early 2014. Are we witnessing a normalization of the relationship between oil prices and solar and wind energy companies?

What will be the consequences in 2015?

The return of a strong correlation between oil prices and alternative energy companies can initially be justified from a practical angle. There are many energy-based mutual funds and ETFs that hold both solar and wind energy companies. Due to the slowdown in global oil prices, especially if the latter have been going on for several months, anyone selling ETFs for oil-related reasons will also be inadvertently selling their solar and wind holdings associated with this ETF.

However, instead of taking advantage of lower equity prices, investors did not return on the energy markets. We can see in this phenomenon that some Anglo-Saxon economic observers do not hesitate to define such attitude as simply “investors’ ignorance”. Most investors have no idea that the solar and wind energy markets are somehow not directly related to the oil market.

The question is not really whether this correlation exists today, since in the short-term the figures will confirm this new reality, but whether it is based upon actual reasons or has more of an “emotional” link.

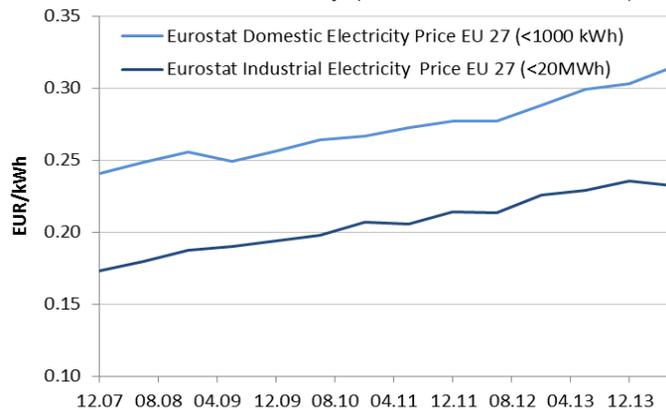
As renewable energies, solar and wind power, have virtually no limits, and basically allow to produce electricity. Now, oil generates less than 5% of global electricity. The two markets are in one sense almost impermeable to one another.

Regarding demand, it is well underway. Truly, these technologies have proven to be profitable. Furthermore, the major sponsors of solar and wind farms are, currently, government authorities. Moreover, governments see alternative energy as a way to reduce a country’s energy dependence. Consequently, it is very unlikely, in the future, for countries to make a U-turn in this segment.

Never before have fundamentals been as good for solar and wind energy

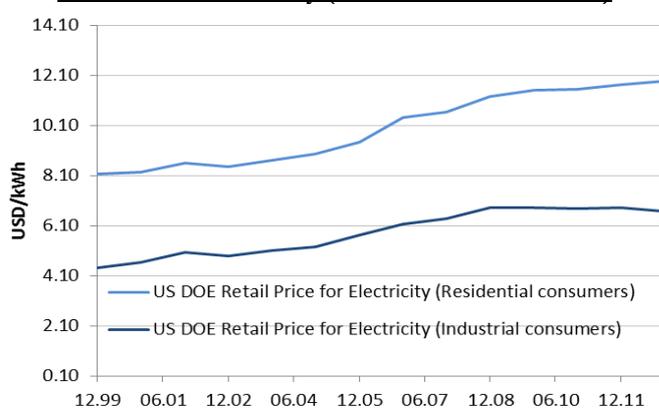
In our previous case studies, we had the opportunity to highlight how the current situation in the solar and wind energy market is totally different from that which prevailed before the period of consolidation of these two sectors (2008-2011). These technologies are actually more competitive in terms of costs and remain particularly attractive given the rising electricity prices. The latter have increased by more than a third in the 27 EU-member countries and by over +45% in the United States. The following graph illustrates the sale retail prices for the domestic and industrial sector.

EU 27 Price for Electricity (domestic and industrial)



Source: Eurostat, Bloomberg, BBGI Group SA

US Price for Electricity (domestic and industrial)



Source: US Department of Energy, Bloomberg, BBGI Group SA

Solar Energy

Grid parity – A report was recently issued which stated that solar power will reach grid parity in numerous U.S. single states. Moreover, a report by *RenewEconomy*, highlights the extent of grid parity for solar PV across the world back from 2012, placing at 102 countries.

Profitability – We have already discussed in our numerous 2014-case studies the declining equipment costs in the solar industry, following the oversupply period between 2011 and 2012, which is currently a new source of growing demand.

New developing markets – Emerging countries represent a greater range of investments. Beginning with Asia, and the development of the Chinese domestic market², but also through new impulses in India. Latin America or the Middle East³, also offer new opportunities.

² Flash – Alternative Energy / *Suntech’s Default: should we acknowledge a big U-turn in China’s strategy?* 28.03.2013

³ Flash – Alternative Energy / *Solar Energy: Is the Middle East the next Solar Energy Market?* 11.06.2013

Rise of decentralized solar systems – The decline in battery prices allowing to stock solar panel energy and increasing partnerships between battery manufacturers (i.e.: Tesla teaming up with SolarCity) will allow a greater development of decentralized solar energy. These electric-power generation systems, stepping up for small capacity installations, open the way for new procedures, especially in the automotive industry.

Wind Energy

Development of after-market and maintenance services – In our last case study, we mentioned that maintenance services offer double-digit margins to the sector's companies, which have seen profitability increase as wind farms grow.

Joint ventures and economies of scale – By coming together, wind turbine manufacturers and wind farm managers have now build real economies of scale, which are contributing to reducing capital spending.

In the wind sector, just as in the solar industry, political authorities are very keen in further developing these strategies. For instance, India has set an installation capacity target of 100,000 MW solar power generation and 60,000 MW wind energy for 2022 (compared to 2013 figures of 2,444 and 20,150 MW respectively).

Possible scenarios for alternative energies in 2015

How will the solar and wind energy sector companies react in 2015? There are a number of potential scenarios.

First, in the case of an oil price stabilization, and excluding the chances of an upward trend, we believe it is unlikely that companies which are active in the alternative energy industry will continue on a downward trend.

At current levels, oil prices are far from acceptable for numerous oil producing countries and also for oil producing companies, especially since as mentioned beforehand, extracting oil from difficult-to-drill places is an issue. In case of a stabilization of oil prices, ETF sales on energy equities should also slowdown, reducing pressure on the solar and wind equities. Investors could further seize the opportunity to follow alternative energies, which dispose of strong fundamentals in early 2015.

In a more optimistic scenario for crude oil prices, black gold prices would normalize and gradually progressively pick-up to €60 and then \$80, thus, alternative energy would benefit from a double positive effect.

On one hand, the emotional or “psychological” link between oil prices and alternative energies would affect solar and wind energy securities, whereas, the excellent microeconomic data could support investments in the long-term. At present, in our view, it is difficult to foresee a pick-up in crude oil prices without any positive effect on the alternative energy segment. We must consider that the plunge in crude oil is the only factor which could explain the current price correction.

Conclusion

The reasoning behind the correlation between solar and wind energy markets and crashing oil prices is faulty at best considering that alternative energies are not, strictly speaking, a petroleum substitute.

With the improving macroeconomic situation in both market segments and the constant increase in electricity price, alternative energies have sound economic fundamentals.

The shares of companies active in the alternative energy sector should take advantage of this year with the normalization of oil prices along with the multiplication of positive microeconomic signals.

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