

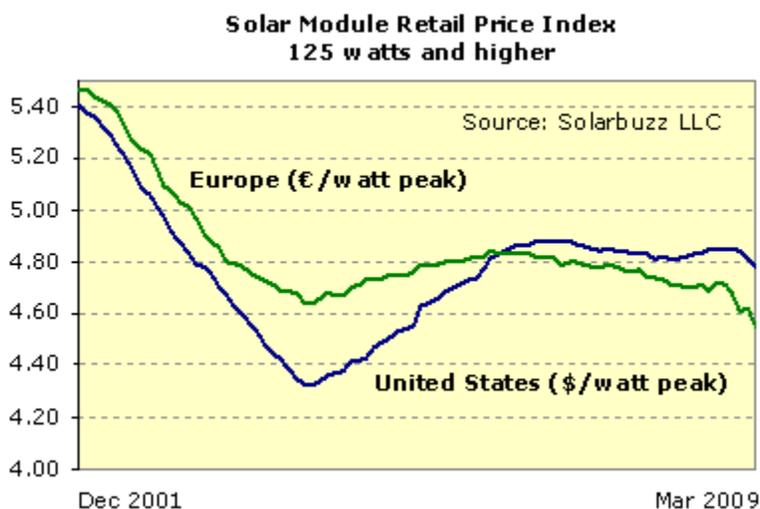
Temporary Supply Glut Could Lower Prices for Clean Energy

[by Investeco's Chuck Holt, published on Cleantechbrief.com]

A phenomenon is taking hold in some of the clean energy sectors. It goes like this: in the past few years, the great profit margins enjoyed by some upstream suppliers in the wind and solar industries attracted a lot of new supply. But now, exacerbated by the current financial crises, certain upstream suppliers are faced with evaporating demand and evaporating order backlogs. The result is that these suppliers are no longer able to command the prices necessary to maintain their margins. This is bad news for these suppliers, but great news for consumers and installers who should reap the benefit of the lower prices. This is not to say that there are not still some very significant growth opportunities available for suppliers, but for now, some of these suppliers will have to make due with slimmer margins.

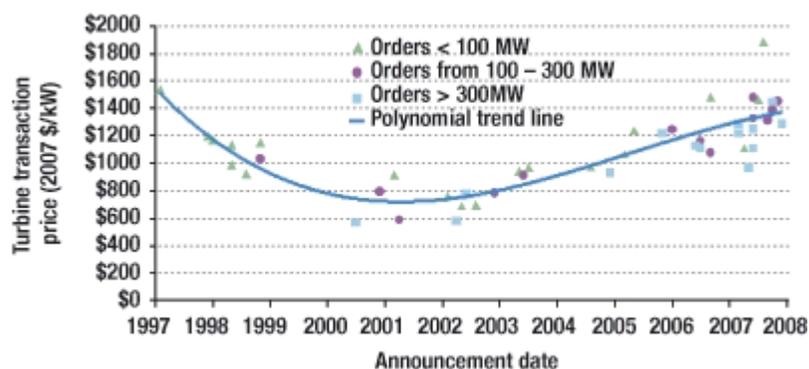
As mentioned above, the phenomenon is most obvious in the polysilicone-based solar module sector. A shortage of supply lifted polysilicone prices to as high \$450/kg in 2008. The resulting high margins (MEMC, a leading supplier of raw polysilicone and wafers for making solar cells, reported operating margins of 43% in FY2008) attracted a major expansion of supply. However, supply now outstrips demand. Dan Ries, an analyst at Collins Stewart has predicted that polysilicone demand in 2009 will be 53,905 tons, while supply will be 80,300 tons, resulting in a surplus of 26,395 tons and capacity utilization lower than 70%. He predicts this will lead to a major drop in polysilicone prices to between \$40 and \$ 60 per kg. As a result, MEMC's 2009 operating margins are forecast to drop to below 20% in 2009. LDK, another polysilicone and wafer producer saw gross margins decline from 28% in FY2007 to 14.5 % in Q4 2008 (before writedowns), and based on gross margin forecasts, operating margins could drop below 10% in 2009.

This polysilicone shakeout is clearly bad news for polysilicone producers, but it should drive down solar module prices for consumers. Lower prices for consumers should spur greater adoption of solar power, resulting in increased business for solar installers such as Real Goods Solar and Akeena. The far right side of the graph below shows how solar module prices have dipped in the past couple of months as compared to the past few years.



The shakeout in polysilicone-based solar is also liable to spill over to the other sub-sectors. For example, Timminco, a Canadian producer of upgraded metallurgical silicone (UMG), an alternative to polysilicone, may see UMG prices fall from \$50/kg in 2008 to \$15/20 per kg later this year due to increased competition from semi-conductor grade polysilicone. This will likely put downward pressure on its margins. Similarly, First Solar, a producer of thin-film solar panels (which do not use silicone) is seeing increased competition from well-funded competitors such as Q-Cells, GE, and Sharp all of which are entering the market and/or ramping up production to compete for the 50%+ margins enjoyed by First Solar. First Solar is also likely to face increased price competition from silicone-based solar module producers that now have to pay less for silicone. It is therefore not surprising that First Solar has forecast declining margins over the coming years..

As each of the clean energy sectors such as solar, wind and geothermal matures, this phenomenon of shrinking upstream margins is likely to duplicate itself. It appears to already be happening in the wind sector. Shortages of turbines were rampant until mid-2008 resulting in one clean tech website to run the headline in May 2008 “Who’ll Solve the Wind Turbine Supply Crisis?”. These shortages lead to higher turbines prices from 2001 to 2008, as shown in the below graph.



Source: renewableenergyworld.com

These higher turbine prices also attracted numerous new competitors to the turbine market and prompted existing manufacturers to increase their production. For example, according to BusinessWeek, new entrants from China and India in 2008 boosted those countries’ shares of the world wind turbine market to 18%. And according to the American Wind Energy Association, in the US alone in 2008, eight new turbine component factories went online, nine manufacturing centres increased capacity, and nineteen new factory projects were announced.

Hence wind appears to be developing an oversupply problem not unlike the oversupply problem existing in the solar sector. Notwithstanding increased incentives for wind power under the Obama administration, growth in demand for turbines has not kept up with supply. As a result, in January, Emerging Energy Research, a market research firm, stated that “with sales soft, Europe’s turbine manufacturers have been forced to cut prices to offload unsold inventory and to shut down costly plants built to accommodate now-reduced global demand. Profit margins have fallen in tandem.” For example, Vestas expects a drop in its operating margins from over 15% in 2008 to as low as 11% in 2009. Further anecdotal symptoms of this squeeze are that Accenture predicts that wind power capital expenditures could drop 30% in the next two years. Gamesa, a major Spanish wind turbine manufacturer, announced a temporary halt to production in October, 2008, and decreased margin and profit expectations led DMI, a wind tower manufacturer, to recently cut 20% of its workforce

The margin reduction in wind turbine production has clearly been partly caused by the credit squeeze, which has made new projects harder to develop, but the credit squeeze is not necessarily the ultimate cause. Even before the financial crisis began in earnest, the Global Wind Energy Council predicted that wind energy costs would peak in 2010 and decline thereafter at about 0.5-1% per year. This decline is forecast to partly be due to better technology, but presumably also due to greater supply and the resulting reduced margins for wind turbines. In other words, just as high margins attracted over supply in the solar industry, it appears to be doing the same in wind. In both sectors this is leading to squeezed margins for upstream suppliers, likely lower costs for end consumers and, hopefully, greater adoption of clean energy.