

On the Grid

The Golden Age of Solar Energy

By Tom Wu

Special To Banker & Tradesman



The gold rush era of solar in the United States is approaching an end. The market is consolidating and strategic alliances between participants are being put to the test. This change in the industry should be viewed as a coming of age for renewable as it reaches for grid parity

with traditional sources and propel its status towards a mature and proven technology.

With every new opportunity and development era there comes a boom and bust. Solar was no different. The tremendous success of local state incentives combined with federal tax credits propelled solar in the United States to new heights, and solar farms were going up everywhere. That's the boom. The bust came shortly after. Local state markets began to be over saturated, development projects were left abandoned, and development firms went bankrupt. Most participants were short-sighted and believed that they could build a sustainable business model based on taking advantage of short-term incentives. Companies grew overly comfortable off the support of local incentives, and when they were unsustainable, they hoped to move on the next state that would be the "hot spot" for solar.

The slow-down for solar can be viewed as an industry that's on its last leg out. This is not the case. The market has consolidated to have very few remaining players involved, and projects are starting to reach economies of scale. In the past, commercial roof-tops and small residential arrays made up a great portion of solar development, but recently, only large portfolios of massive solar farms have reached the tables of institutional lenders and equity backers. These mega projects achieve lower returns, but due to their scale, lenders are able to back leverage safer projects and demonstrate profitability in a traditional energy financing model.

The greatest sign of maturity in the solar industry is its ability to compete with traditional energy generation sources on the national grid level. In the past, renewable energy was seen as an expensive, but moral investment that would ultimately pay off in the long run. This is no longer the case. Even with the low cost of natural gas and clean coal, solar has met grid parity with two major advantages. The first is a continuous cost-free fuel source (the sun). The second is low equipment cost with minimal maintenance upkeep. It is true to say that coal fire and gas power plants may be cheaper to construct on

BANKER & TRADESMAN

a generation capacity level, but taking annual maintenance costs into consideration, solar wins by a long stretch.

Solar energy assets are currently selling electricity into the market to commercial clients at below market rates. Currently in Massachusetts, New Jersey, and North Carolina, power purchase agreements between regulated utilities, private enterprises, and solar developers are signed at around 25% discount from current grid prices. Many would argue that solar has an unfair advantage with government incentives, but what are not taken in account are the vast and numerous archaic tax hedges and subsidies that oil and gas companies receive from their offshore expenses. If gas and oil were not subsidized, the cost of electricity and fuel would double overnight.

Recently, natural gas prices have gone up over 60% over the past two fiscal quarters, and electricity prices are reflected in such manner. The rush for cheap domestic natural gas is slowing down, and with an inelastic energy market, prices will stabilize and revert back to their cyclical model. Solar energy will do the same and remain competitive on grid parity.

Solar and many other renewable energy sectors have come a long way and has truly established their places with the giants of gas and coal. Institutional lenders are backing renewable energy on a large scale through high back-leverages, and can be seen as a sign of acknowledgement and acceptance into the American energy sector. If the current trend continues, the American power grid will continue to see sustainable supply of clean and renewable energy that will help create a financially responsible investment arena, and an environmentally conscious investment hedge.

Tom Wu is CEO of Invaleon Technologies Corp., North Andover. www.invaleonsolar.com

This article appeared in the Sunday, May 26, 2013 edition.