



SUPERNOVA OF SOLAR POWER COMES TO TEXAS

By Alan Lammey

A little over a decade ago, the solar industry in the Lone Star State was a rather insignificant niche of the State's overall energy production, but, presently, solar has shifted to Texas in a big way where solar is now taking on a much larger share of the State's energy needs. And it's not just massive utility-scale projects and initiatives either as commercial and residential solar energy installations are gaining impressive traction.

Interestingly enough, Texas isn't the only state jumping boldly into the solar market. In 2016, the world added more than 74 gigawatts (GW) of energy capacity through new solar photovoltaic (PV) panels, which convert sunlight into electricity.

According to a recent International Energy Agency (IEA) report, in 2016 solar PV added more power capacity than any other power source, including coal.

In the same year, and for the first time in history, solar became the largest source of new U.S. electricity generation capacity, accounting for nearly 40 percent of added capacity.

According to recent government data and industry research, the best measure of Texas's solar industry is hardware on the ground. The Solar Energy Industries Association (SEIA) ranked Texas seventh in the U.S. for cumulative solar capacity in 2017. In fact, more PV devices were installed in Texas in the third quarter of last year than in all of 2015.

Recent studies indicate that San Antonio leads the State in solar PV capacity and ranks eighth among U.S. cities. And the power produced by these installations is increasing rapidly. For example, between December 2016 and December 2017, net solar power generated by Texas utilities and small-scale solar PV facilities rose by more than

107 percent, from 96,000 megawatt hours (MWh) to 199,000 MWh, according to the U.S. Energy Information Administration (EIA).

Solar energy has created a rapidly growing industry in Texas. SEIA reports that Texas currently has well over 500 solar companies, including nearly 100 manufacturers. Furthermore, Texas had the fourth-largest number of solar jobs among states in 2017. These jobs include solar-related manufacturing, installation, sales, distribution and project development as well as other roles.

A Tsunami of Solar Power is Coming to the U.S. and Texas

While Texas has already seen impressive growth in the solar niche, it's only the tip of the iceberg as massive amounts of solar power are coming online in the near future. The Federal Energy Regulatory Commission

(FERC) expects about 43.5 GW, which is 43.5 billion watts of new solar capacity, to be installed in the U.S. through the end of 2020. By 2022, nearly 15 GW of additional capacity will be installed each year and Texas is among the top 10 solar markets in the nation in terms of projected growth.

One of the main drivers behind the incredible growth is that incremental improvements to the solar technology, lower manufacturing costs and its deployment have reduced costs. The solar sector has improved its business models and developed a more viable business infrastructure: better supply chains, distribution channels and service provider networks. Many local government and public utility-permitting processes have been streamlined as well.

In Texas, the residential market is relatively strong; SEIA estimates about

210,000 Texas homes use solar power and it's advancing at an accelerated pace. While in the last few years the State's commercial market has developed more slowly, falling prices of the costs of solar panels and overall technology are making solar become much more attractive for business owners.

The Rush for Solar Tax Credits

One looming question affecting the economics of solar power, however, is a federal investment tax credit. The federal government currently allows residential customers to claim a 30 percent tax credit for the purchase and installation of solar systems.

Commercial and utility investors can claim a similar tax credit for the installation, development or financing of solar projects. Under current law, however, the credit is scheduled to fall to 26 percent in 2020 and 22

percent in 2021. Residential customers will lose the credit entirely in 2023, while commercial and utility users will be entitled to a credit of just 10 percent. The tax credit has been extended in the past, however, its future remains uncertain, which is why the expansion in solar power is currently in a 'boom' mode. A majority of the recent solar development has been motivated by the possible loss of the credit in the future.

Uncle Sam's Impact on the Growth of Solar Energy

At the beginning of 2018, President Donald Trump ordered a tariff on all imported solar panels to relieve economic pressure on U.S. panel makers. The 30 percent duty, which will drop by five percentage points annually until it expires in 2022, does not apply to roughly the first third of imports. The tariff was

imposed in early February on top of an existing one levied on panels made in China, the global industry leader in solar panel manufacturing.

The Chinese largely sidestepped the first tariff by moving their panel operations to nations in Southeast Asia, thus prompting the latest, world-wide tariff.

Anticipating new restrictions, some solar firms suspended projects; others proceeded, having already purchased materials or locked in prices at pre-tariff levels. The tariff's eventual impact on domestic production and installation is uncertain. Some of the industry believes that supporting U.S. panel manufacturers is desirable because it could spur innovations in the field, while others dismiss the move as protectionism.

For the most part, consensus seems to be that the long-term outlook for

solar, both nationally and in Texas, remains notably optimistic.

Texas Municipalities Going Solar

As solar gains popularity in Texas, local counties and municipalities are turning to the technology to supplement their energy needs. Among the benefits to cities are more stable and competitive energy prices, less pollution and zero water usage. Solar initiatives also may help many local businesses achieve sustainability goals as well as provide back-up power during times of storm or maximum electricity capacity outages.

For example, Austin's city council recently approved a contract allowing its community-owned utility to purchase the output of a new, 150-megawatt solar power plant, expanding the city's total solar energy capacity to 792 megawatts (MW). Between solar and its

wind-power resources, Austin expects to be able to meet more than half of its total needs with renewable energies by 2020.

Also, if cities that are turning to solar energy can generate more power than what is needed, they have the ability to sell excess power to the Electric Reliability Council of Texas (ERCOT), the State's power grid, thus adding backup power for neighboring communities.

The Transition to Renewable Energy

According to the EIA, most of the utility-scale power plants retired in the U.S. since 2008 were fueled by coal or natural gas. Texas, being the largest lignite coal-producing state and largest coal-consuming state, has retired more than half of its coal-based power capacity in recent years. In fact, Luminant Energy, the State's largest power generator, closed three coal-fired electricity plants this year. Meanwhile, in 2017, Vistra Energy of Dallas, parent company to both Luminant and TXU Energy, bought what will be Texas's second-largest solar farm near Midland-Odessa, which just goes to show how the industry is evolving toward renewable sources of energy.

Ironically, the recent oil and natural gas boom in Texas prompted by hydraulic fracturing and other enhanced recovery techniques has influenced electricity markets in renewables' favor, driving down fuel costs and making both coal and nuclear energy less competitive on price. In effect, it's lowered the price points at which power producers must compete. Like never before in the Texas energy market, wind and solar power are now in a much better position to compete with other fuels, thus the incentive to bring on more solar production is likely to be a trend that isn't going away any time soon. **N**

Alan Lammey has 19 years' experience as an energy markets analyst and journalist. He is also the host of the Energy Recon television show seen on EnergyNewsTV.com He can be reached via his website, www.TexasEnergyAnalyst.com.