Solar energy prices see double-digit declines in 2013, trend expected to continue

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Distributed solar photovoltaic (PV) system prices dropped by 12 - 19 percent nationwide in 2013, according to the third edition of a jointly written report on PV pricing trends from the Energy Department's (DOE) National Renewable Energy Laboratory (NREL) and Lawrence Berkeley National Laboratory (LBNL). In addition, 2014 prices are expected to drop another 3 - 12 percent, depending on system location and market segment. Industry analysts expect this trend to continue over the next couple of years, keeping the nation on track to meet the DOE SunShot Initiative's 2020 targets.

"These price drops are consistent with previous annual reductions achieved since 2010, when the Energy Department's SunShot Initiative was established," NREL's David Feldman, a lead author of the report said. "However, the report also indicates that there are significant variations in reported pricing both geographically and across market segments due to a variety of factors, including value-based pricing based on local competition within the marketplace and prevailing electric retail rates. Other factors include differences in specific system configurations such as panel efficiency, mounting structure, and geographic location; and the time lags between commitments and commercial operation for utility-scale systems."

The report, Photovoltaic (PV) Pricing Trends: Historical, Recent, and Near-Term Projections (2014 Edition)PDF, provides a high-level overview of historical, recent, and projected near-term PV system pricing trends in the United States and examines progress in PV price

reductions to help the Energy Department and other stakeholders manage the transition to a market-driven PV industry. The report shows that the general downward trend in PV system pricing continued in 2013, and is expected to continue through 2016. Other key findings include:

Modeled utility-scale PV system prices fell below $2 a watt in 2013, and have continued to decline in 2014, to roughly $1.80 a watt, which is 59 percent below what modeled pricing showed in 2010.

There is a difference of roughly $2 a watt between the median reported price of the lowest- and highest-priced states for residential and commercial systems (less than 10 kW in size); a similar price range also exists within individual states.

There is a wide-range in analysts' PV pricing estimates, however a number of analysts are now projecting long-term pricing in line with the targets set by the SunShot Initiative for 2020. At these pricing levels, PV is expected to reach widespread grid parity in the U.S. without federal or state subsidies.

"There is still considerable uncertainty as to how low PV system prices will drop in the next five to 10 years," Feldman said. "However, there appears to be an emerging consensus that the SunShot's price reduction targets are within reach and more and more likely to be realized. We see this reflected in the fact that many of the current projections are far lower than projections made in the recent past by the same sources."

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