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United States Solar – The Shift from Utility Scale to Distributed Generation

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In recent years, fewer power purchase agreements (PPAs) have become available for potential projects. In some states, utilities are issuing fewer requests for proposals for large scale PPAs as they come closer to achieving their state-mandated renewable portfolio standards with current PPAs. For example, the three major California utilities (San Diego Gas & Electric, Pacific Gas & Electric and Southern California Edison) have a surplus of MWs contracted under PPAs that will allow them to meet their 33 percent RPS requirement even if all of the projects do not move forward. In other states, the lack of enforcement mechanisms for renewable portfolio mandates have not required the utilities to make power purchase agreements available for renewable projects.

In addition, the significant drop in PPA prices for renewable energy projects in the past five years[1] makes large-scale solar projects less attractive to investors and more difficult to finance. Utilities have even reopened the PPA price in certain cases as projects move from the development stage to the construction stage. The uncertainty caused by the lack of supply of PPAs and lower PPA prices have made large scale projects more difficult to finance. Distributed generation projects have a guaranteed offtaker and, due to their lower costs, are easier to finance or do not require financing at all.

Reduced equipment and installation costs are another impetus for the shift of the market to distributed generation. The cost of utility scale solar decreased by 15 percent in 2013 from $2.27/W in Q4 2012 to $1.96/W in Q4 2013.[2] As the cost of equipment declines, the economies of scale once gained from large-scale solar projects are dampened by the cost of acquiring land and navigating difficult regulatory regimes. Distributed generation projects are not subject to environmental, permitting or biological testing requirements.

Finally, the reduction of the ITC from 30 percent to 10 percent at the beginning of 2017 is another driving force. The ITC has been an important piece of financing for utility scale projects. The decrease will create a gap in financing for projects that are not online by the end of 2016. In sum, any utility scale project not currently under development will only be able to qualify for the reduced ITC rate.

The distributed generation market is not without challenges. A number of states (including Arizona, Colorado and California) are considering changes to their net metering policies that could adversely impact the benefit of distributed generation systems to homeowners and businesses. However, the distributed generation market is not anticipated to be significantly harmed by these changes since the decreasing cost of solar system installation is expected to offset these impacts.

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[1] For example, in the western United States, PPA prices for PV solar projects were approximately $150/MW in 2008 and recently were approximately $60/MW.

[2] *U.S. Solar Market Insight Report: 2013 Year-in-Review*, GTM Research and Solar Energy Industries Association.

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