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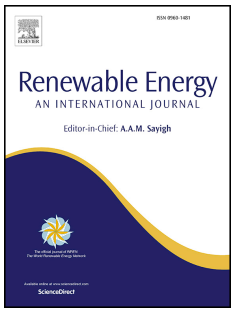

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What Factors Affect the Prices of Low-Priced U.S. Solar PV Systems?

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ABSTRACT

The price of solar PV systems has declined rapidly, yet there are some much lower-priced systems than others. This study explores the factors that determine prices in these low-priced (LP) systems. Using a data set of 42,611 residential-scale PV systems installed in the U.S. in 2013, we use quantile regressions to estimate the importance of factors affecting the installed prices for LP systems (those at the 10th percentile) in comparison to median-priced systems. We find that the value of solar to consumers–a variable that accounts for subsidies, electric rates, and PV generation levels–is associated with lower prices for LP systems but higher prices for median priced systems. Conversely, systems installed in new home construction are associated with lower prices at the median but higher prices for LP. Other variables have larger price-reducing effects on LP than on median priced systems: systems installed in Arizona and Florida, as well as commercial and thin film systems. In contrast, the following have a smaller effect on prices for LP systems than median priced systems: tracking systems, self-installations, systems installed in Massachusetts, the system size, and installer experience. These results highlight the complex factors at play that lead to LP systems and shed light into how such LP systems can come about.

Keywords: subsidies; solar; PV; price dispersion; technological change