Team of appraisers across six states find home buyers will pay premium for solar homes

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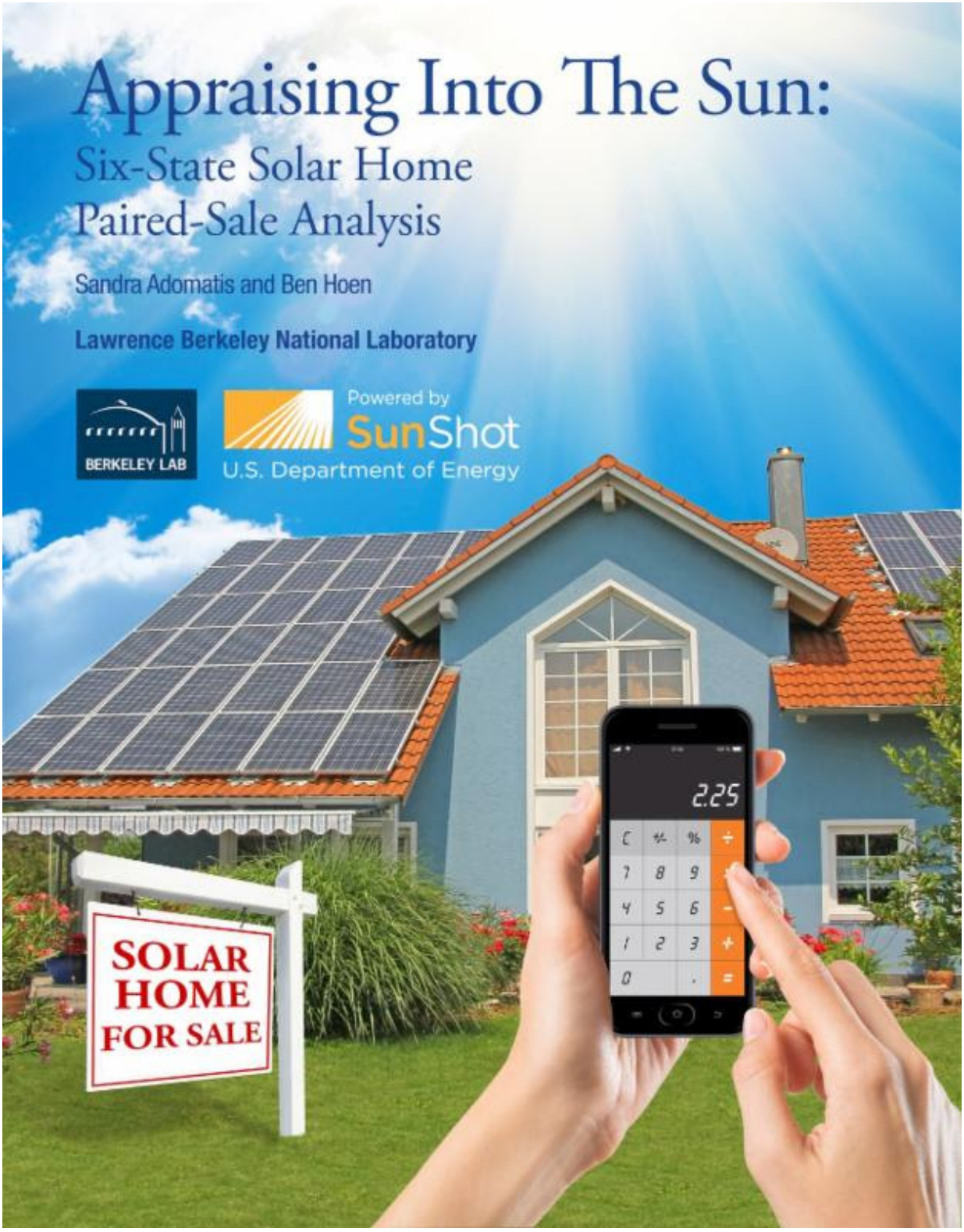

The cover for Appraising into the Sun: Six-State Solar Home Paired-Sales

Analysis. Credit: Berkeley Lab

Photovoltaics added value to homes in six markets, according to a new report titled "Appraising into the Sun: Six-State Solar Home Paired-Sales Analysis," led by a researcher from the U.S. Department of Energy's Lawrence Berkeley National Laboratory (Berkeley Lab) and a home appraisal expert. Researchers engaged a team of seven appraisers from across the six states to determine the value that solar photovoltaic (PV) systems added to single-family homes using the industry-standard paired-sales valuation technique, which compares recent sales of comparable homes to estimate the premium buyers would pay for PV.

The appraised premiums also confirmed statistical modeling results from a large Berkeley Lab study conducted in 2013, which found that buyers were willing to pay $15,000 more for a home with the average-size solar photovoltaic system (3.6 kilowatts), or about four additional dollars per watt of solar power, though premiums for any individual home are market dependent and are likely smaller given currently falling installed solar prices.

"These results will benefit appraisers, real estate agents, and mortgage lenders who increasingly encounter PV homes and need to understand the factors that contribute to, and detract from, market value," says study co-author Ben Hoen, a researcher in the Energy Technologies Area of Berkeley Lab. The soaring growth in U.S. home PV systems—which totaled more than half a million homes in 2014—highlights the need for additional valuation options.

For each of the 43 pairs of comparable PV and non-PV homes, appraisers found premiums were highly dependent on the underlying system and market characteristics. These include the size of the system,

the available incentives and installed prices at the time of sale, and the underlying retail electricity rates. The appraisers therefore recommend not using a one-size-fits all approach, but rather one that considers these factors. They found both the replacement cost, specifically one that takes into account federal state and utility incentives, and the present value of energy savings are likely good predictors of premiums found in individual markets.

"Many appraisers and lenders prefer the paired-sales valuation techniques that are standard in the real estate community, but comparable pairs of PV and non-PV homes are not always available, which can result in PV systems on some homes receiving no appraised value," says lead author Sandra Adomatis, an appraiser who helped develop the Appraisal Institute's Green Addendum and who has written and spoken extensively on valuing green features. "One of the most important contributions of our study is to show that paired-sales analysis accords with cost, income, and statistical-modeling approaches to estimating PV home premiums. Lending appraisal guidelines and expectations should allow these methods for estimating PV home premiums when comparable sales are not available."

The study also found that price per watt was the appropriate metric for valuing PV systems and that there was no consistent difference in days on the market between PV and non-PV homes.

The study concludes with a list of recommendations for improving PV home valuation.

More information: Download the new 2015 report, "Appraising into the Sun: Six-State Solar Home Paired-Sales Analysis," as well as a fact sheet and a summary slide deck here.

Provided by Lawrence Berkeley National Laboratory