

NREL teams to analyze solar pricing trends and benchmark 'soft' costs for PV systems

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The U.S. Department of Energy's (DOE)'s National Renewable Energy Laboratory (NREL) and Lawrence Berkeley National Laboratory (LBL) jointly released two reports examining solar photovoltaic (PV) pricing in the U.S.

The first report, Photovoltaic (PV) Pricing Trends: Historical, Recent, and Near-Term Projections, PDF examines progress in PV price reductions to help DOE and other PV stakeholders manage the transition to a market-driven PV industry and to provide clarity surrounding the wide variety of potentially conflicting data available about PV system prices. By examining progress in PV price reductions, the report will also help DOE track progress toward the SunShot goals of reducing the installed cost of [solar energy systems](#) by roughly 75 percent between 2010 and 2020. The joint report indicates that PV system prices in the U.S. have been falling rapidly during the past decade, and are likely to continue their [downward trend](#) through 2012 and into 2013.

"There is often confusion when interpreting estimates of PV system prices," NREL Solar Technology [Financial Analyst](#) David Feldman said. "This report helps to clarify this confusion by bringing together data from a number of different sources and clearly distinguishing among past, current and near-term projected estimates."

The report indicates that while data sources, assumptions, and methods differ substantially between the bottom-up analysis and the reported price analysis, the results support the validity of both analyses and

provide a consistent perspective on system pricing.

The report draws on several ongoing NREL research activities, including detailed component level benchmarking of recent PV system prices, based on NREL's detailed bottom-up [engineering model](#) of PV system costs, and NREL's ongoing tracking of near-term projections of system- and component-level pricing from various analysts and manufacturers. The report also summarizes findings on historical [price trends](#) from LBL's Tracking the Sun VPDF report.

The second report, Benchmarking Non-Hardware Balance of System (Soft) Costs for U.S. Photovoltaic Systems Using a Data-Driven Analysis from PV Installer Survey ResultsPDF, presents results from the first DOE- sponsored data collection and analysis of non-hardware balance-of-system costs—often referred to as "business process" or "soft" costs. The report concludes that in 2010, while total soft costs constituted roughly 40-50 percent of a typical PV system's price, the four categories of soft cost benchmarked in the report accounted for 23 percent of residential PV system prices, 17 percent of small commercial system prices, and 5 percent of large commercial system prices. The four categories studied were customer acquisition; permitting, inspection, and interconnection; installation labor; and labor associated with arranging third-party financing.

"These soft costs present significant opportunities for further cost reductions and labor-productivity gains," NREL Solar Technology Markets and Policy Analyst Kristen Ardani said. "Benchmarking and tracking these costs will help with the development of policies and practices aimed at reducing cost inefficiencies."

Both reports were produced as part of an ongoing collaborative research effort between the two labs focused on [solar technology](#) soft cost and system-level cost analysis and modeling. This research is supported by

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Provided by National Renewable Energy Laboratory

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