



# Survey of Buyers, Sellers and Realtors Involved In San Diego Third-Party Owned Solar Home Transactions – A Qualitative Assessment

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## Overview

Third-party ownership (or “TPO”) structures have revolutionized the residential solar photovoltaic (“PV”) industry, opening up new customer segments and growing to dominate the market – they include leases and power purchase agreements (“PPA”). While the immediate benefits to customers are well-documented, there remains some question as to the long-term impacts of the TPO agreements, particularly as they relate to home sales. This research utilizes data collected through a combination of surveys and interviews with various participants involved in actual home transactions (i.e. buyers, sellers, and realtors) to explore how TPO PV systems impact homes sales in the San Diego region. These data indicate that while the presence of TPO systems do add some complexity to the real estate transaction, the overall impacts in terms of sales price, time on market, agreement transfers and customer satisfaction are largely neutral and in some cases a net positive.

## Background

The use of third-party ownership structures to facilitate the sale and installation of rooftop solar PV has expanded rapidly since its introduction to the market in 2009. By 2013, third-party owned (or “TPO”) systems dominated the market, representing over 70% residential installations and that market share has largely remained or even increased since then ([SEIA & GTM, 2014](#)). Growth in the TPO market is due in part to the benefits to customers, including reduced upfront costs to install the system, operation and maintenance coverage provided by the third-party owner, and guaranteed performance of the system over its contract life. However, TPO structures may also present challenges, particularly when it comes to selling your home and transferring the liability of a long-term contract to a new owner.

In recent months, large media outlets including [Bloomberg Business](#), the [Los Angeles Times](#), [NPR](#), and the [Washington Post](#) have all featured stories highlighting the potential impacts that leased solar systems have on home sales. Among the risks highlighted in these stories include: concessions required by potential buyers, such as expensive buyouts from the leasing company; reduced volume of offers and/or an increase in withdrawn offers; buyers unable or unwilling to take on the lease; and reductions in home value and/or sales price. While these stories are based largely on anecdotal evidence, they do raise important questions about the nature of home transactions where TPO systems are present, such as:

- Does the presence of a TPO system impact the home sale or sales process (e.g. time on market, sale price, offers withdrawn, etc.)?
- How are TPO agreements dealt with in the sale (changes in terms, buy-outs, transfers, etc.)?
- What, if any, information gaps existed around the agreement structure? How were they addressed?
- How satisfied were the buyers & sellers with the systems, and whether they would recommend them to others?

To explore these questions and better inform our understanding of how TPO solar impacts home resale, this study explores the transaction of numerous homes in the San Diego region.

The LBNL portion of this research was supported by funding from the U.S. Department of Energy SunShot Initiative (under DOE contract No. DE-AC02-05C H11231). The SunShot Initiative is a collaborative national effort that aggressively drives innovation to make solar energy fully cost-competitive with traditional energy sources before the end of the decade. Through SunShot, DOE supports efforts by private companies, universities, and national laboratories to drive down the cost of solar electricity to \$0.06 per kilowatt-hour. Learn more at [www.energy.gov/sunshot](http://www.energy.gov/sunshot).



## Data and Methods

The study utilized semi-structured phone interviews and online surveys to collect information from various parties involved in the transaction of homes with installed TPO solar PV systems located in the San Diego Gas & Electric utility service territory sold between March 2010 and December 2013. These systems initially received incentives through the New Solar Homes Partnership ([NSHP](#)) program and the California Solar Initiative ([CSI](#)) program and were identified by matching addresses to residential sales data provided by [Core Logic](#). In total, 118 properties with TPO solar systems at the time of sale were identified and served as the population for this analysis. Given the small size of the population a census survey method was used to obtain information from as many respondents as possible in all three contact groups: sellers, buyers and realtors. A total of 44 responses were collected: 11 from sellers, 18 from buyers and 15 from realtor interviews (Table 1). Roughly half were from homes with leases, while the other half had PPAs.

**Table 1** – Population, contacts, and respondents to surveys and interviews by participant type

Audience	Instrument	Survey Length <sup>1</sup>	Invites/calls received	Total Responses	Response Rate
<b>Realtors</b>	Semi-structured phone interview	10 min	49	15	31%
<b>Sellers</b>	Online survey; email invite	4 min	77	11	14%
<b>Buyers</b>	Online survey; mail invite	6 min	113	18	16%

Contact information for realtors representing sellers was identified using public information found on Zillow.com. Using this information, calls were made to each of 49 realtors that were successfully identified and had contact information. Of those, 15 participated in an 8-10 minute structured interview about the sales process (31%).

Home sellers were contacted using host customer emails collected through the California Solar Initiative (CSI) application process. A total of 77 survey invitations were emailed and successfully delivered. Individuals were incentivized to participate by offering a chance to win a \$100 Amazon gift card for submitting a complete response. Two survey reminders were sent to non-responders a week after each previous invite. A total of 11 complete responses were received from this group (14%).

Home buyers were contacted using the address of the transacted home, and survey invitations containing a unique URL were successfully delivered to 113 homes. In order to increase the response rates, the mail invites contained a personalized cover letter addressed to the owner of record and three \$1 bills to leverage heuristic factors. 18 of the surveys were completed (16%).

The 44 responses collected corresponded to 39 home sales (for some transactions a combination of buyer, seller and/or realtor were surveyed). The results presented below combine responses from sellers, buyers and realtors when survey questions were similar enough to do so, allowing multiple perspectives to be ascertained.

<sup>1</sup> Survey Length reflects average time to completion by participant. This is affected by the individual's desire to spend more time elaborating on particular elements of the survey and offer longer explanations or comments.

## Results and Conclusions

### Sales Price and Time on Market

- Respondents perceived little to no impact of TPO systems on home sales values. A large majority (83%) perceived no change in value at the time of sale, while a balanced small percentage thought either the home sold for more or less (5% and 7% respectively).
- Though a majority (69%) perceived that the TPO system did not impact the time a home was on the market, a significant minority (24%) reported extended transaction times.
- Although 80% of the respondents have not experienced any buyers being scared off by the lease/PPA, 20% had, though in all cases the home eventually transacted.<sup>2</sup>
- Almost none of the respondents (4%) had any experience with buyers either withdrawing or being disqualified once the transaction was moving forward.

### TPO Agreement Transfers and Buyouts

- Approximately 77% of the agreements were transferred, while the rest were bought out by either the buyer (18%) or seller (5%) at the time of sale requiring extra effort on the part of one party. One seller buyout occurred because of foreclosure while the other for unknown reasons.

### Buyer Education

- A large majority of the buyers surveyed (94%) had never owned a home with solar and most were not specifically looking for this feature in their new home, with nearly half (56%) identifying solar as desirable, but not a requirement, the rest (44%) were not specifically looking for PV.
- Sellers, their agents, and leasing companies are key in this process and should be prepared to play an educational role given that for many buyers this is their first home with solar. A large majority of buyers (56%) had little to no knowledge of how TPO solar worked and this was reinforced by the sellers who reported being often or always involved in educating buyers about the agreement and benefits (54%).
- To this end, two-thirds of the sellers provided copies of their electric bills so buyers could ascertain the savings from the system. The remaining third suggest there is an opportunity for additional education to improve the sales process.

### Customer Satisfaction

- Home sellers and buyers express high levels of satisfaction and nearly half (41%) stated they would either do it again or recommend that a friend own a home with a TPO system. Slightly smaller percentages were either unsure (38%) or said they would not finance a solar system again (10%). Roughly 25% of those latter individuals, though, had already gone ahead with either purchasing a PV system or expressed an interest in owned solar systems and therefore their aversion might have been about TPO vs. owning instead of the solar system itself.

The findings provide evidence to suggest that, at least in the Southern California real estate market between 2010 and 2013, the presence of a TPO solar system is perceived to have not negatively impacted the large majority of home sales. Furthermore, the data indicate that those involved in home transactions where a TPO system is present (both buyers and sellers) are largely satisfied with the experience, and are more knowledgeable and interested in the technology than before the transaction occurred. This is a promising sign for the market and indicates that TPO structures may provide a low-risk opportunity for customers to familiarize themselves with the technology, leading to sustained growth of the market over the long run.

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<sup>2</sup> Data included in this research represents homes that eventually sold and therefore does not include homes that were marketed but did not transact. Therefore these data may under-report the frequency of buyer apprehension over TPO solar systems or the inability to qualify for a loan.