

TPO PV Impacts on Home Sales

A Qualitative Assessment

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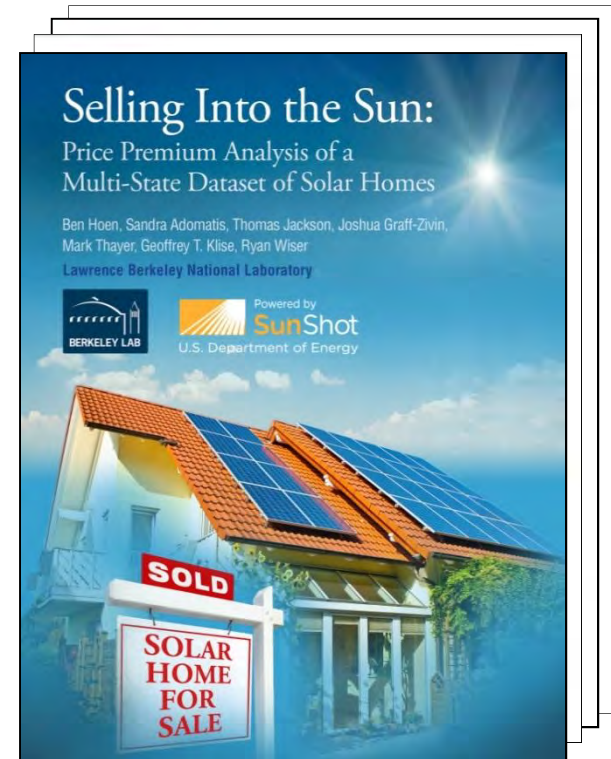
Background

- Customers adopt solar PV for a number of reasons



Background

- Houses with *host-owned* PV command a price premium relative to comparable properties in the same area
 - Dastrup et al., 2011, Hoen et al., 2011, 2012, 2013, 2015



Background



Leased Solar Panels Can Cast A Shadow Over A Home's Value
Jul 15, 2014

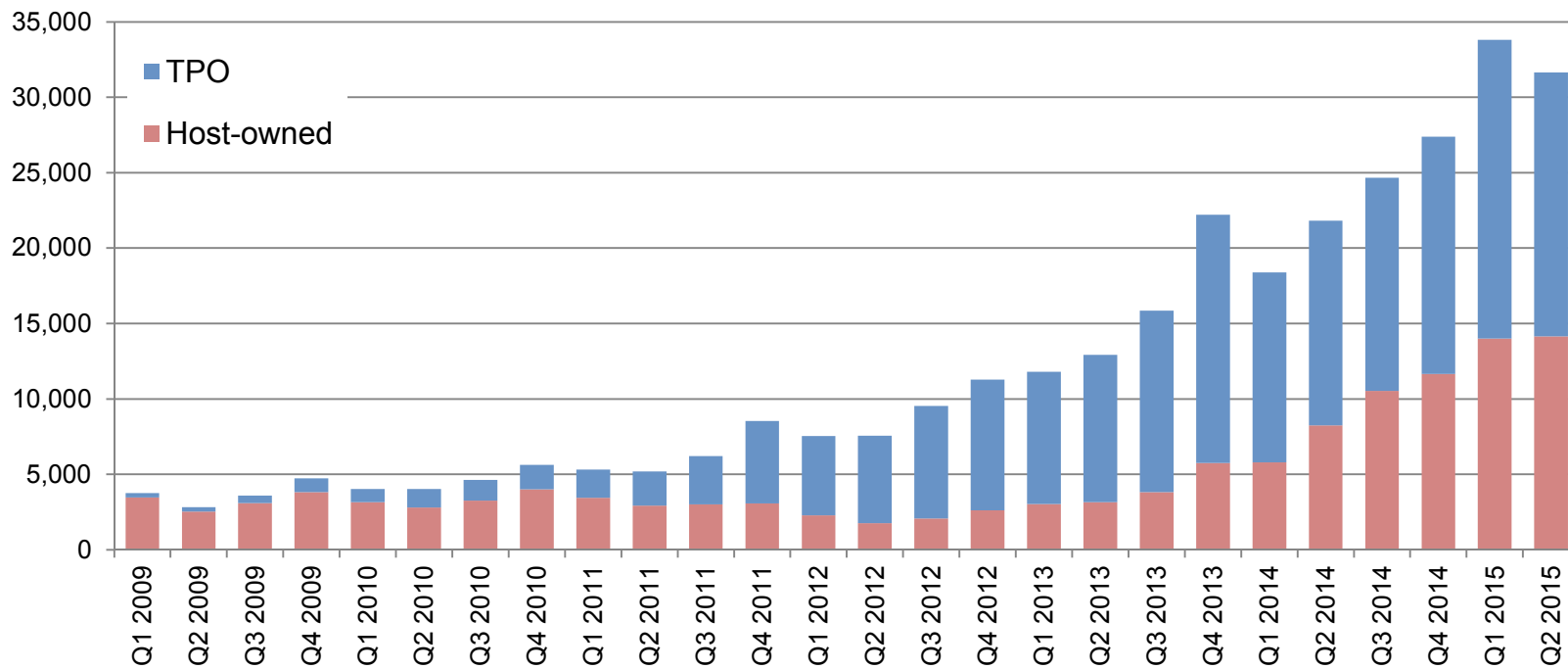
Rooftop Solar Leases Scaring Buyers When Homeowners Sell
Jun 24, 2014

**Bloomberg
Business**

Los Angeles Times

Leased solar panels can complicate — or kill — a home sale
Mar 22, 2015

Background



Research Questions and Design

Research Questions

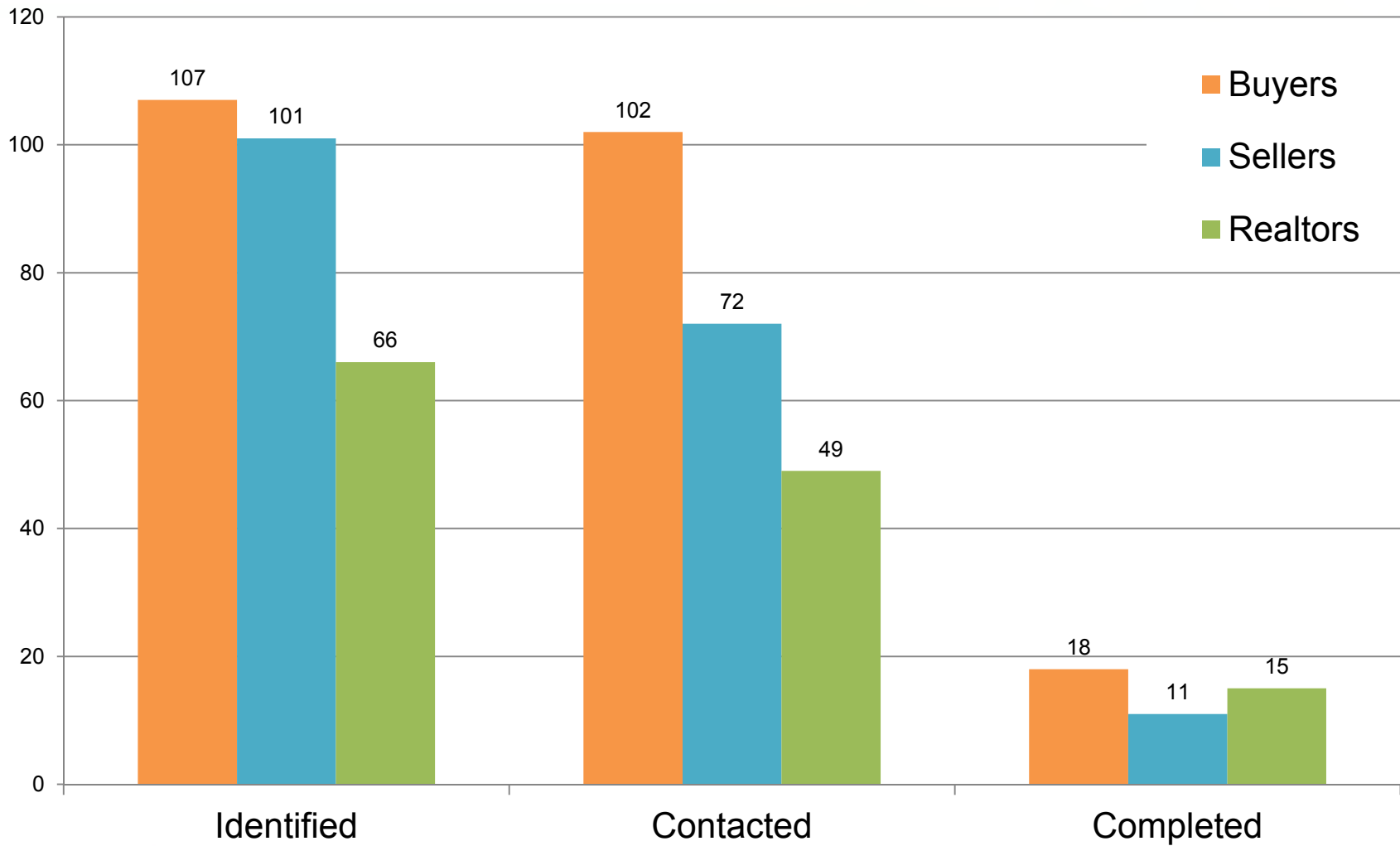
- Did the presence of a TPO system impact the home sale or sales process (time on market, sale price, offers withdrawn, etc.)
- How were leases dealt with in the sale (changes in terms, buy-outs, transfers, etc.)
- What, if any, information gaps existed around the lease structure and how were they addressed?

Research Design

- Qualitative approach, due to limited sample size
 - 107 TPO homes transacted in SD region
- Triangulation
 - Realtor Interviews
 - Structured phone interview
 - Sellers Agent, based on Zillow
 - Seller Surveys
 - Electronic Survey
 - Emailed using CSI contact
 - Buyer Surveys
 - Electronic Survey
 - Paper invite w/survey link



Research Design



Research Findings

Findings – Realtor Interviews

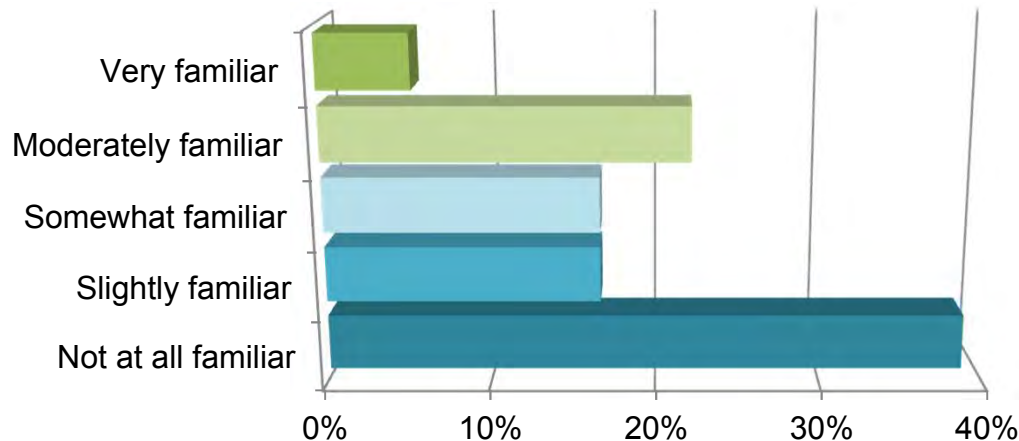
- Based on realtor interviews, TPO solar systems:
 - Do not result in a sales premium*
 - Do not result in shorter time on market
 - Require the seller, seller's agent, and sometimes buyer's agent to educate the buyer*
 - In nearly all cases are direct transferred to the buyer

The overall takeaway from these conversations was that while ***TPO systems deliver few, if any, benefits*** to the seller, they ***present only a mild disruption*** to the sale.

Findings – Home Buyers

- PV was new to buyers and not a priority in their search
 - Most buyers (94%) had never owned a home with solar
 - Most buyers (56%) listed solar as desirable, but not a requirement, the rest (44%) were not specifically looking for PV
- Buyers were unfamiliar with how solar leases work

Buyer familiarity with solar leases

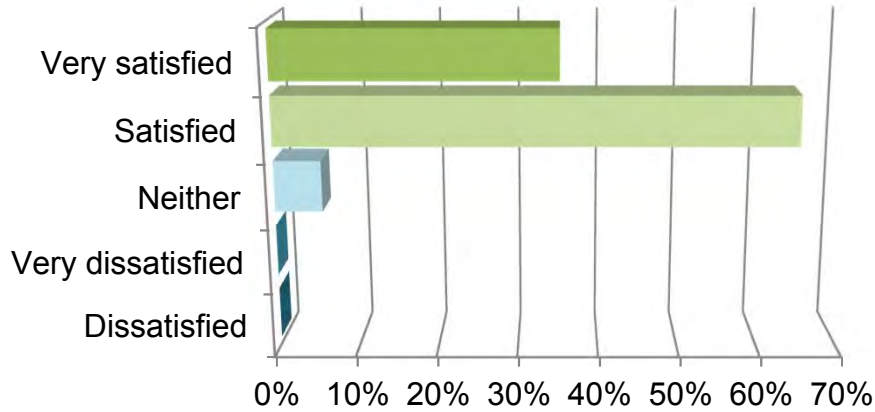


Findings – Home Buyers (Cont.)

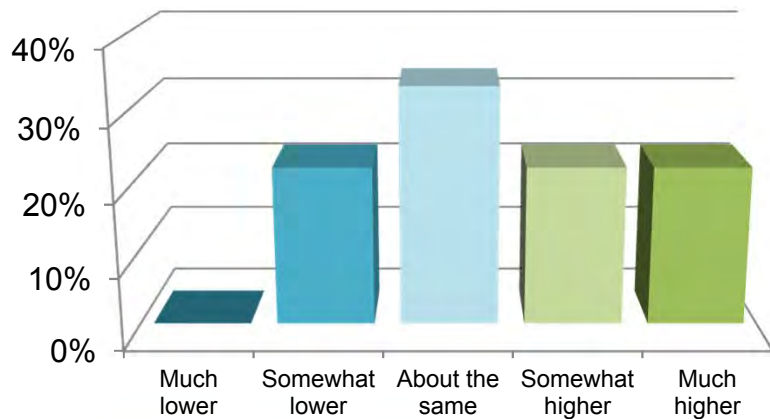
- Buyer education is key to the purchase process/decision
 - Customers evaluated
 - Lease terms
 - System performance
 - Pricing
 - Warrantees
 - Most (67%) of buyers reviewed the seller electricity bills and many (56%) performed a bill savings calculation
- Most contracts were transferred without concessions
 - A majority of buyers (78%) accepted the lease transfer and (78%) reported that it as having no impact on sales process time

Findings – Home Buyers (Cont.)

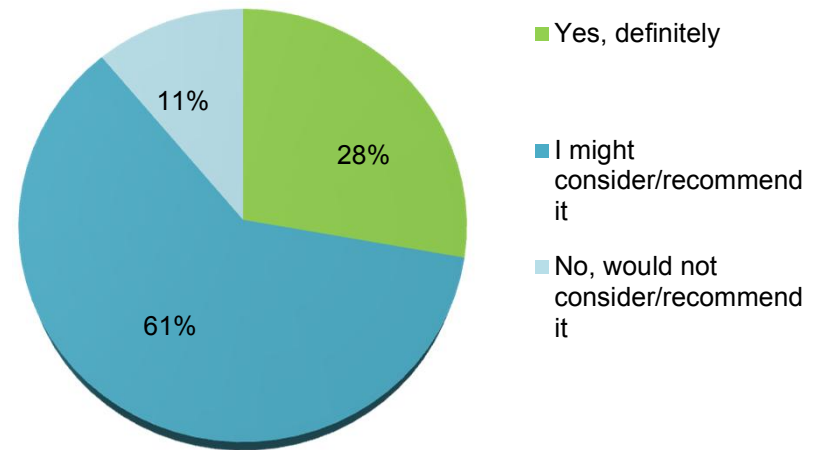
Satisfaction with leased system



Savings relative to expectation



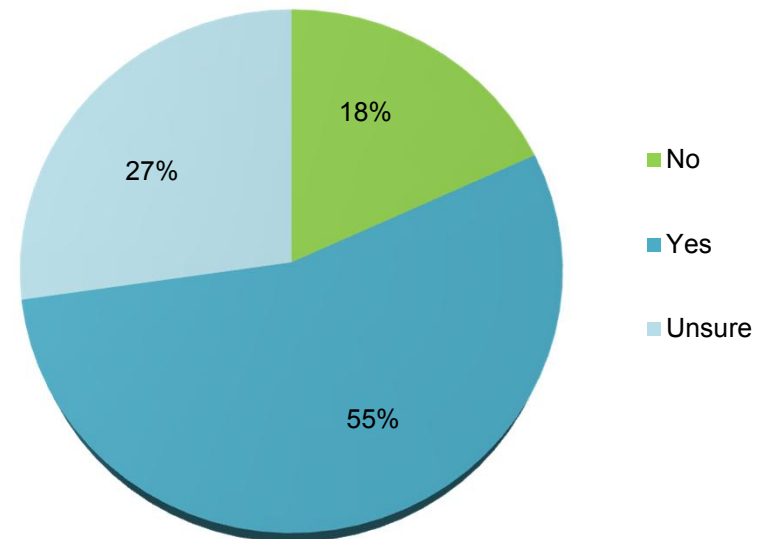
Would you buy again or recommend



Findings – Home Sellers

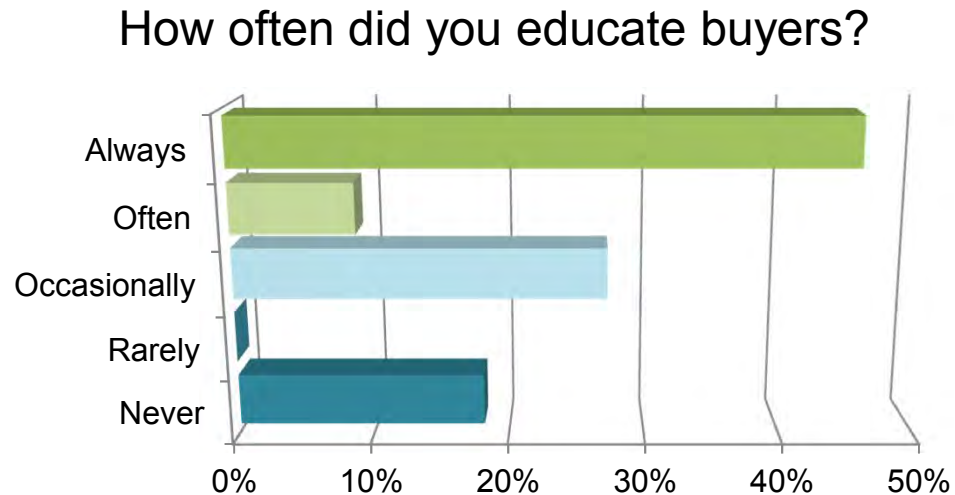
- Sellers overwhelmingly (81.8%) felt that the PV system they leased would add value to their home
- Expectations on realizing a sales premium were mixed
 - Few listed with a premium
 - Only one was confident a premium was realized

Did you expect to receive a premium?



Findings – Home Sellers (Cont.)

- Sellers played a major role in buyer education



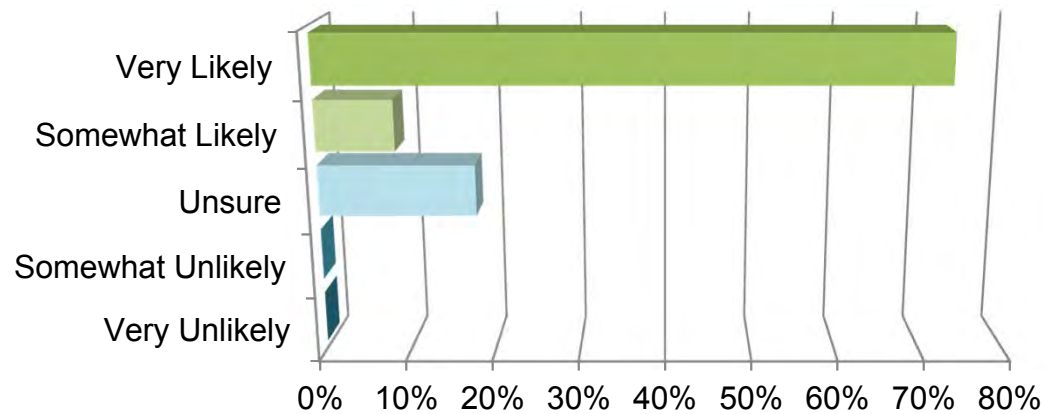
- For many (54.5%) this included providing bills

- Leases were largely (81.8%) transferred to buyers

Findings – Home Sellers (Cont.)

- Nearly all sellers would recommend to friends and family

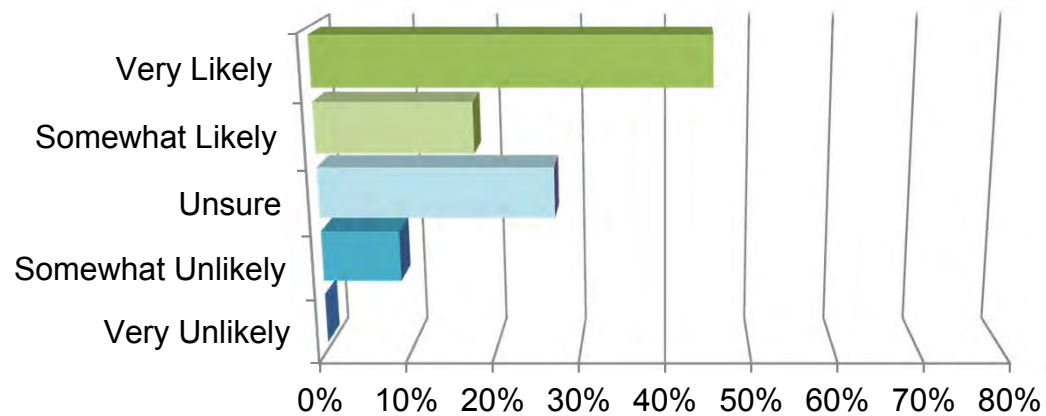
Recommend based on your experience?



Findings – Home Sellers (Cont.)

- Most indicated they would install a TPO system again

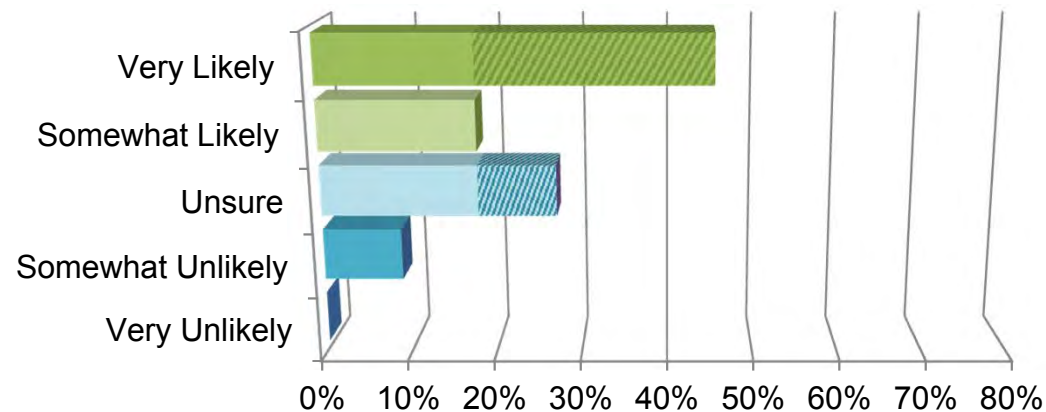
Would you install another TPO system?



Findings – Home Sellers (Cont.)

- Most indicated they would install a TPO system again

Would you install another TPO system?



- Of the 64% who reported themselves as likely, 27% have already installed a TPO system on their new home

Summary and Key Takeaways

- TPO systems appear to have little impact on home sales, either in terms of premiums or time on market
- Buyers of TPO homes go through an educational process, much like other solar adopters
- Sellers, their agents, and leasing companies are key in this process and should be prepared to play that role
- Buyers and sellers involved in TPO home transfers we sampled appear to be satisfied with the process



Thank you!

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