

Answers to Solar Home Transactions

Seminar for Real Estate Professionals



Center for
Sustainable Energy™

Our Mission:

Accelerate the transition
to a sustainable world
powered by clean energy

What We Do

Information Resource & Expert Implementation Partner



Energy
Programs



Technical
Assistance



Training &
Education

Areas of Expertise



Building
Performance



Clean
Transportation



Distributed
Generation



Energy
Efficiency



Energy
Storage



Renewable
Energy

CSE Disclaimer

- Workshops are provided as a public service with the understanding that the Center for Sustainable Energy makes no warranties, either expressed or implied, concerning the accuracy, completeness, reliability, or suitability of the information.
- **The Center for Sustainable Energy does not endorse any particular product, manufacturer or service** mentioned and does not represent that any goods or services are fit for any purpose or use.
- Along the same lines, this is an informational workshop designed for real estate professionals. **If you are in the solar or finance industries, please refrain from pitching your products or services in this workshop.**

Answers to Solar Home Transactions Agenda

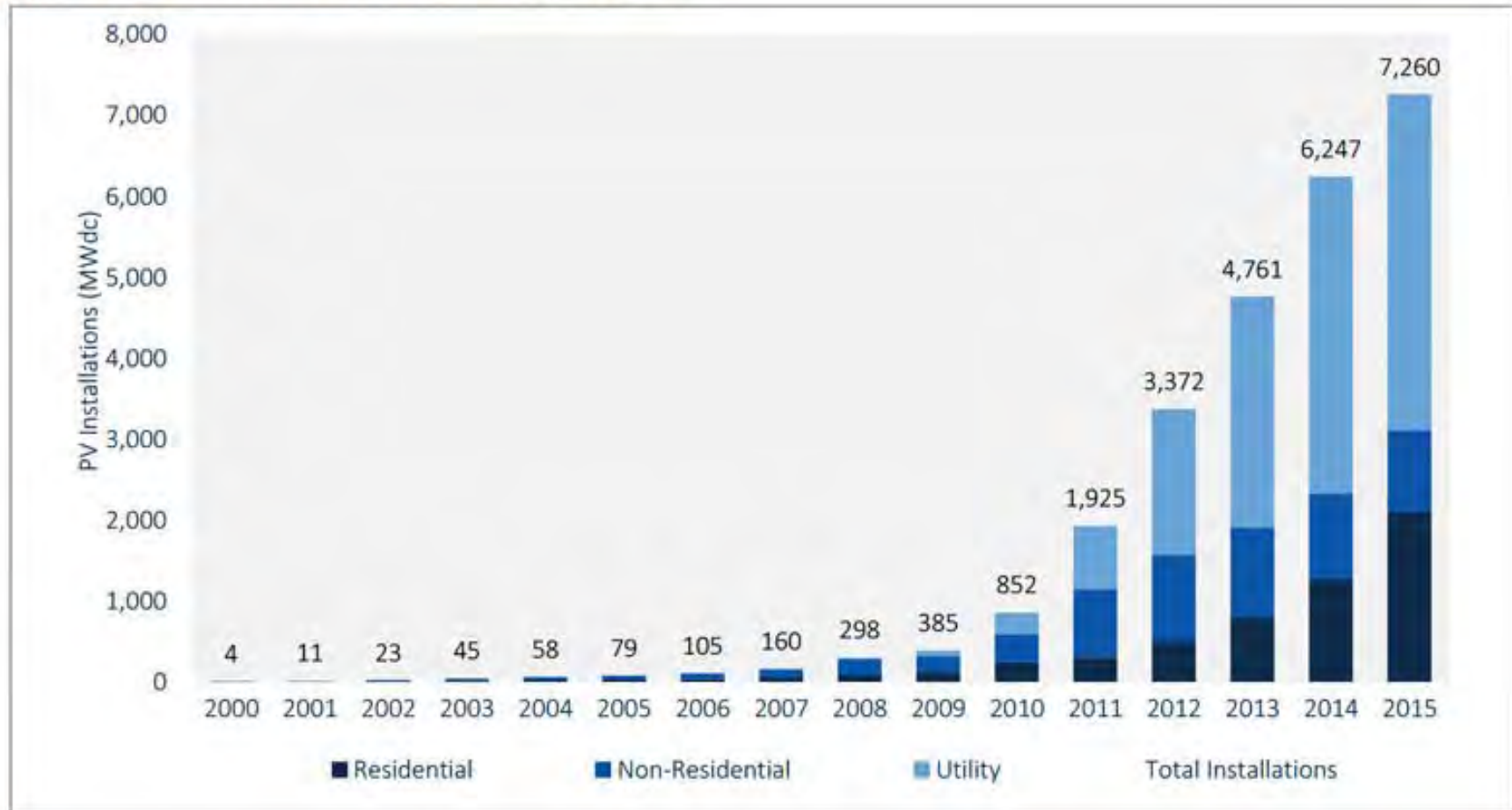
- **11:00-11:15** CSE; welcome, introductions and solar basics
- **11:15-11:45** Ben Hoen, Staff Research Associate; Lawrence Berkeley National Laboratory.
- **11:45-12:15** Sandra Adomatis, SRA, LEED Green Associate; Adomatis Appraisal Service.
- **12:15-12:25** James Vergara, Director-PACE Financing; Spruce Finance.
- **12:25-12:35** Rene Seabourne, BPI-BA, CG-REP; Southern California Appraisal Services.
- **12:35-12:45** Mark Pearson, CNE, Green Specialist; Keller Williams.
- **12:45-1:00** CSE; Q&A and wrap up
- **1:00-2:00** more questions & networking

California Solar Initiative



Annual U.S. Solar PV Installations

Figure 1.1 Annual U.S. Solar PV Installations, 2000-2015



© 2016

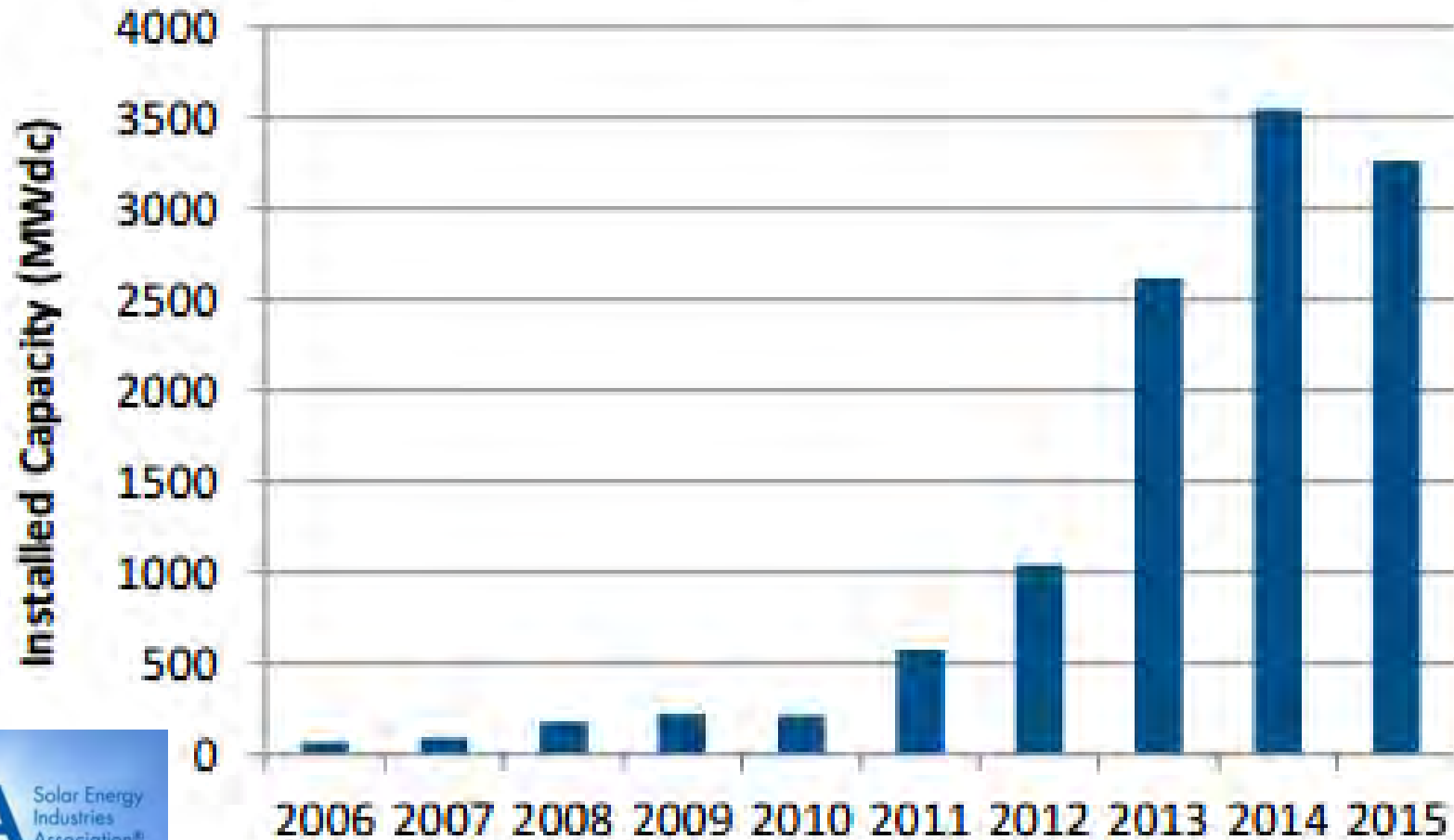
gtmresearch

SEIA
Solar Energy
Industries
Association

<http://www.seia.org/research-resources/solar-market-insight-2015-q4>

Annual CA Solar PV Installations

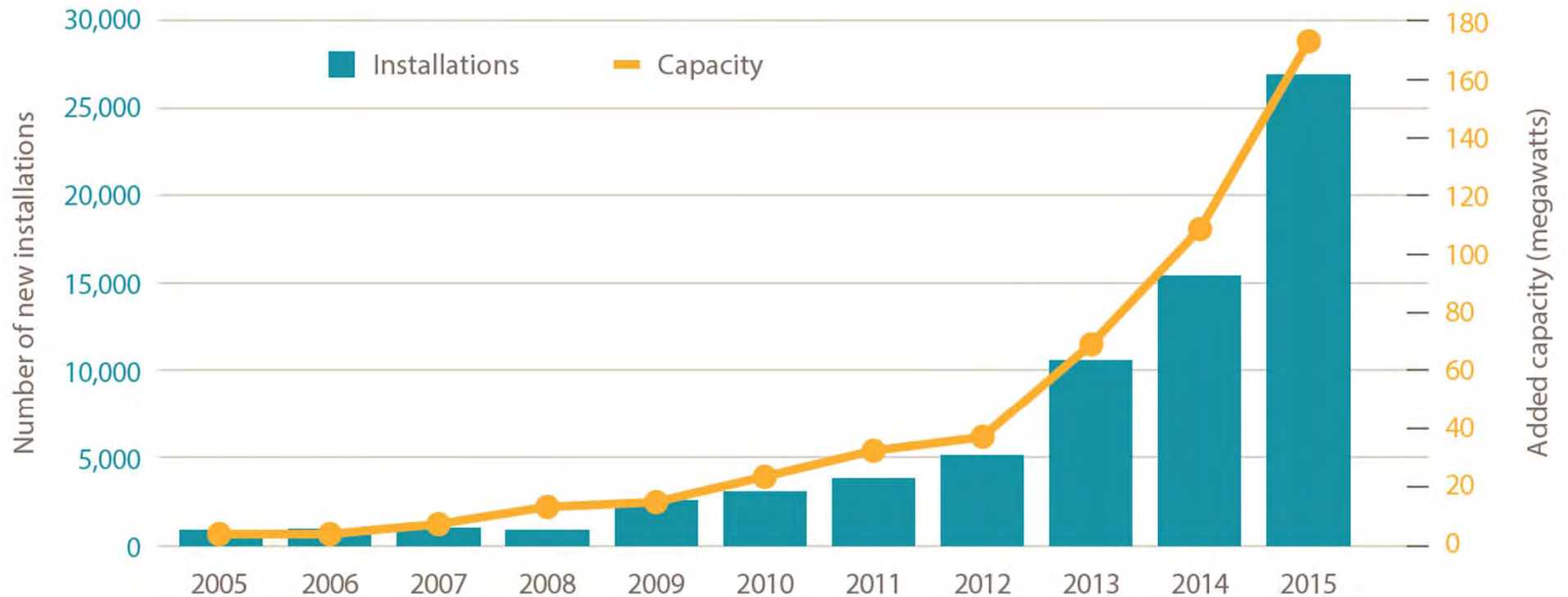
California Annual Solar Installations



http://www.seia.org/sites/default/files/CA%20State%20Fact%20Sheet_2.26.2016.pdf

SDG&E Distributed Solar Installations & Capacity

Growth in Distributed Solar Installations and Capacity
(SDG&E Service Territory, 2005-2015)



Data Sources: Equinox Project, 2016; California Solar Statistics, 2016

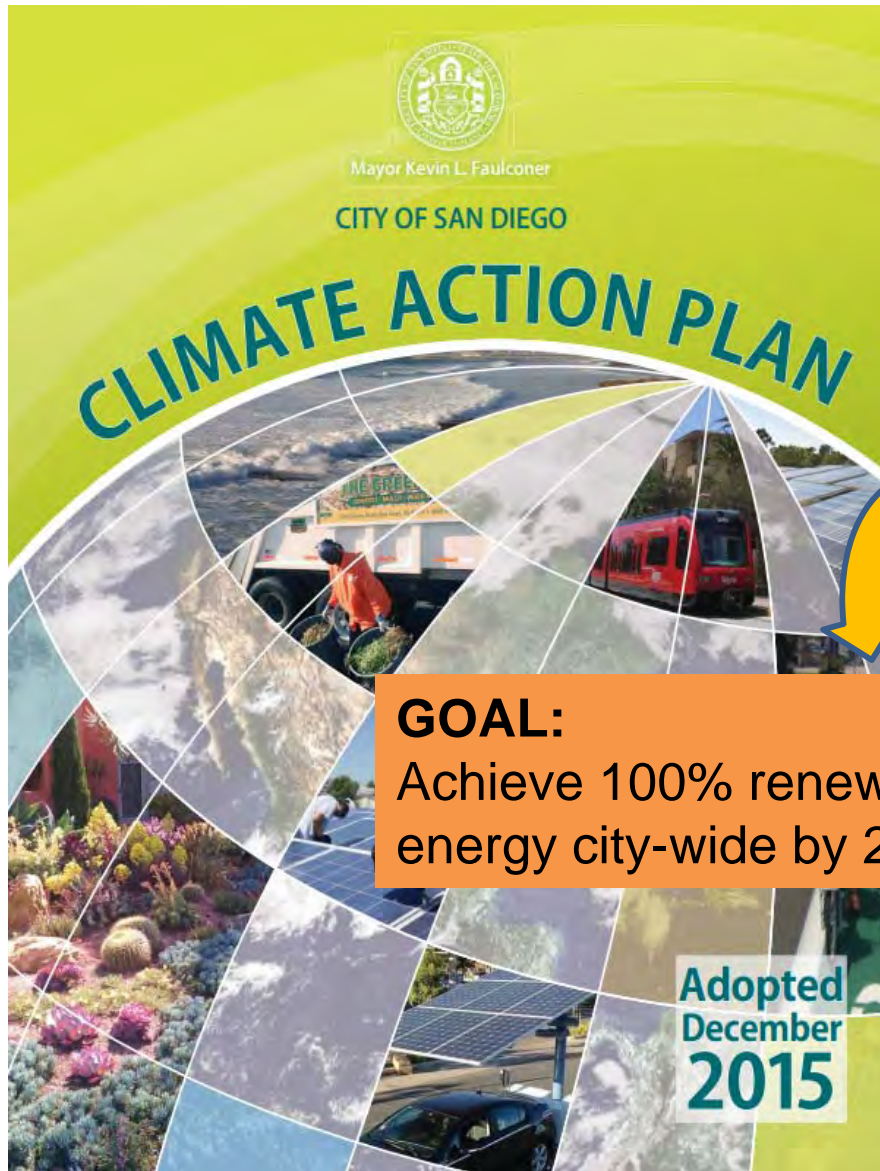


SDGE Transacted Solar Home Data

Total properties sold with existing solar systems
(SDG&E territory)

2016 (as of May)	1,103
2015	2,669
2014	1,513

Climate Action Plan



GOAL:

Achieve 100% renewable energy city-wide by 2035.

The City has identified **FIVE BOLD STRATEGIES** to reduce GHG emissions to achieve the 2020 and 2035 targets:

1. ENERGY & WATER EFFICIENT BUILDINGS
2. CLEAN & RENEWABLE ENERGY
3. BICYCLING, WALKING, TRANSIT & LAND USE
4. ZERO WASTE (GAS & WASTE MANAGEMENT)
5. CLIMATE RESILIENCY

Solar Photovoltaics vs. Solar Water Heating

- Solar Photovoltaic (PV) Systems
 - use light from the sun to produce electricity for your home.

- Solar Water Heating (Thermal) Systems
 - use the sun's heat to provide hot water for your home.



“Solar System” Examples



MLS “Solar” Remarks Example

Enjoy life in this very private and elegant home. 2673 SF of Luxury. Custom built in 2007, single story. This impeccable home is fenced and gated. Super sized bedrooms. Over sized chef inspired kitchen. **Solar panels**. 2 electric private gated entries on both sides of home. Over-sized back yard with barbeque island with granite counter top, grill and refrigerator. Driveway has room to park up to 12 full sized vehicles, space for RV and toys. Finally, a place you can call home with a luxurious lifestyle.

MLS “Solar” Remarks Example

Immaculate, turn key home located in highly sought after community of La Costa Greens! Open concept floor plan impresses immediately with bedroom & full bath downstairs & upstairs loft/library! Inspire your inner chef with the stunning chef's kitchen complete with granite counters, Thermador built in refrigerator & appliances. Private with no one behind you, located on a quiet cul-de-sac. Ensuite master will delight - NEW CUSTOM closet & gorgeous golf course views! Walk to community park & pool. **SOLAR PANELS!**

“Cooling System” Examples



What's a Watt?



1 Light Bulb

= 100 Watts (W)



10 Light Bulbs

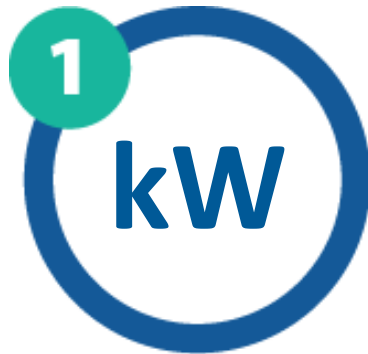
=

1,000 Watts (W)

or

1Kilowatt (kW)

If you keep 10 bulbs turned on for 1 hour...



1 Kilowatt

X

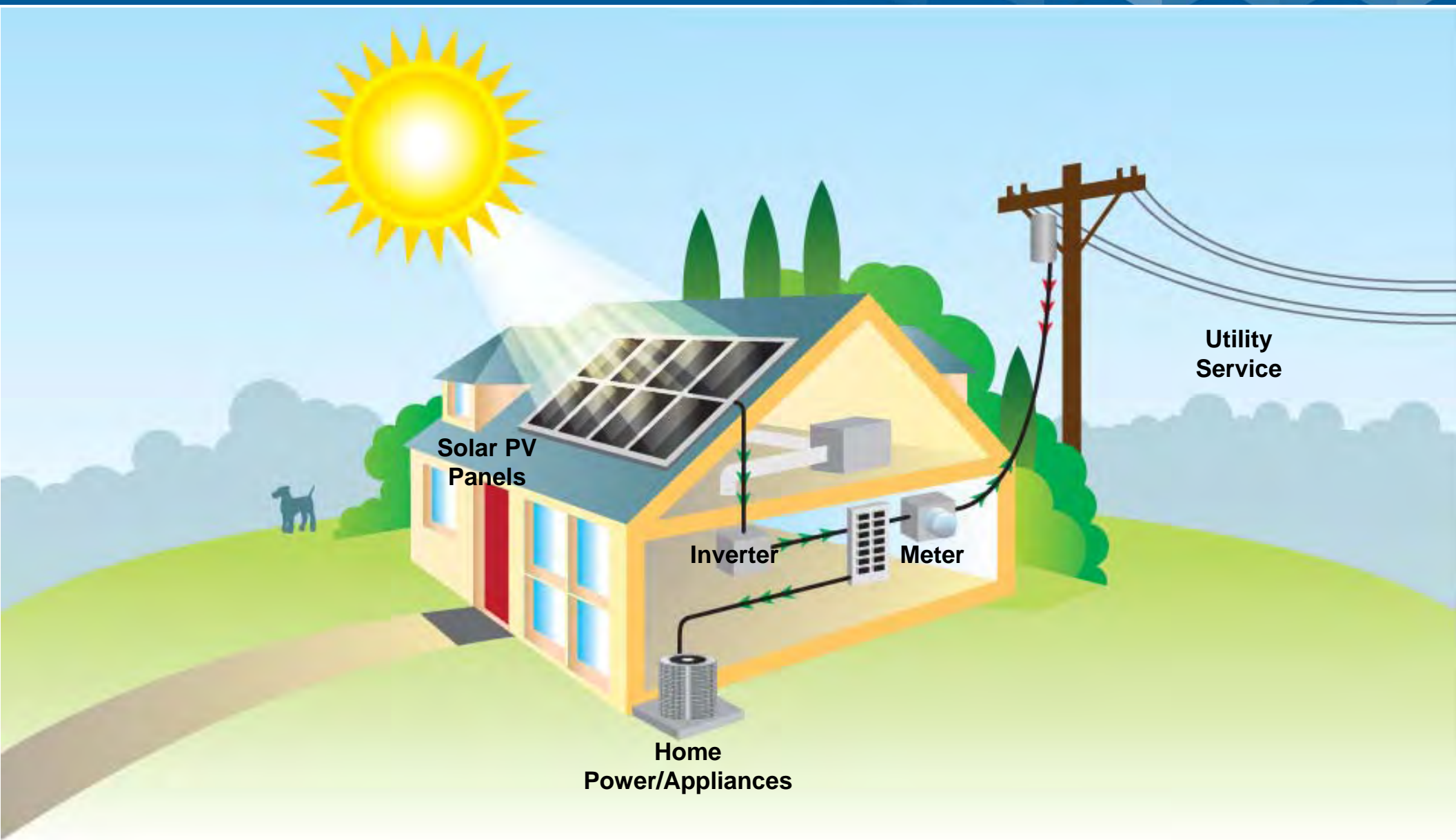


1 Hour

=

1 Kilowatt-hour (kWh)

How does solar PV work?



PV Terminology



Cell



Module / Panel



Array

Types of Panels



Crystalline
Silicon



Building Integrated



Thin film

Inverters



Inverter

Inverters: Central and Micro

Inverters change DC electricity from panels to AC electricity for use in your home or on the grid.

Central Inverter



Micro Inverters

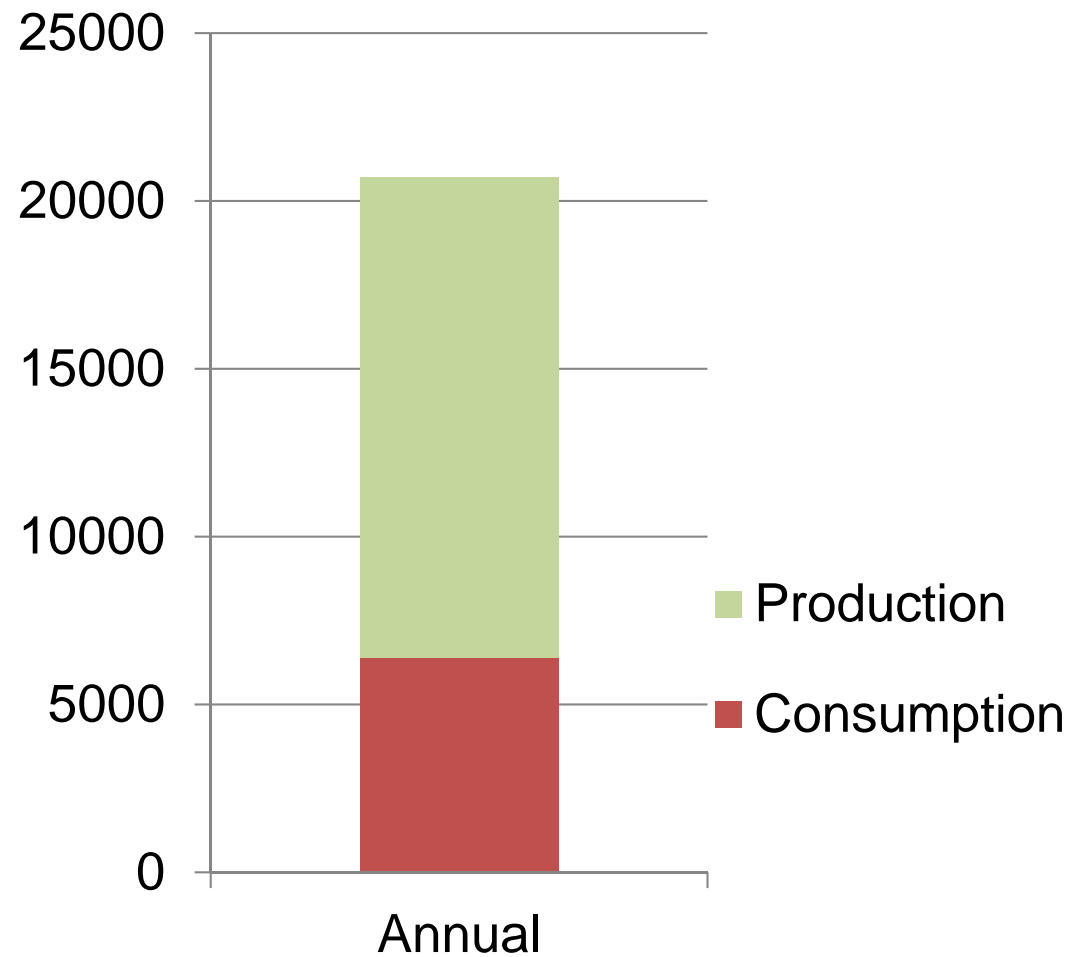
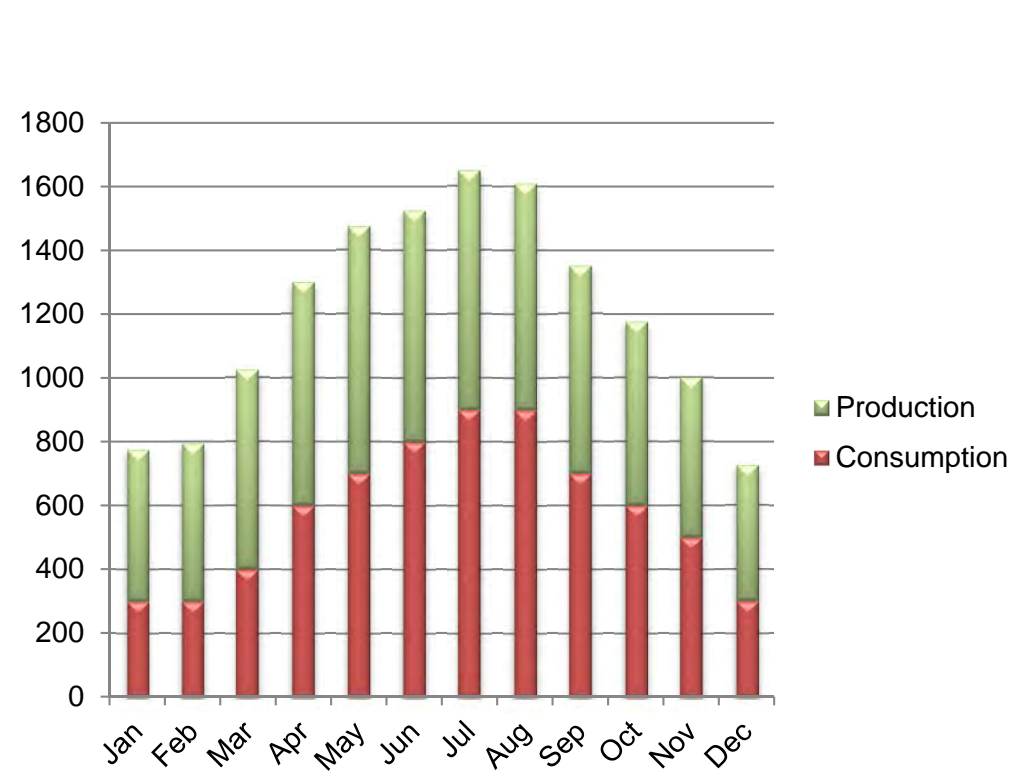


What is Net Metering?



A tariff that allows a homeowner to sell excess solar production back to the utility.

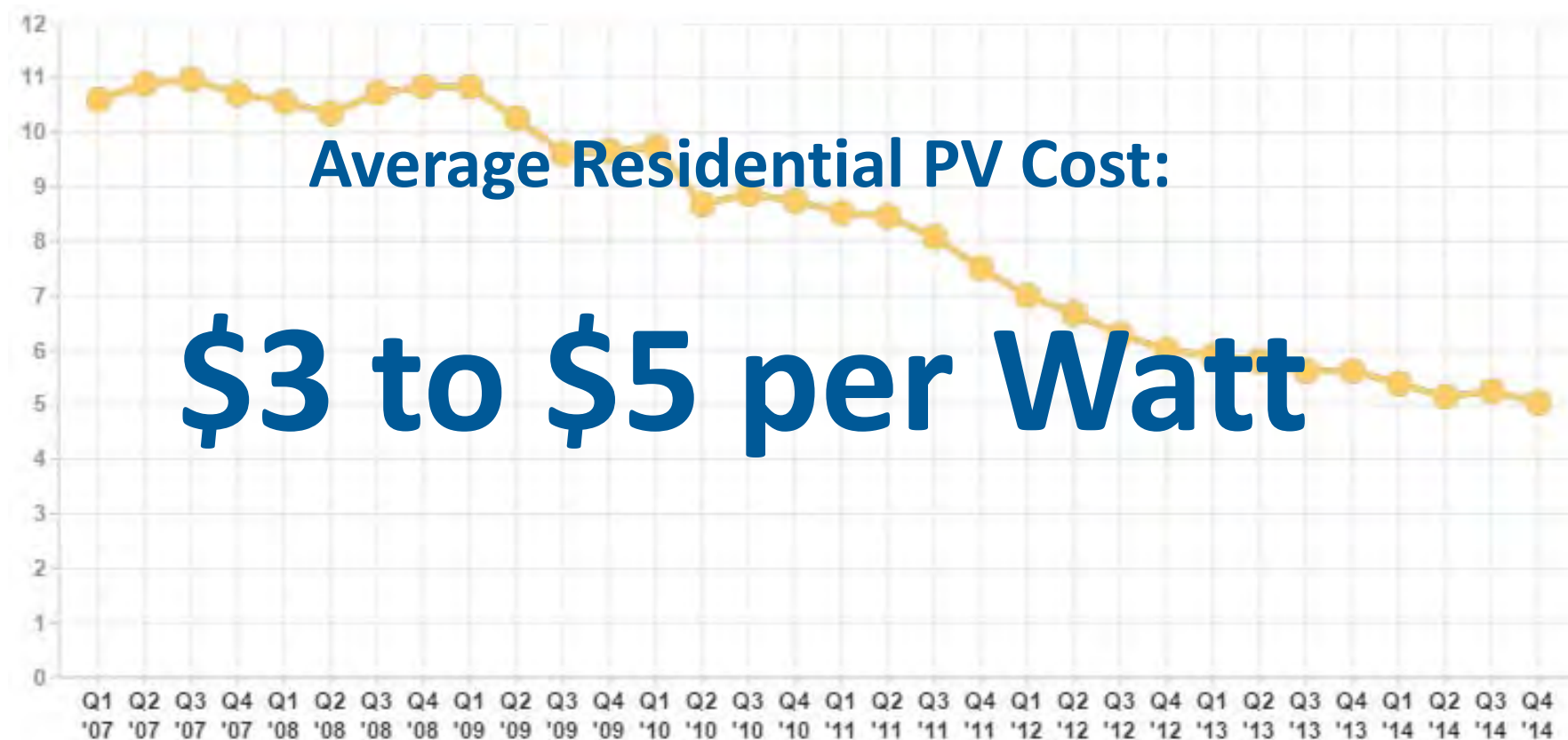
Electric Consumption/Production Patterns



Third Party Options

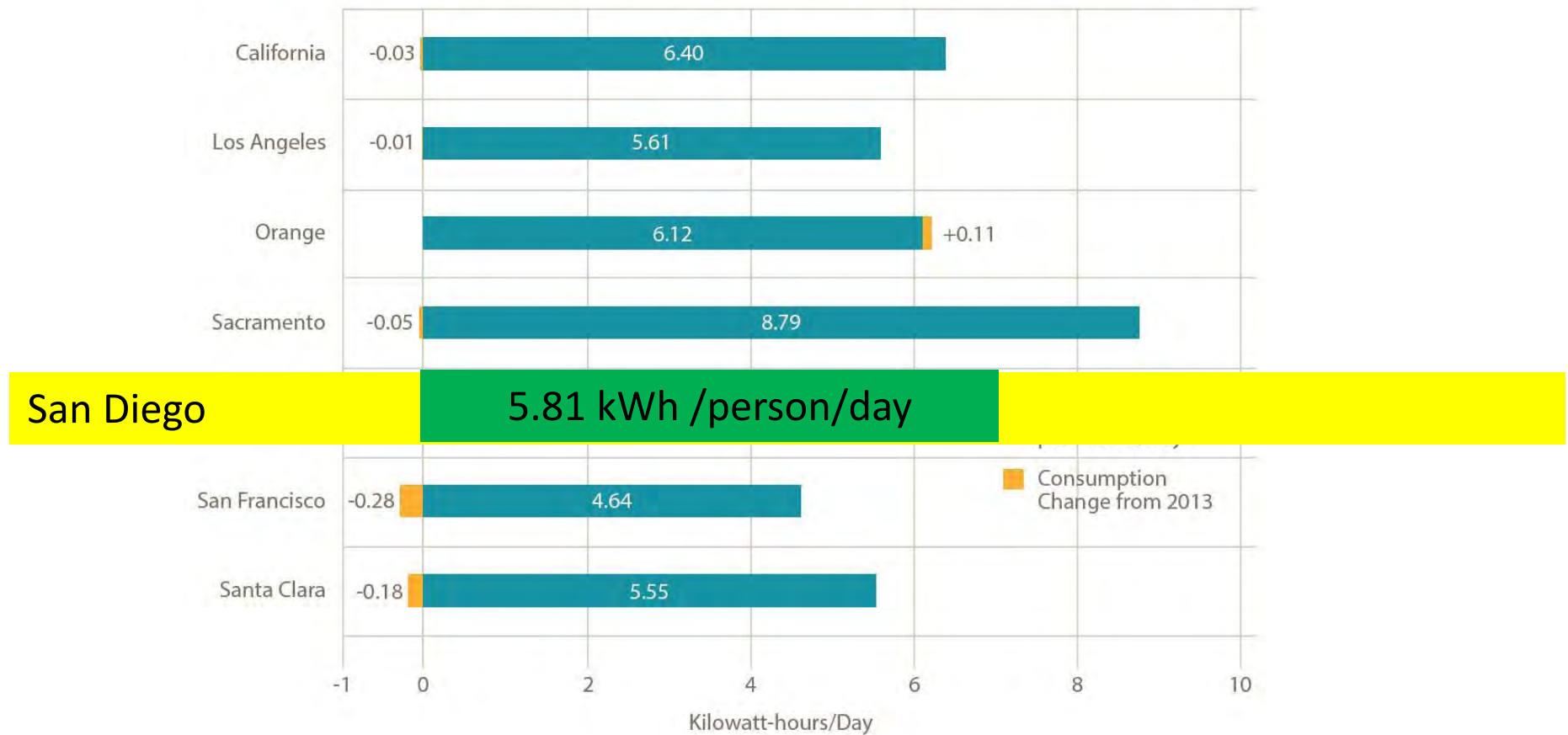
- Lease
 - Fixed \$ per Month
 - May be pre-paid or monthly
- Power Purchase Agreement (PPA)
 - Fixed \$ per kWh produced by system
 - Customer buys *all* power produced by system

How much does solar pv cost?



San Diego Residential Energy Consumption

Residential Energy Consumption per Person per Day (select counties, 2013-2014)





Data Sources: Equinox Project, 2016; California Energy Commission, 2015; California Department of Finance, 2015

EQUINOX PROJECT

An initiative of  Center for Sustainable Energy®

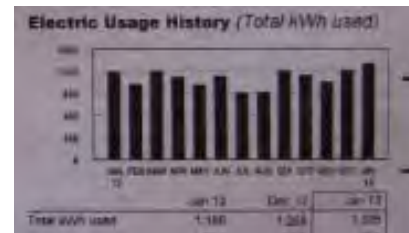
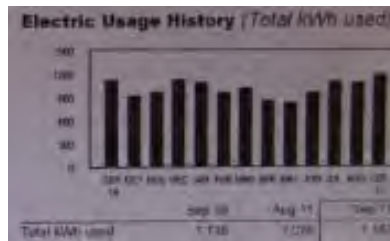
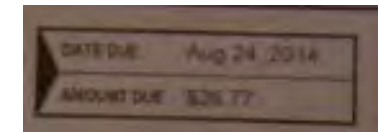
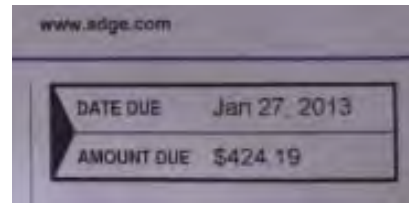
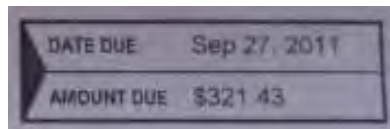
Solar Data for MLS inclusion

Inverter Manufacturer	SMA America	Enphase
Inverter Model	SB5000US (240V)	M215-60-2LL-S2X
Inverter Quantity	1	24
Inverter Type	Central Inverter	Micro Inverter
Panel Manufacturer	Solar World	LG Electronics
Panel Model	SW 250 Poly	260 W Mono LG260S1K-A3
Panel Quantity	20	24
System Size	5.000 kw DC	6.240 kW DC
Estimated Annual Prod.	7,328 kWh	9,654 kWh
Date of Install		
Warranty: Manufacturer		
Warranty: Labor		
System Owner		



Chula Vista Pre and Post Solar Install Bill

~2,500 sq ft home in Chula Vista built in 1998; 24 MI panels @5.76 kW



Billing Period	Usage	Amount
Aug 5, 2011 - Sep 8, 2011	27 Therms	34.13
Aug 5, 2011 to Sep 8, 2011	1,182 kWh	287.30
Total Charges this Month		\$321.43

Billing Period	Usage	Amount
Dec 4, 2012 - Jan 4, 2013	102 Therms	115.14
Dec 4, 2012 - Jan 4, 2013	1,305 kWh	309.05
Total Charges this Month		\$424.19

Billing Period	Usage	Amount
Jul 2, 2014 - Aug 2, 2014	19 Therms	26.77
Total Charges this Month		\$26.77

Sept 27, 2011

27 gas therms @ \$34.13
 1,182 elec kWh @ \$287.30

\$321.43

Jan 27, 2013

102 gas therms @ \$115.14
 1,305 elec kWh @ \$309.05

\$424.19

Aug 24, 2014

19 gas therms @ \$26.77
Zero elec kWh @ \$000.00

\$26.77

Simple Loan Payment Calculator

Principal
 Interest (%)
 Number of Years

[Calculate Payment](#)

Your Monthly Payment

Your monthly payment for 15 years at an interest rate of 8.00 % and on a loan amount of \$ 25000.00 :
\$ 238.91 a month

Residential Solar Energy, Property Values and Real Estate

Ben Hoen
CSE
Workshop
June 13, 2016



Lawrence Berkeley National Laboratory

Member of the National Laboratory System supported by the U.S. Department of Energy through its Office of Science.

Located in Berkeley, California

Founded in 1931 by Ernest Orlando Lawrence

Annual Budget of \$811 Million

4,200 Employees and 800 University Students

11 Nobel Laureates

24 Divisions and Departments

Electricity Markets and Policy Group

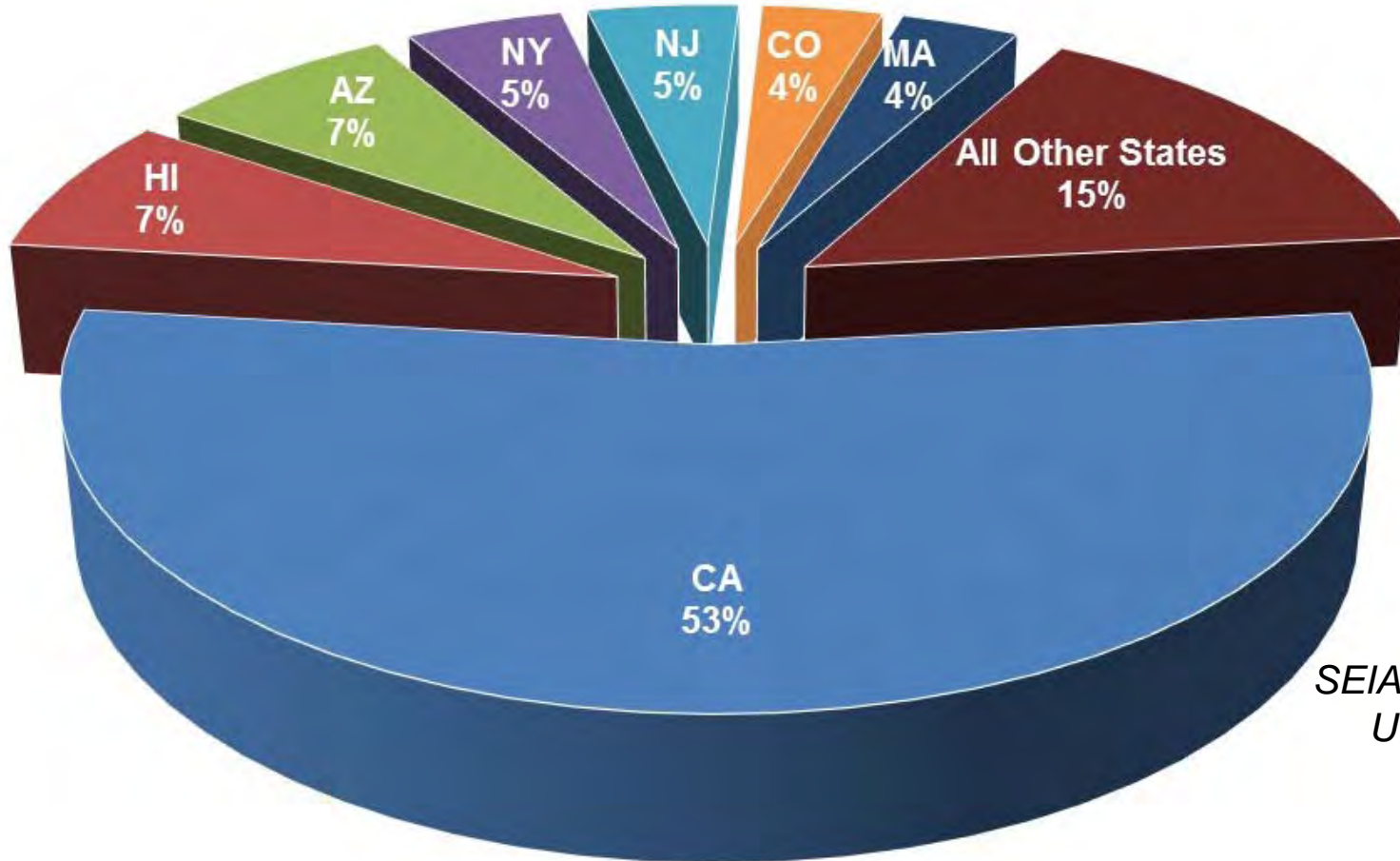
**My Work: Intersection of
Renewable Energy and
the Public**



Agenda

- **Background:** Why Is This Important?
- **Previous Literature:** What Needs To Be Studied?
- **LBL Research:** What Are The Multiple LBNL Efforts In This Area?
- **Other News:** What's Next?

975,000 US Residential Installations Through Q4 2015

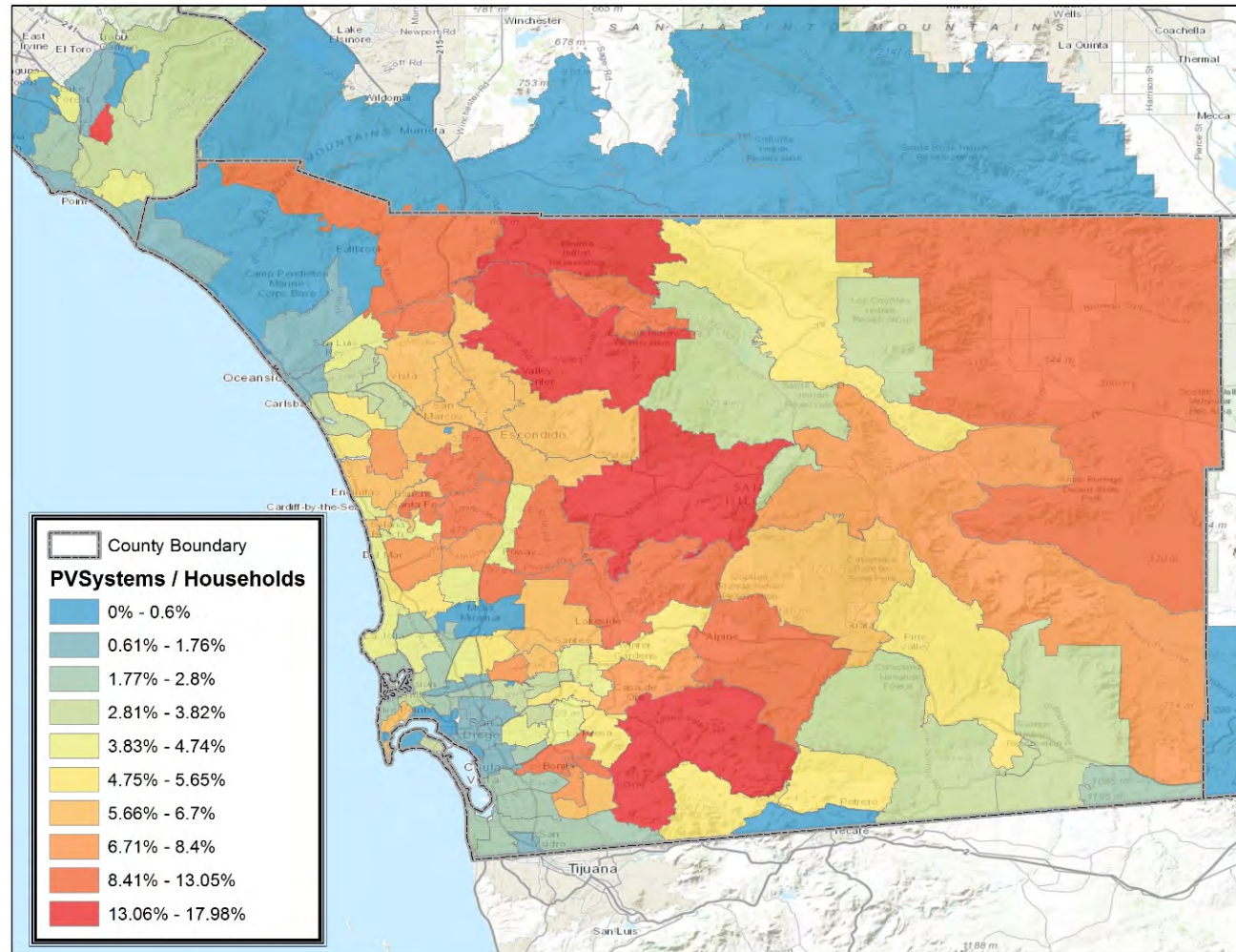


Source:
SEIA/GTM Research
U.S. Solar Market
Insight 2015

- 975,000 ~ 1% of US Housing Stock

In Some Locations 10-20% Of The Homes Have Solar

Example From San Diego



Data only through mid-2015

source data - https://www.californiasolarstatistics.ca.gov/data_downloads/

Why Study Property Values For Solar Energy?

- Can I sell my solar home for a premium?
- If so, then a price hedge
- If not, then lower return – more risk
- How can realtors predict the added value of solar?
- How can appraisers derive contributory value of solar?



Agenda

- **Background:** Why Is This Important?
- **Previous Literature:** What Needs To Be Studied?
- **LBNL Research:** What Are The Multiple LBNL Efforts In This Area?
- **Other News:** What's Next?

Host-Owned PV Systems Have Been Shown to Command a Price Premium in the Marketplace

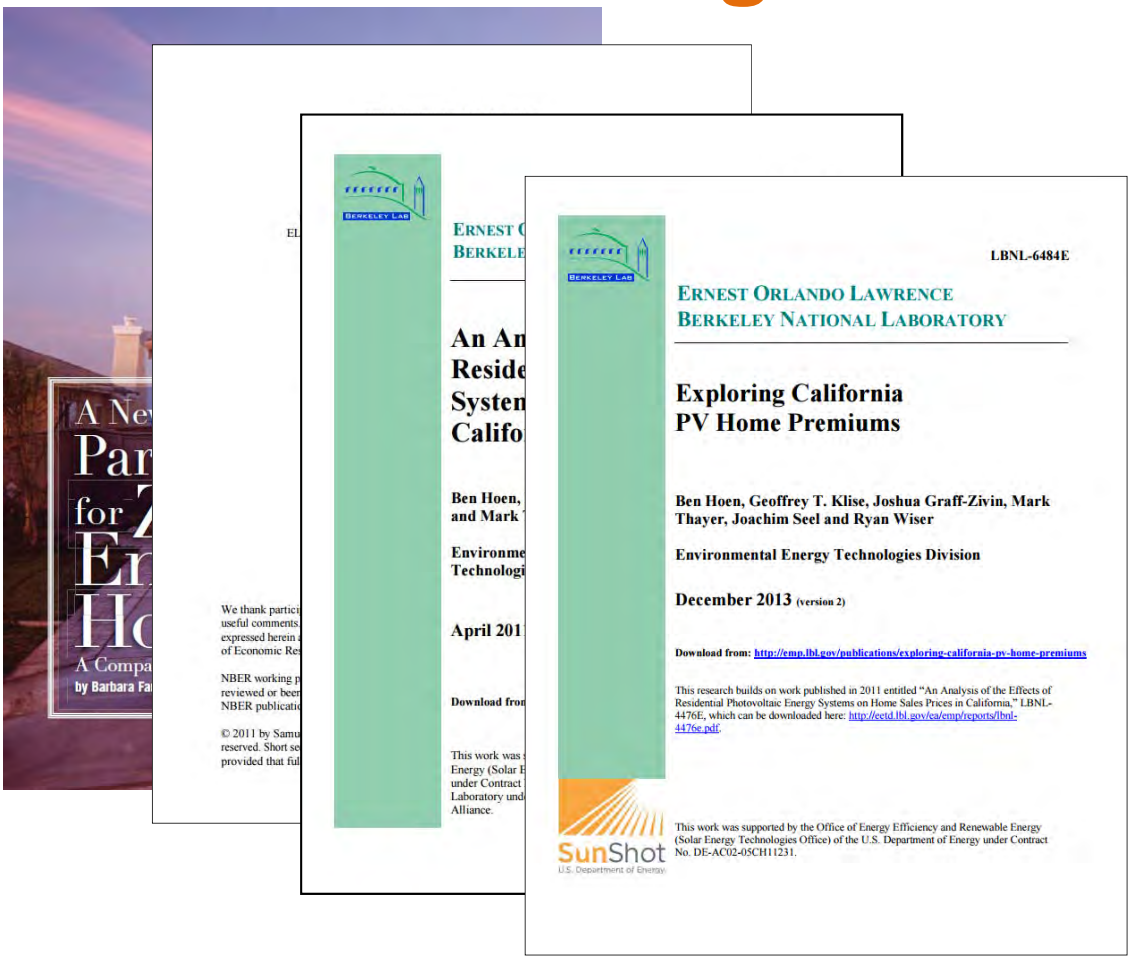
Based on Large Scale Statistical Studies

*Farhar & Coburn, 2008;
Dastrup et al., 2011;
Hoen et al., 2011; 2012*

All Conducted in California

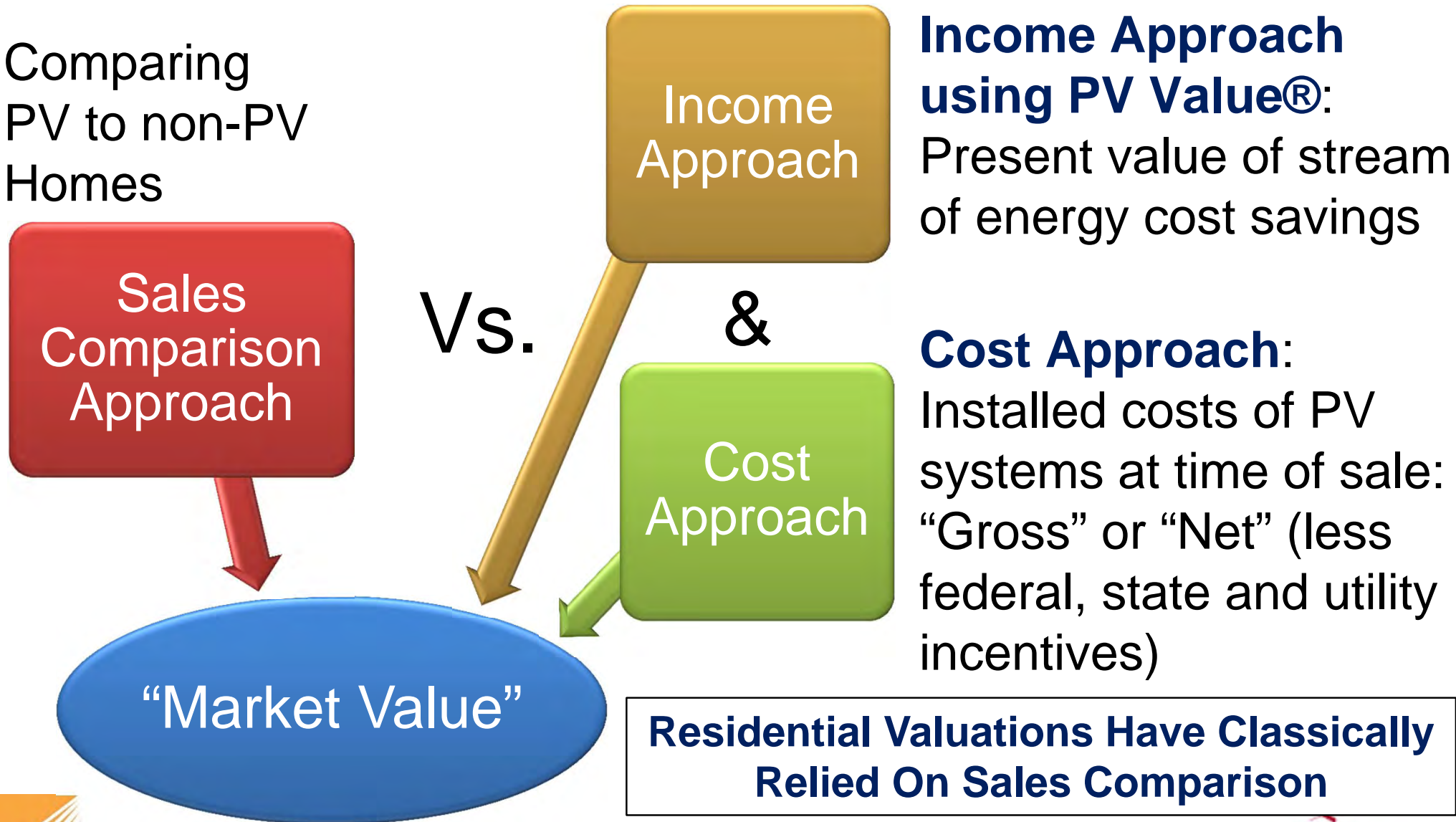
And Small Scale Appraiser Studies

*Desmarais, 2013 (Colorado);
Watkins, 2011 (Oregon)*



Having Expanded Valuation Methods Accepted By Practitioners and Institutions Is Needed

Comparing PV to non-PV Homes



Fannie Mae and FHA Recognize Solar's Value



Selling Guide

Fannie Mae Single Family

Published December 16, 2014

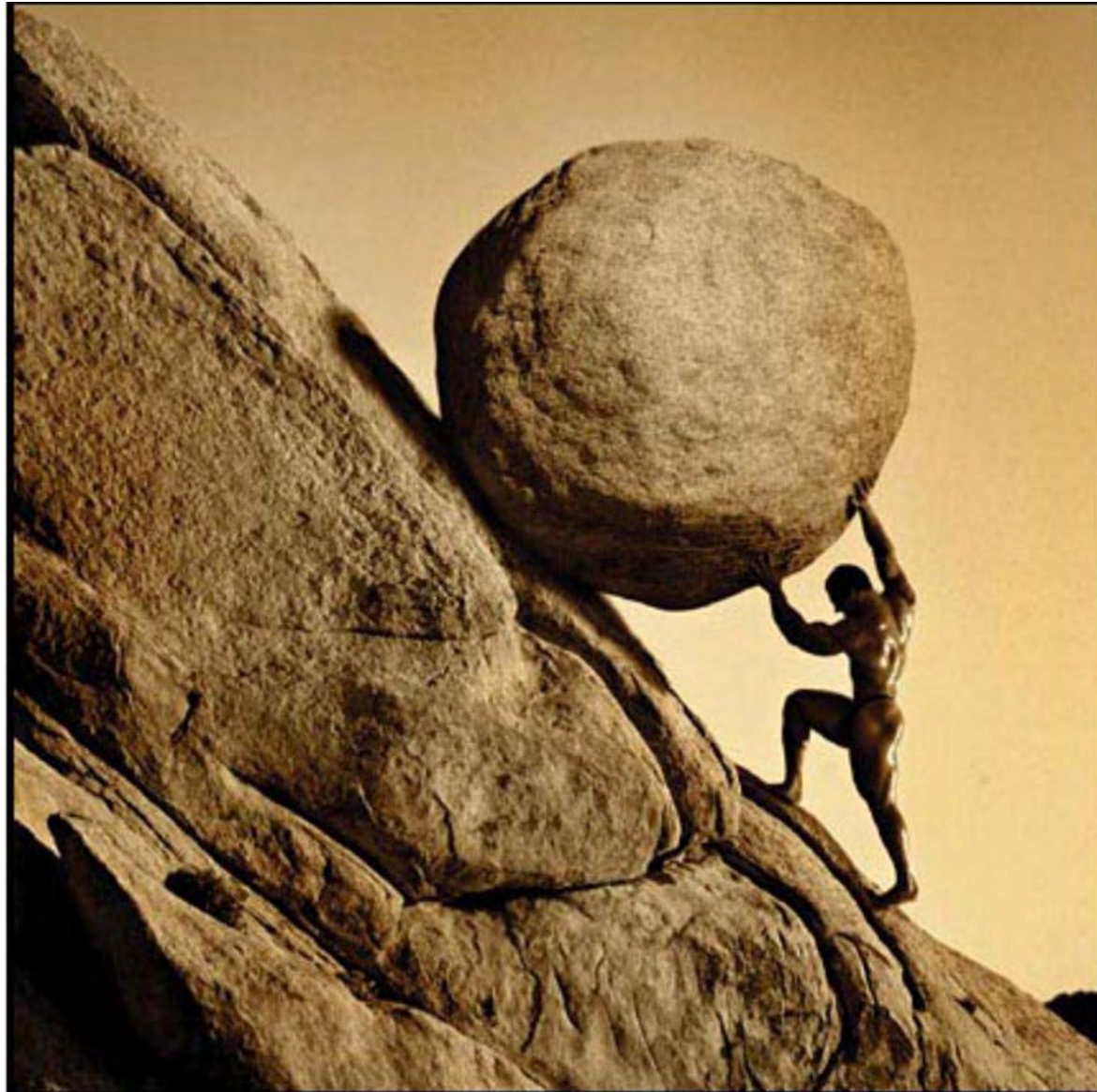
FHA Single Family Housing Policy Handbook
Table of Contents

1	FHA Single Family Housing Policy Handbook	
2	TABLE OF CONTENTS	
3	II. FHA SINGLE FAMILY INSURED HOUSING PROGRAMS.....1	
4	B. TITLE II FORWARD MORTGAGES..... 1	
5	I. Origination Through Post-Closing/Endorsement 1	
6	a. INTRODUCTION 1	
7	b. ORIGINATION/PROCESSING..... 2	
8	i. Applications and Disclosures..... 2	
9	(A) Contents of the Mortgage Application Package 2	
10	(1) General Requirements..... 2	
11	(a) Maximum Age of Mortgage Application Documents 2	
12	(i) Generally..... 2	
13	(ii) Appraisal Validity..... 2	
14	(b) Handling of Documents 3	
15	(i) Information Sent to the Mortgagee Electronically..... 3	
16	(ii) Information Obtained via Internet 3	
17	(iii) Confidentiality Policy for Credit Information 3	
18	(c) Signature Requirements for all Application Forms 4	
19	(i) Prohibition on Documents Signed in Blank 4	
20	(ii) Policy on Use of Electronic Signatures 5	
21	(2) Mortgage Application and Initial Supporting Documentation 5	
22	(a) URLA and Addendum to the URLA 5	
23	(b) Mortgage Application Name Requirements 5	
24	(i) Standard 5	
25	(ii) Documentation 6	
26	(3) Borrower Authorization for Verification Information 6	
27	(a) Borrower's Authorization 6	
28	(i) Standard 6	
29	(ii) Documentation 6	
30	(b) Form HUD-92900-A Part IV: Borrower Consent for Social Security Administration to Verify Social Security Number 6	
32	(c) Tax Verification Form or Equivalent 6	
33	(4) Borrower's Authorization for Use of Information Protected under the Privacy Act..... 7	
34	(5) Sales Contract and Supporting Documentation 7	
35	(a) Sales Contract 7	
36	(i) Standard 7	
37	(ii) Documentation 8	
38	(b) Statement of Appraised Value 8	
39	(B) Disclosures and legal compliance..... 9	
40	(1) HUD Required Disclosures 9	
41	(a) Informed Consumer Choice Disclosure..... 9	
42	(b) Form HUD-92900-B, Important Notice to Homebuyers 9	
43		

November 5, 2013



Prior To 2015, There Were Still Significant Limitations To The Literature



Agenda

- **Background:** Why Is This Important?
- **Previous Literature:** What Needs To Be Studied?
- **LBNL Research:** What Are The Multiple LBNL Efforts In This Area?
- **Other News:** What's Next?

US Solar Study #1: LBNL 2015



Selling Into the Sun:
Price Premium Analysis of a
Multi-State Dataset of Solar Homes

Ben Hoen, Sandra Adomatis, Thomas Jackson, Joshua Graff-Zivin,
Mark Thayer, Geoffrey T. Klise, Ryan Wiser

Lawrence Berkeley National Laboratory

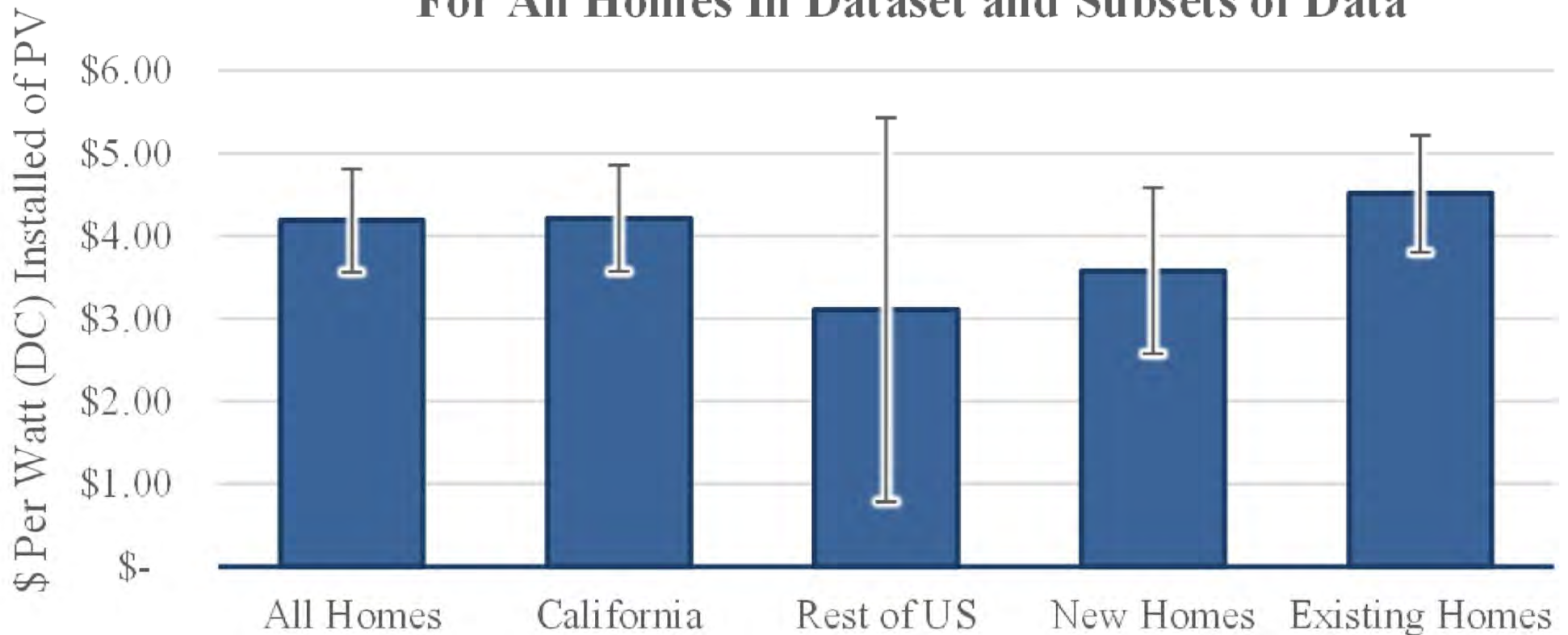
 
Powered by
SunShot
U.S. Department of Energy

The cover image shows a two-story house with solar panels on the roof. A red 'SOLD' sign is on top of a white 'SOLAR HOME FOR SALE' sign in the foreground.

- 4,000 PV Homes and ~ 20,000 non-PV Homes in 8 states
- Sold from 2003 to 2013
- Investigate selling prices of PV homes vs non-PV homes
- Examine new/existing homes and old/new systems
- Focused on **Host-Owned Systems**
- Used the Hedonic Pricing Model

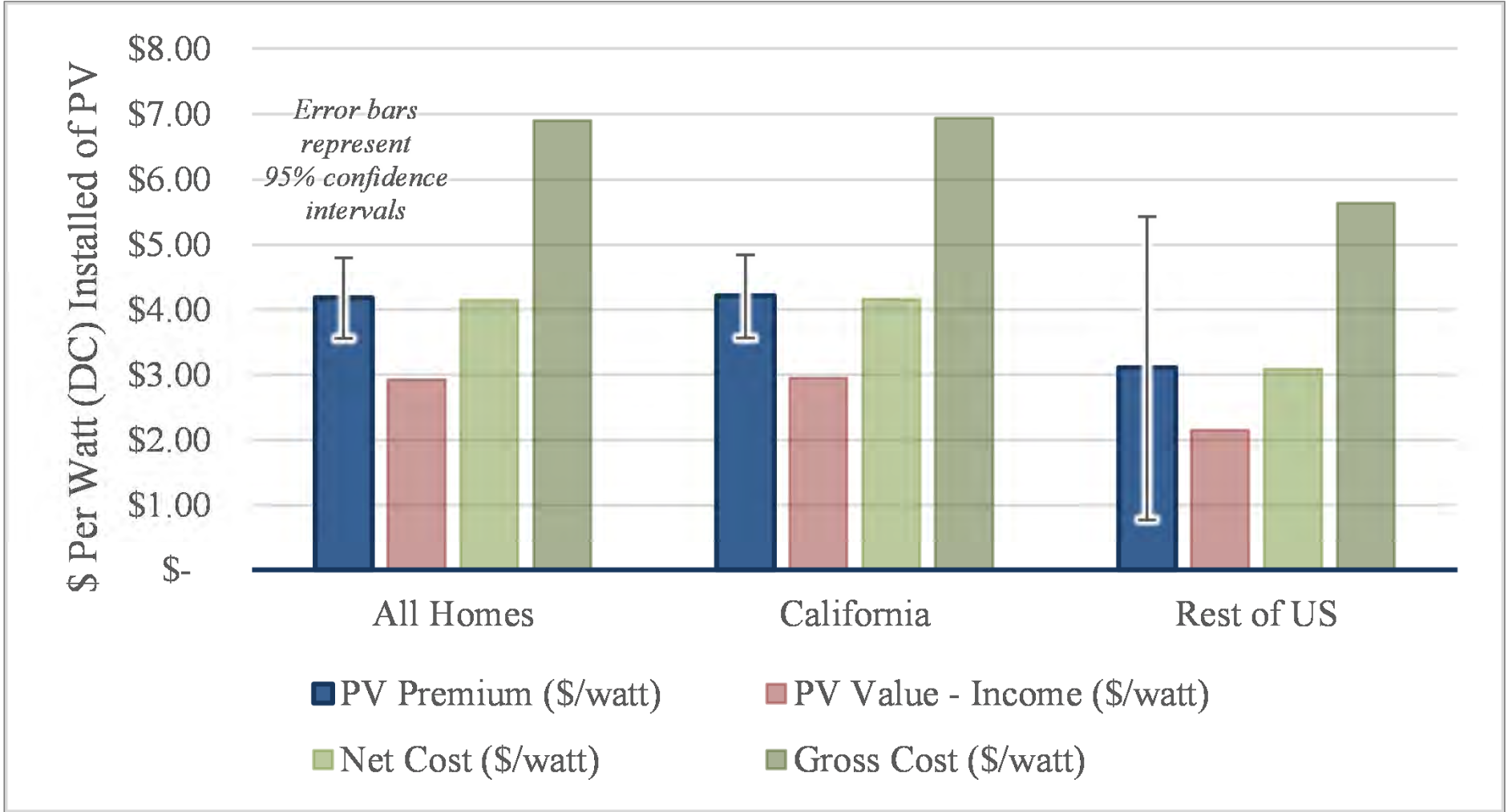
Selling Into The Sun

**Premiums For Each Watt of PV Installed
For All Homes In Dataset and Subsets of Data**

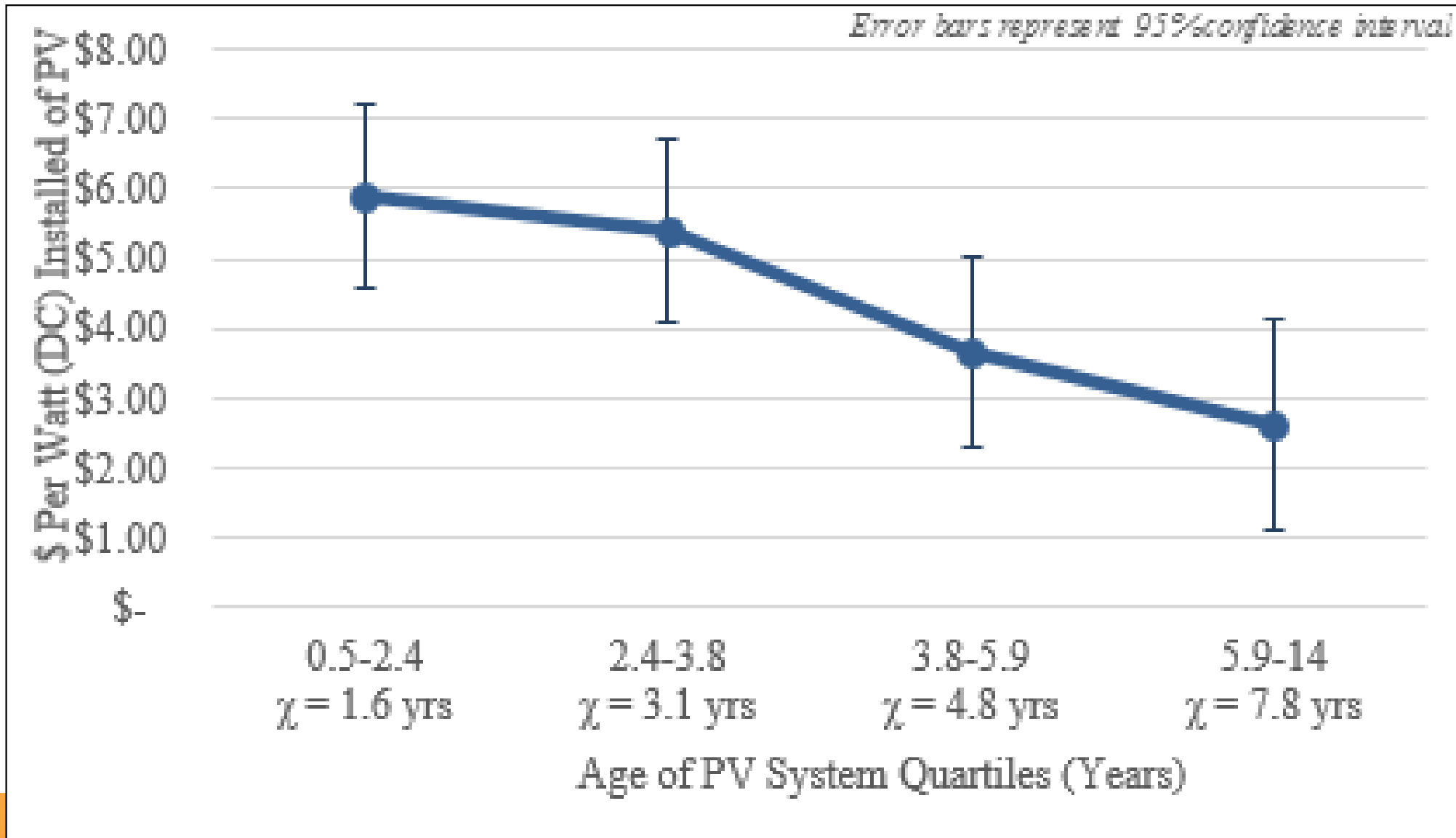


Error bars represent 95% confidence intervals

We Find Similar Relationships In California And In The Rest Of The US



Selling Into The Sun



US Solar Study #2: LBNL 2015



- Completed late 2015
- Involved 7 appraisers
- Covered sales in 6 states
- Used sales analyzed in “Selling Into The Sun”
- Used a paired-sales technique
- Focused on **Host-Owned Systems**

Many Transactions Were Not Usable For Paired Sales Analysis

We Gave Appraisers 208 PV “Most Recent” Sales Across Their Markets

~~No Pair Could Be Found~~

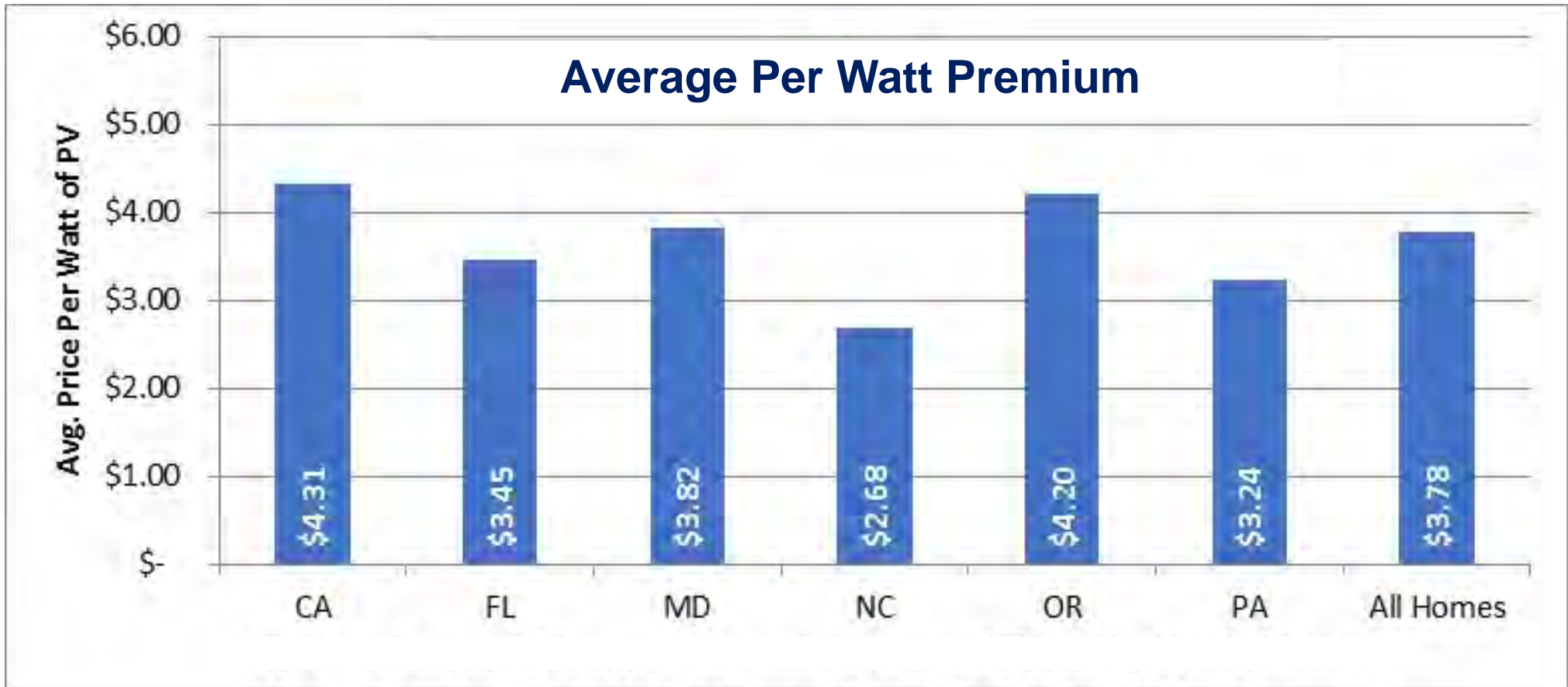
~~Not in MLS~~ ~~80%~~ ~~Foreclosure~~



Final Dataset: 43 PV Sales In 6 States

State	Market	Final Set of Paired Solar Home Sales
CA	San Diego Metro Area	13
FL	Gulf Coast	4
MD	Baltimore Metro Area	3
NC	Raleigh Metro Area	7
OR	Portland Metro Area	9
OR	Bend Metro Area	2
PA	Southeast Portion	5
Total		43

Premiums Are Clearly Evident Across All States

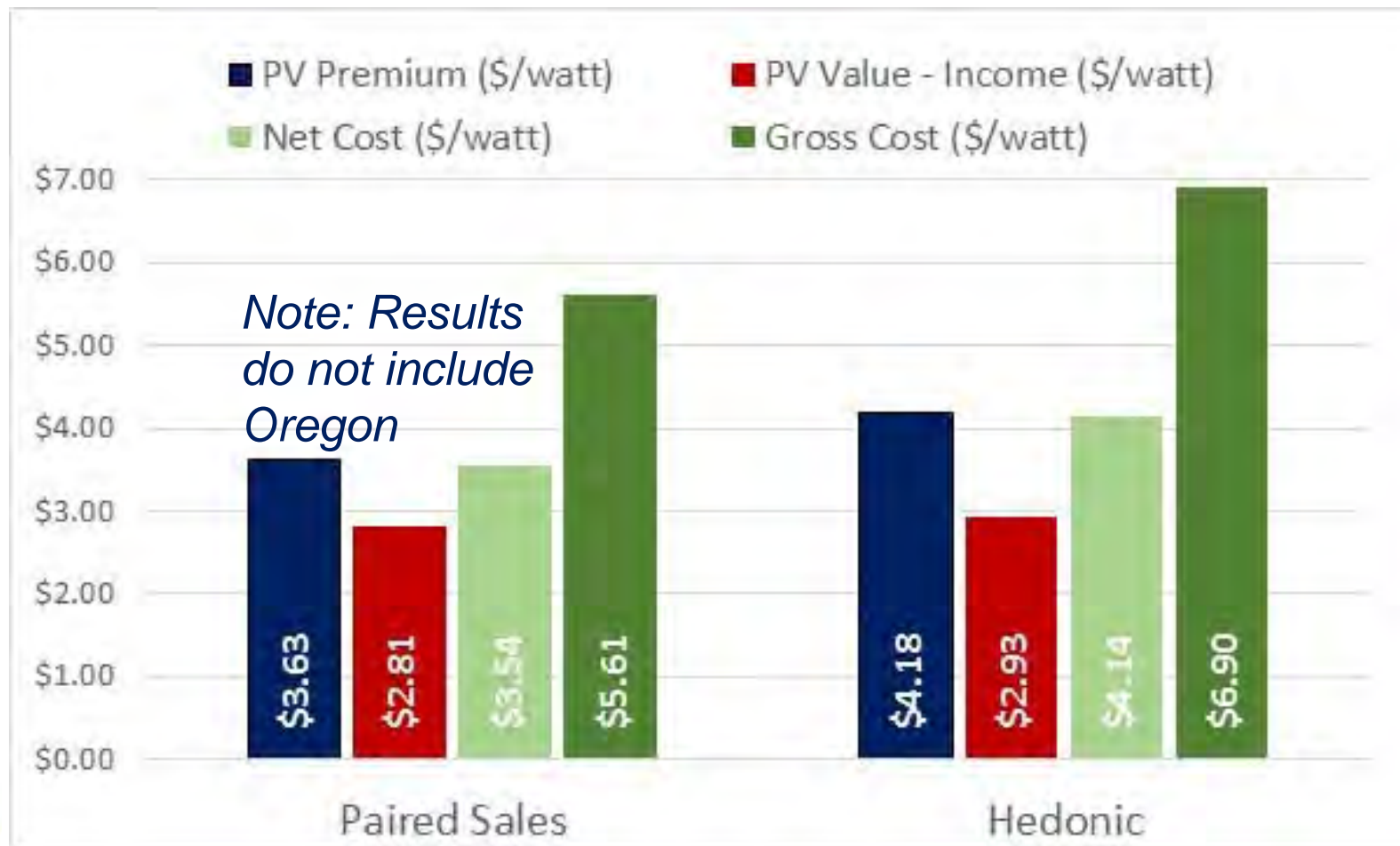


Note: Premiums apply to average 2012 sales. Sales today, and in other markets, would be based on their respective market characteristics.

correlation of premium (in \$) to size (in watts): 0.54 (p-value 0.000)

Both Studies Tell A Similar Story: Premiums Are Clearly Evident

And Premiums Are Most Similar to Net Cost,
Somewhat Similar To Income, And Not To Gross Cost



Solar Study Conclusions

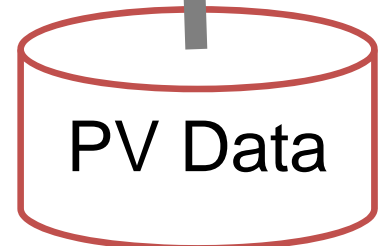
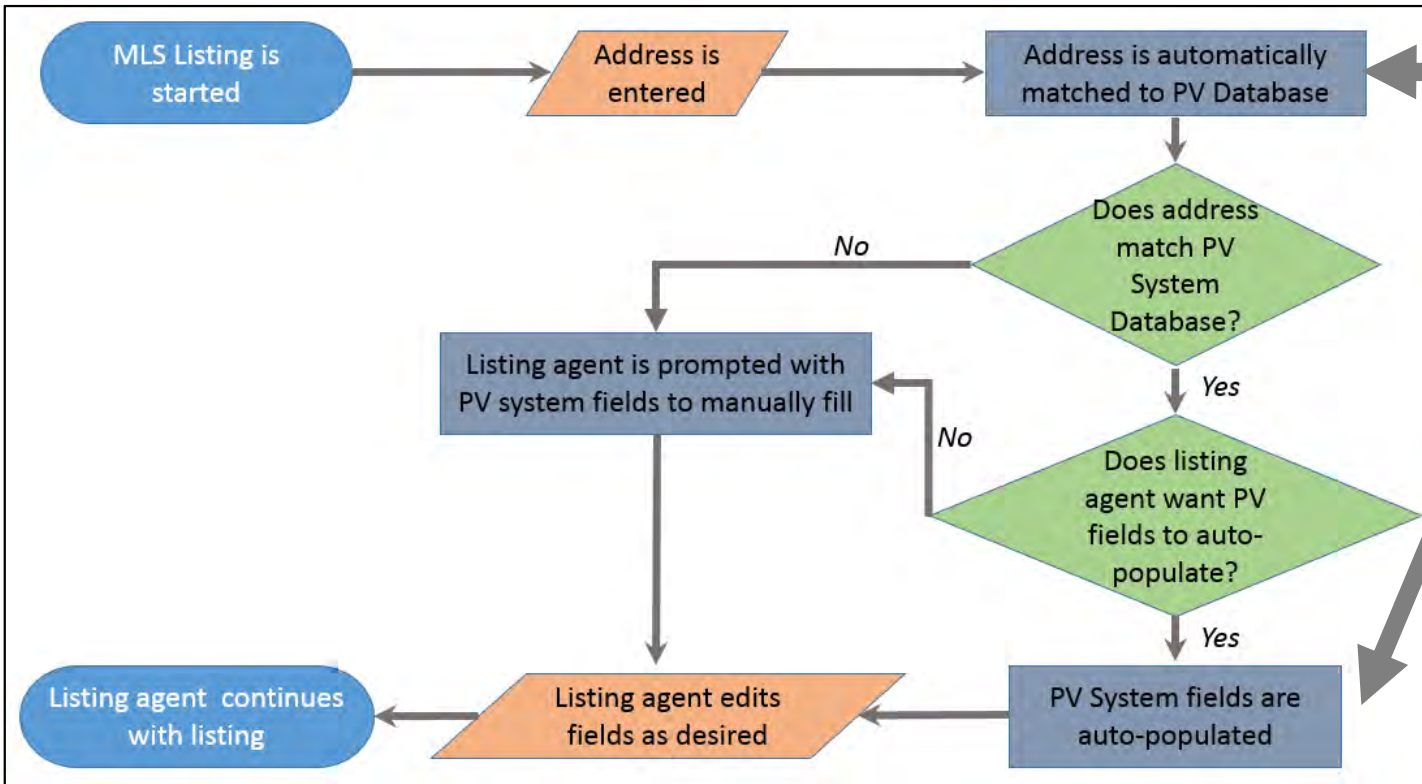
- Solar's effect on home prices is important
- Clear premiums exist for solar owned by homeowner
- Multiple tools exist for realtors and appraisers
- Large policy shifts have occurred and will likely continue to occur involving these transactions

Agenda

- **Background:** Why Is This Important?
- **Previous Literature:** What Needs To Be Studied?
- **LBNL Research:** What Are The Multiple LBNL Efforts In This Area?
- **Other News:** What's Next?

Connecting Realtors And Appraisers With Accurate Data Is Essential

Real Estate Multiple Listing Process



Data Sources

- Incentive Providers
- Interconnection
- Building Permits
- Installers/Owners

PV Auto-Pop Roadmap

Develop a Roadmap to have solar system characteristics automatically displayed in real estate MLSs

- **6 Key Fields:** address of home, ownership, size, install year, estimated & actual production
- **2 Geographies:** San Diego & Massachusetts
- **50 person team:** realtors, appraisers, MLS owners, state reps, tech experts, lawyers, advocates
- **5 Major Issues:** privacy, interoperability, business case for MLSs, protecting realtors, plug & play

Final Report: Due out Early 2017



Thank You



Ben Hoen

Lawrence Berkeley National Laboratory

845-758-1896

bhoen@lbl.gov

Links

[*Selling Into The Sun*](#)

[*Appraising Into The Sun*](#)

[*TPO Buyer/Seller/Realtor Survey*](#)

[*LBNL Renewable Energy Publications*](#)

[*PV Value®*](#)

References

- Adomatis, S. and Hoen, B. (2015) Appraising into the Sun: Six-State Solar Home Paired-Sales Analysis. Lawrence Berkeley National Laboratory. Berkeley, CA. November 12, 2015. 45 pages. LBNL-1002778.
- Arreola, G., Treadwell, T. and Hoen, B. (2015) Research Summary: Survey of Buyers, Sellers and Realtors Involved in San Diego Third-Party Owned Solar Home Transactions – a Qualitative Assessment. Prepared for Lawrence Berkeley National Laboratory, Berkeley, CA. December 2015. 3 pages. LBNL-1003917.
- Dastrup, S. R., Graff Zivin, J., Costa, D. L. and Kahn, M. E. (2012) Understanding the Solar Home Price Premium: Electricity Generation and “Green” Social Status. *European Economic Review*. 56(5): 961-973.
- Desmarais, L. (2013) The Impact of Photovoltaic Systems on Market Value and Marketability: A Case Study of 30 Single-Family Homes in the North and Northwest Denver Metro Area. Prepared for Colorado Energy Office. May 2013. 319 pages.
- Farhar, B. C. (2008) Advancing a Market for Zero-Energy Homes. *Solar Today*. January/February 2008 pp. 24-29.
- Hoen, B., Adomatis, S., Jackson, T., Graff-Zivin, J., Thayer, M., Klise, G. T. and Wiser, R. (2015) Selling into the Sun: Price Premium Analysis of a Multi-State Dataset of Solar Homes. Lawrence Berkeley National Laboratory. Berkeley, CA. January 19, 2015. 33 pages. LBNL-6942E.
- Hoen, B., Cappers, P., Wiser, R. and Thayer, M. (2011) An Analysis of the Effects of Photovoltaic Energy Systems on Residential Selling Prices in California. Lawrence Berkeley National Laboratory. Berkeley, CA. April, 2011. 46 pages. LBNL-4476E.
- Hoen, B., Cappers, P., Wiser, R. and Thayer, M. (2013) Residential Photovoltaic Energy Systems in California: The Effect on Home Sales Prices. *Contemporary Economic Policy*. 31(4): 708-718.
- SEIA and GTM (2015) U.S. Solar Market Insight – Q2 2015. GTM Research (GTM) in Boston MA. Prepared for Solar Energy Industries Association (SEIA), Washington, DC.
- Watkins, T. (2011) Market-Based Investigation of Residential Solar Installation Values in Oregon. Watkins & Associates. Prepared for Energy Trust of Oregon, Portland, OR. September, 2011. 15 pages.

Fannie Mae Home Style Energy Loans



Lender Fact Sheet

HomeStyle® Energy Mortgage Loans

Financing to Help Your Energy-Conscious Borrowers Save

Fannie Mae's HomeStyle® Energy helps you offer affordable financing to borrowers interested in improving the energy and water efficiency of their homes.

New research reveals that homeowners prefer "features that will help them save energy and keep the home organized." And, most buyers want homes with energy-efficient windows and highly rated insulation, according to a recent study from the National Association of Home Builders.¹

No special approvals needed!

HomeStyle Energy mortgages can be originated by any Fannie Mae lender.

- 15% of value,
- Up to 180 days after closing,
- new or previously installed improvements,
- desktop underwriting, fee for lenders

<https://www.fanniemae.com/singlefamily/homestyle-energy>

AI Residential Green and Energy Efficient Addendum Benefits

**Power Tips Using the Addendum to make your next
transaction a high performance event!**

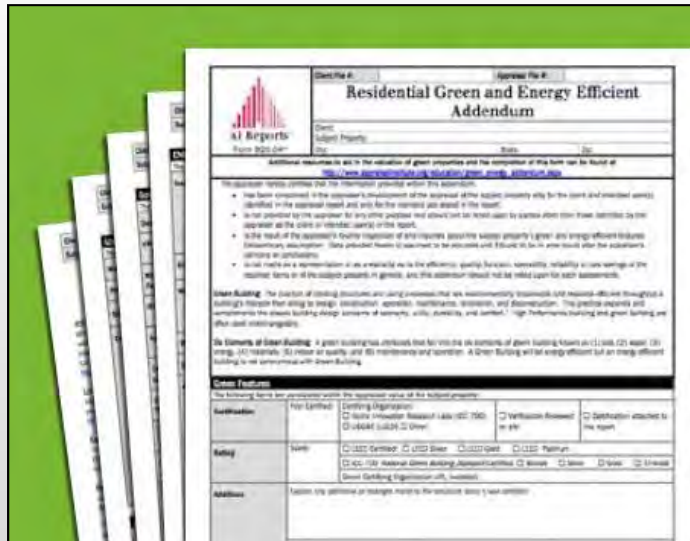
By: Sandra K. Adomatis, SRA, LEED Green Associate

Purpose of AI Res. Green & EE Addendum

- Standardize the Communication of high performance features
- Document what is behind the walls to use in
 - Marketing the property (brag sheet)
 - Applying for mortgage to alert lender to hire the right appraiser
 - Alert the appraiser of the high performance features to result in a more accurate valuation

Alert the Lender to Choose the Right Appraiser

- If borrower does not clearly identify the property as a "high performance" property, chances are the appraiser choice will not be appropriate.



<http://www.appraisalinstitute.org/assets/1/7/Interactive820.04-ResidentialGreenandEnergyEfficientAddendum.pdf>

Who can complete Addendum?

- Rater
- Builder
- Architect
- Owner
- Developer

<http://www.appraisalinstitute.org/assets/1/7/Interactive820.04-ResidentialGreenandEnergyEfficientAddendum.pdf>

Residential Green and Energy Addendum

Reports

Additional requirements to go in the preparation of green properties and the completion of this form

Green Building

Green Building

Form	Form Certified	Certifying Organization <input type="checkbox"/> Green Innovation Research (GIR) (800) 750- <input type="checkbox"/> GreenSource (800) 750-7500	<input type="checkbox"/> Verification Based in place
Form	Form	<input type="checkbox"/> GreenSource <input type="checkbox"/> GreenSource <input type="checkbox"/> GreenSource <input type="checkbox"/> GreenSource <input type="checkbox"/> GreenSource <input type="checkbox"/> GreenSource <input type="checkbox"/> GreenSource <input type="checkbox"/> GreenSource	

Green Features & Certification

Exhibit 6.4 Green Features Section

Green Features			
The following items are considered within the appraised value of the subject property:			
Certification	Year Certified: 2006	Certifying Organization: <input type="checkbox"/> Home Innovation Research Labs (ICC-700) <input type="checkbox"/> USGBC (LEED) <input checked="" type="checkbox"/> Other: EarthCraft	<input type="checkbox"/> Verification Reviewed on site <input checked="" type="checkbox"/> Certification attached to this report
Rating	Score: Platinum	<input type="checkbox"/> LEED Certified: <input type="checkbox"/> LEED Silver <input type="checkbox"/> LEED Gold <input type="checkbox"/> LEED Platinum <input type="checkbox"/> ICC-700 <i>National Green Building Standard</i> Certified: <input type="checkbox"/> Bronze <input type="checkbox"/> Silver <input type="checkbox"/> Gold <input type="checkbox"/> Emerald Green Certifying Organization URL (website) http://www.earthcraft.org/house	

<http://www.appraisalinstitute.org/assets/1/7/Interactive820.04-ResidentialGreenandEnergyEffecientAddendum.pdf>

Lots of Space for Green Comments

<p>Comments</p> <p>Attach the rating worksheet that provides the ratings for each element to provide a better understanding of the features. The worksheet will assist in comparing the subject to sales rated by different organizations.</p>	<p>If a property is built green but not formally certified, it still deserves proper description and analysis to value the features. The market analysis is of the structure's physical, economic, and locational attributes and not an analysis of its label alone. see attached worksheet, it's recapped as follows:</p> <ul style="list-style-type: none">Site Planning 10 ptsConstruction Waste Management 4 ptsResource Efficiency 36 ptsDurability and Moisture Management 48 ptsIndoor Air Quality 29 ptsHigh Performance Building Envelope 55 ptsEnergy Efficient Systems 92 ptsWater Efficiency 35 ptsEducation and Operation 25 ptsInnovation 5 pts <p>TOTAL 339 pts - min required 100 pts Other Designations: Energy Star, Indoor AirPlus, WaterSense</p>
---	--

<http://www.appraisalinstitute.org/assets/1/7/Interactive820.04-ResidentialGreenandEnergyEfficientAddendum.pdf>

Energy Efficient Features

ENERGY EFFICIENT ITEMS

The following items are considered within the appraised value of the subject property:

Insulation	<input type="checkbox"/> Fiberglass Blown-In <input checked="" type="checkbox"/> Foam Insulation <input type="checkbox"/> Cellulose <input type="checkbox"/> Fiberglass Batt Insulation		R-Value: <input checked="" type="radio"/> Walls R-27 <input type="radio"/> Ceiling R-37 <input type="radio"/> Floor			
	<input checked="" type="checkbox"/> Other (Describe): Slab Edge Insulation R-7					
	<input type="checkbox"/> Basement Insulation (Describe):					
	<input checked="" type="checkbox"/> HERS Insulation Installed Rating: <input checked="" type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 (See Glossary)					
Envelope	Envelope Tightness: 0.21 ACH50		Unit: <input type="radio"/> CFM25 <input type="radio"/> CFM50 <input checked="" type="radio"/> ACH50 <input type="radio"/> ACHnatural			
Water Efficiency	<input checked="" type="checkbox"/> Reclaimed Water System (Explain): Community System		Location of cistern:			
	<input type="checkbox"/> Cistern - Size: Gallons					
	<input checked="" type="checkbox"/> Greywater reuse system	<input type="checkbox"/> Rain Barrels Provide Irrigation				
	<input checked="" type="checkbox"/> WaterSense® fixtures					
Windows	<input checked="" type="checkbox"/> ENERGY STAR®	<input checked="" type="checkbox"/> Low E	<input type="checkbox"/> High Impact <input type="checkbox"/> Storm	<input checked="" type="checkbox"/> Double Pane <input type="checkbox"/> Triple Pane	<input type="checkbox"/> Tinted	<input checked="" type="checkbox"/> Solar Shades
Day Lighting	<input type="checkbox"/> Skylights - #:	<input checked="" type="checkbox"/> Solar Tubes - #: 3	<input checked="" type="checkbox"/> Other (Explain): 63% LED Bulbs, 32% CFLs			<input checked="" type="checkbox"/> ENERGY STAR Light Fixtures

<http://www.appraisalinstitute.org/assets/1/7/Interactive820.04-ResidentialGreenandEnergyEfficientAddendum.pdf>

Solar Features Identified

Solar Panels

The following items are considered within the appraised value of the subject property:

Description	Array #1 <input type="radio"/> Leased <input checked="" type="radio"/> Owned	Array #2 <input type="radio"/> Leased <input type="radio"/> Owned	Description	Solar Thermal Water Heating System
kW (size)	10		If Active System - type	<input checked="" type="radio"/> Direct <input type="radio"/> Indirect
Manufacturer of Panels	LifeGood LG 2555SK-G3		If Passive System - type	<input type="radio"/> Integral collector <input type="radio"/> Thermosyphon
Warranty on Panels	25 yrs		Storage Tank Size	# Gallons: 80
Age of Panels	New-2015		Collector Type	<input checked="" type="radio"/> Flat-Plat Collector <input type="radio"/> Integral Collector <input type="radio"/> Evacuated-Tube Solar
Energy Production kWh per Array	14,000 kWh est			
Source for Energy Production Estimate	Manufacturer		Back-Up System	<input type="radio"/> Conventional Water Htr <input checked="" type="radio"/> Tankless On Demand <input type="radio"/> Tankless Heat Pump


<http://www.appraisalinstitute.org/assets/1/7/Interactive820.04-ResidentialGreenandEnergyEffecientAddendum.pdf>

Solar Features Assist Appraiser

Source for Energy Production Estimate	Manufacturer		Back-Up System	<input type="radio"/> Conventional Water Htr <input checked="" type="radio"/> Tankless On Demand <input type="radio"/> Tankless Heat Pump
Location (Roof, Ground, Etc.)	Roof Mount		Age of System	New-2015
Tilt/Slope for Array	35 degrees		Warranty Term	10 Years
Azimuth per Array	180 degrees		Manufacturer	AET
Age of Inverter(s)	New-2015		Solar Energy Factor (SEF) <small>(Rating range 1 to 11 - higher number is more efficient)</small>	0.95
Manufacturer	Micro-Inverters			
Warranty Term	15			
Name of Utility Company: GreyStone Power		Cost per kWh charged by Company: \$ 0.12 /kWh		

<http://www.appraisalinstitute.org/assets/1/7/Interactive820.04-ResidentialGreenandEnergyEffecientAddendum.pdf>

<http://www.PVValue.com>

 [View Profile](#) [Clear form](#) [Sign out](#)

Property Address

Property Address


17211 Eastwood Avenue, Torrance, CA, United States Lookup

Latitude

33.874257

Longitude

-118.34510699999998



Map Satellite

Google

Map data ©2016 Google Imagery ©2016, DigitalGlobe, U.S. Geological Survey | Terms of Use Report a map error

[Submit Property Address](#)

E-Mail:
Adomatis@Hotmail.com

www.Adomatisappraisalservice.com -
Copyright 2016 Adomatis Appraisal Service

Cost New Less Depreciation

Cost new of system of as the date of value

$$3.6 \text{ kW} \times 1,000 \text{ Watts} = 3,600 \text{ Watts} \times \$2.75 = \$ 9,900$$

Less all forms of loss - 2,970

Value by Cost \$6,930 rd

The cost new of the system is always as of the date of value – even when the property owner paid much more.

Sales Comparison – Paired-Data Analysis

Paired-Data Analysis		
	Sale A	Sale B
Sold Price	\$880,000	\$875,000
Sold Date	5/1/2016	4/20/2016
House	2-Story-2,400 SF	2-Story – 2,325 SF
Garage	2-Car	2.5 Car
Solar PV/Age	3.5 kW/3 yrs	None
Pool	Inground-Solar htd	Inground – Solar Htd
Sales Price difference attributed to Solar PV	\$880,000 -	\$875,000= \$5,000

Three Indications Reconciled

Review of three methods to value solar photovoltaic -3.5 kW		
Income Approach using PV Value®	(\$0.13 kWh)	\$ 7,920
Cost Approach		\$ 6,930
Sales Comparison Paired-Data Analysis		\$ 5,000

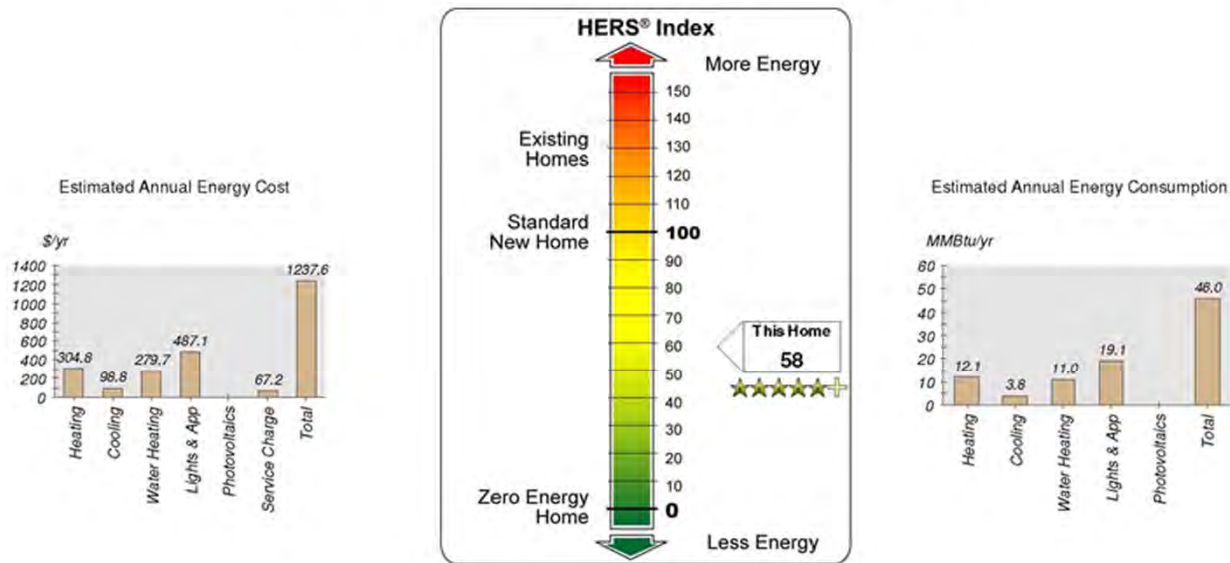
The three methods provide a test of reasonableness and a tight indication of the value. The data strongly supports \$7,000.

Attach Certificates & Put them in the Photo Gallery Too



Don't Forget to Attach the HERS Report – Insert this in Photo Gallery Too

HOME PERFORMANCE WITH ENERGY STAR ENERGY RATING CERTIFICATE



Address: 1 XXXX
XXX, ST

House Type: Single-family detached
Cond. Area: 1800 sq. ft.
Rating No.: 3XXX
Issue Date: May 10, 20XX

Annual Estimates*:
Electric(kWh): 13490
CO2 emissions(Tons): 13

*Based on standard operating conditions

This home meets ENERGY STAR v 2

- Rater
Inspection

PO Box XXX

Certified Rater: XXX

Certification No: SSXX

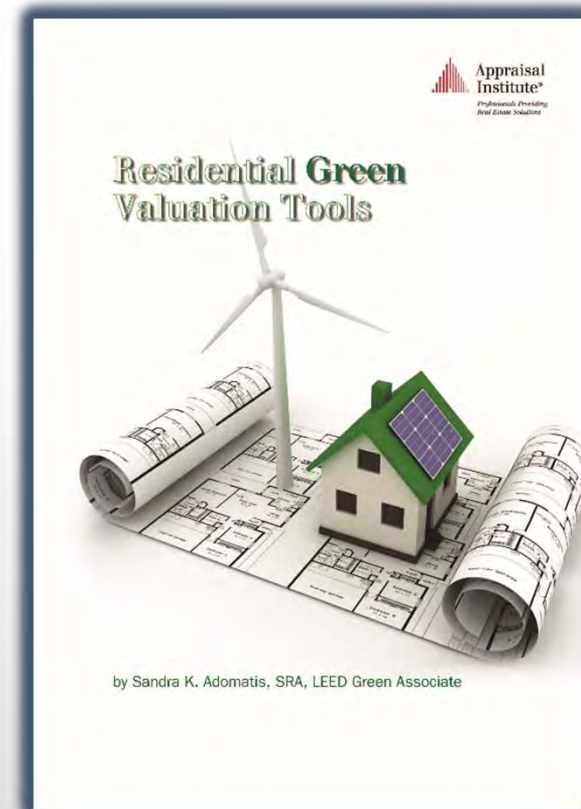
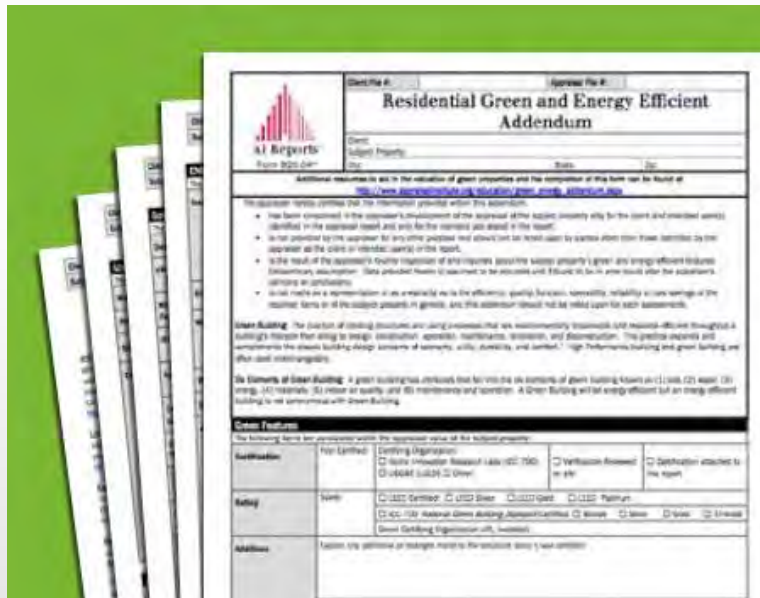
Rating Date: 5/04/XX

Signature:

REM/Rate - Residential Energy Analysis and Rating Software v12.93

This information does not constitute any warranty of energy cost or savings. © 1985-2011 Architectural Energy Corporation, Boulder, Colorado.
The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

Learn More About Addendum



<http://www.appraisalinstitute.org/residential-green-valuation-tools/>

Appraised Value and Energy Efficiency: Getting it Right

While location, design, and price are a home buyer's main considerations, surveys show that buyers rank energy efficiency as one of the most desirable features, and importantly, when there is sufficient energy savings - one they're willing to pay more for. However, energy efficiency can be overlooked in the appraisal and/or listing process for a variety of reasons, including a lack of access to data, underwriting impediments, and appraiser or agent qualifications. Many appraisers and/or agents may not be aware of the unique features or benefits of an energy efficient home. However, many appraisers and real estate agents are qualified to identify these features that are often hidden behind drywall. One way to peg the efficiency of a home is to know which energy code it was built to, or ask the homeowner if the home has earned an energy or green certification. A quick address search of the RESNET HERS Index database is a good place to start. If rated July 2012 or later, the RESNET registry will reveal the home's HERS Index.

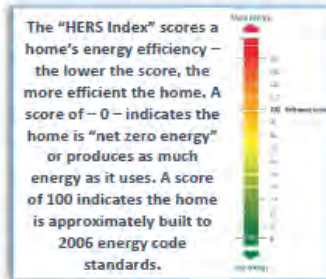
According to the U.S. Department of Energy, homes built to the 2012 or 2015 International Energy Conservation Code (IECC) are 15-16% more efficient than those built to the 2009. They will typically be more comfortable to live in, have better overall performance, and lower monthly energy bills.

Fannie Mae, Freddie Mac and FHA require appraisers to consider the energy efficient features of the home, and if the market supports an adjustment in the appraised value, one must be made. Often, appraisers won't take energy efficient and green features into account if they aren't aware of them. This is where the listing agent must be sure that such features are accurately identified in searchable MLS fields and appropriate documents attached for potential buyers and appraisers to review.

A ready-made solution exists.

Fannie Mae, Freddie Mac and FHA require lenders to choose appraisers who have the requisite knowledge required to perform a professional quality appraisal for the specific geographic location and/or who are competent to appraise a particular property type. The Uniform Standards of Professional Appraisal Practice (USPAP) promulgated by the Appraisal Standards Board (ASB) of The Appraisal Foundation defines "competence" requirements for appraisers where USPAP is applicable.

Appraisers who are qualified to appraise energy efficient / high-performing homes will analyze market trends relating to special energy-efficiency features. You can access a list of appraisers who have successfully completed the Appraisal Institute professional development program on the valuation of sustainable buildings, which can help lead you to a qualified appraiser for your specific property, at the Valuation of Sustainable Buildings Professional Development Program Registry.



What can agents do?

1. Encourage sellers to complete the **AI Residential Green and Energy Efficient Addendum form**. The builder or energy rater probably is the best informed to complete the Addendum; therefore, seek their assistance to assure accuracy.
2. Provide a copy of a **Complete Home Energy Rating System (HERS) report** (if available). If home has solar photovoltaic (PV) system, review the **U.S. Department of Energy's informational guide addressing solar PV**.
3. Prepare the buyer to notify the lender that they require a qualified appraiser for this special type of construction; add your logo and provide a copy of the **Directions for Buyers**.
4. Add your logo, the property address, and contact info to the **Lender Letter** along with any other special features or information regarding the property type. Instruct the buyer or their agent to give the letter (along with #1 and 2 above) to their lender.

What are the obligations of Real Estate Professionals?

Agents are listed with an increasing number of energy efficient features in MLSs around the country, important for real estate professionals to both understand the benefits provided by such features, and how to best communicate with clients about efficiency. Once they understand the impact efficiency upgrades can have on new or existing homes, real estate professionals can advise and take additional actions they can take to further impact home performance.

Agents have an obligation under Article Eleven of the Code of Ethics that they shall not provide professional services concerning a type of property or service that is outside of competence unless they engage the assistance of one who is competent on such types of service, or unless the facts are fully disclosed to the client."

The Association of REALTORS® offers NAR's Green Designation program to those agents who have high performance, resource efficient homes. Agents with this special designation are required to serve the public on issues of energy efficient and green properties.

For a list of REALTORS® with NAR's Green Designation in your area, a ready-made Lender Letter, and the informational guide addressing solar PV, go to:

www.GreenResourceCouncil.org/Appraisal-Links



FOR BUYERS

ENSURING A QUALIFIED APPRAISER FOR YOUR HOME

Your home has higher energy efficiency or green standards than many others on the market. It should be more comfortable to live in and have lower monthly energy bills. Homes built to the 2012 or 2015 International Energy Conservation Code (IECC) are 15-16% more efficient than those built to the 2009 IECC or earlier. Some of your home features may include:

- More wall and ceiling insulation to keep conditioned air inside your home
- Windows that keep the heat out in the summer months to improve comfort
- Fewer drafts and air leaks, which improve indoor comfort
- Or, you may have a home built well before the new code but have invested in energy or green retrofits that makes your home more efficient than other homes built during the same time frame.

What You Need To Know Regarding the Loan/Appraisal Process

Some lenders randomly assign an appraiser to estimate the value of a home. However, yours is not a typical home if it is a higher-performing building or one with unique green features. Fannie Mae, Freddie Mac and FHA require that appraisers be appropriately qualified to appraise the specific property in the assignment. If you do not clearly identify the property as a special property type requiring an appraiser properly qualified in the valuation of energy efficient, high-performance homes, you may risk that an appraiser without the necessary qualifications will be chosen and that appraiser may not take these features into account.

What You Need to Do

Provide your lender with these things provided to you by the builder, homeowner, energy rater, green certification, or complete HERS Report:

- The lender letter regarding this special property type and the need for an appraiser properly qualified to value energy efficient, high-performing homes.
- The Appraisal Institute's Residential Green and Energy Efficiency Addendum, completed, if possible, with the assistance of the builder, energy rater, or green rater.
- The Home Energy Rating System (HERS) Report (if available)
- Home Energy Score Report (A rating of 1-10; *applicable for existing homes only*).

FOR LENDERS

Dear Lender,

The home located at: _____
is a special property type. It is a green, and/or energy efficient, high-performing home as shown below:

- 2012 International Energy Conservation Code (2012 IECC)
- 2015 International Energy Conservation Code (2015 IECC)
- Existing home with Energy/Green Retrofits

A copy of the Green and Energy Efficient Addendum form, and the energy report (if available, or two years of utility bills) should be included with the appraisal engagement letter. Fannie Mae, Freddie Mac and FHA require lenders to choose appraisers properly qualified to value the green and/or energy efficiency features of a high performing, energy efficient home in the local real estate market.

You can access a list of appraisers who may have those qualifications at the *Valuation of Sustainable Buildings Professional Development Program Registry*, available at:

http://www.myappraisalinstitute.org/findappraiser/green_sustainability_residential.aspx.

These specially-trained appraisers have completed 28 hours of education and passed three exams. If the appraisers on your panel are not on this list, they can complete 14 education hours online to get started at:

http://www.myappraisalinstitute.org/education/course_descrb/Default.aspx?prgrm_nbr=826&key_type=CO

Appraisers on this list are not required to be Appraisal Institute members but must take the required courses and pass the exams to be listed.

If you have questions, please contact:

NAME: _____

PHONE: _____

EMAIL ADDRESS: _____

<http://www.greenresourcecouncil.org/Appraisal-Links>

Thank You!

**Sandra K. Adomatis, SRA, LEED Green
Associate**

**Real Estate Appraiser
Punta Gorda, FL 33950
Phone: (941) 456-0804**

E-Mail: Adomatis@Hotmail.com

Twitter: <https://twitter.com/sadomatis>

An aerial photograph of a residential neighborhood with numerous houses, streets, and trees. The image is partially obscured by a dark blue diagonal overlay on the right side.

RESIDENTIAL SOLAR FINANCING

An Overview

June 13, 2016 | CONFIDENTIAL

Why Do People Go Solar?

Mostly to save money



Savings



Energy
Independence



Average
system size
is 4-6 kW
(~\$20,000)



Environment



Fixed Income



Predictable
Price for
Electricity



Freedom of Choice

Common Solar Finance Products

Who owns them, and how they work for consumers

Product	Panel Owner	How it Works for Homeowners
Lease	Investor	Make monthly lease payments to investor; investor provides monitoring, maintenance and insurance
Power Purchase Agreement (PPA)	Investor	Pay investor monthly for power produced (\$/kWh); investor provides monitoring, maintenance and insurance
Loan	Homeowner	Purchase system, makes monthly payments to lender. Loan sometimes secured by the solar system
PACE	Homeowner	Pay for purchase of system through property tax bill
Mortgage Loan	Homeowner	Pay for purchase of system with mortgage or HELOC funding
Cash	Homeowner	Outright purchase

Customer Considerations

Why customers might choose one product over another

Purchase	Lease	Pay for Power
<p>Customers purchase when they:</p> <ul style="list-style-type: none">• Have tax appetite (they can take the 30% federal Investment Tax Credit)• Have access to capital (either their own funding or borrowed)• Are willing to assume system performance risk (no maintenance, monitoring, or insurance provided) <p>Confidential</p>	<p>Customers lease when they:</p> <ul style="list-style-type: none">• Lack tax-appetite (i.e. their tax bill is too small to benefit from the ITC)• Desire a lower or no up-front payment• Want a fixed monthly payment• Want comprehensive service <i>and</i> performance guarantees	<p>Customers choose a PPA when they:</p> <ul style="list-style-type: none">• Lack tax-appetite• Desire a lower or no up-front payment• Want comprehensive service

Filings for Leases and PPAs

The two most common investor filings

1. **UCC – 1 Financing Statement** with the secretary of state, to perfect the security interest granted to the investor under the consumer agreement
2. **Precautionary fixture filing** in the county records

Filings perfect a security interest in the solar asset & inform mortgage



Subsequent Purchasers (Leases and

How does it work?
PPAs)

- Consumer Agreement based on the Solar Access to Public Capital template provides for three possible outcomes upon sale of a home:
 - Subsequent purchaser of a home assumes the agreement
 - Purchaser or seller prepays the contract (retaining service agreement benefits)
 - Purchaser or seller buys out the system (retains the system but not third-party servicing)
- Certain investors also require subsequent purchasers to satisfy credit criteria
- Under SAPC-compliant contracts:
 - Homeowners may sell their homes at their discretion
 - System owners do not need to approve the home sale

Property Assessed Clean Energy

What is it, and how does it work?

Financing

- PACE offers 100% financing for renewable energy, energy efficiency, water conservation, seismic strengthening and electric vehicle charging infrastructure projects for residential and commercial homeowners
 - Term of financing limited by the useful life of projects being financed
 - Capacity generally limited to 10-15% of market value of property
 - Financing secured by special assessment on property
 - Repayments collected by county tax collector
 - Assessments are on par with property taxes and senior to mortgages and other debt of the property/owner



PACE and Real Estate

Designed to be transferrable to new property owner
Transactions

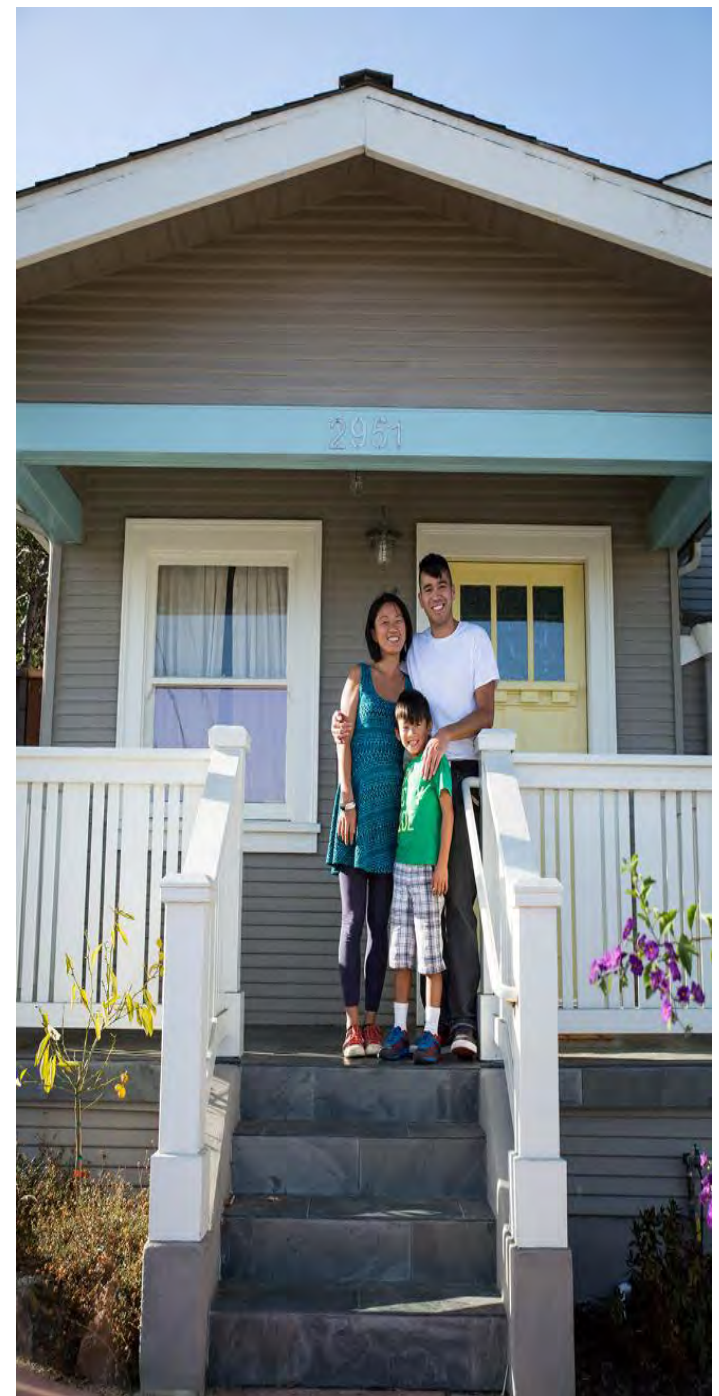
- Assessment securing the repayment of PACE financing can be transferred to the new owner of a property (not due upon sale)
- Federal Housing Finance Agency (FHFA) directed Freddie Mac and Fannie Mae not to purchase mortgages with PACE liens in place
- Prepayment of PACE financing can be negotiated at time of sale (PACE financing for residential properties is pre-payable at any time, without penalty)
- Significant improvements in consumer disclosures (Consumer Protection Policy)
- Incomplete disclosure of PACE liens has impacted some real estate deals



Homeowner Disclosures

Prior to contract signing

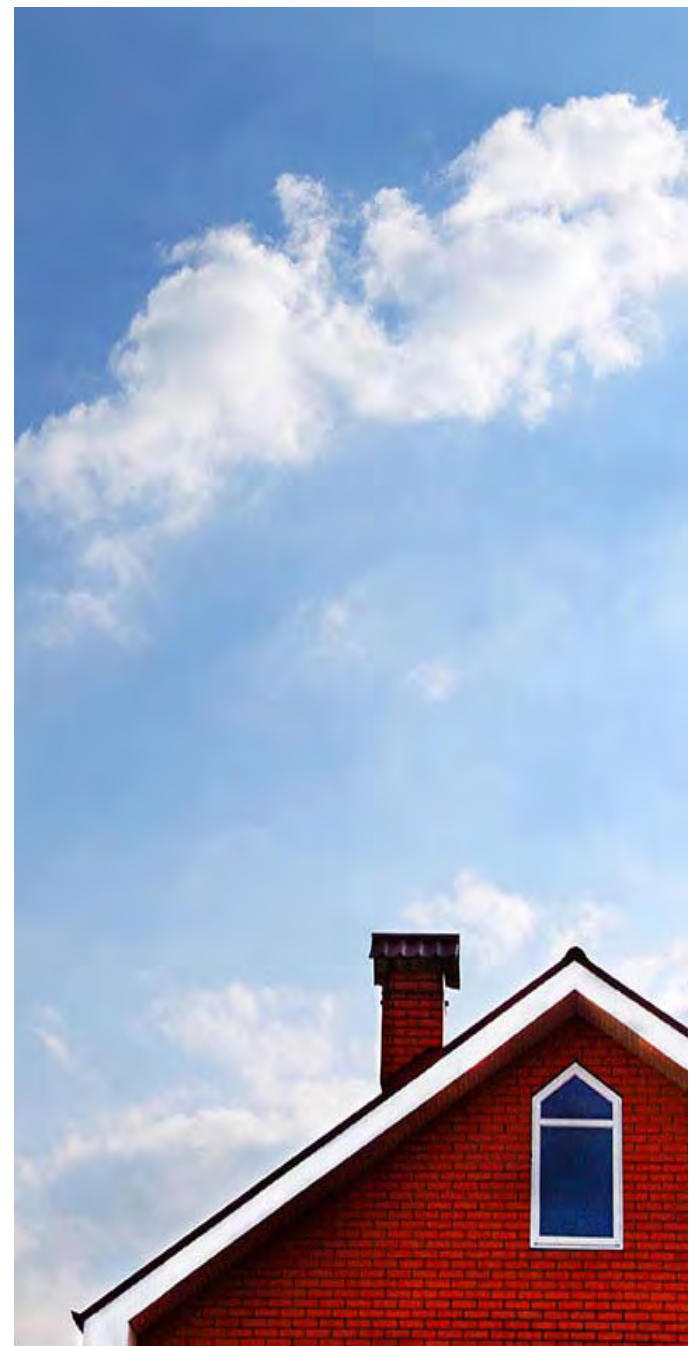
- Detailed and comprehensive financing agreement with separate one-page summary
- Summary document highlights:
 - Stated interest rate
 - APR
 - All associated fees
 - FHFA position
 - How PACE may affect a future sale of the property



Homeowner Disclosures

Prior to property sale

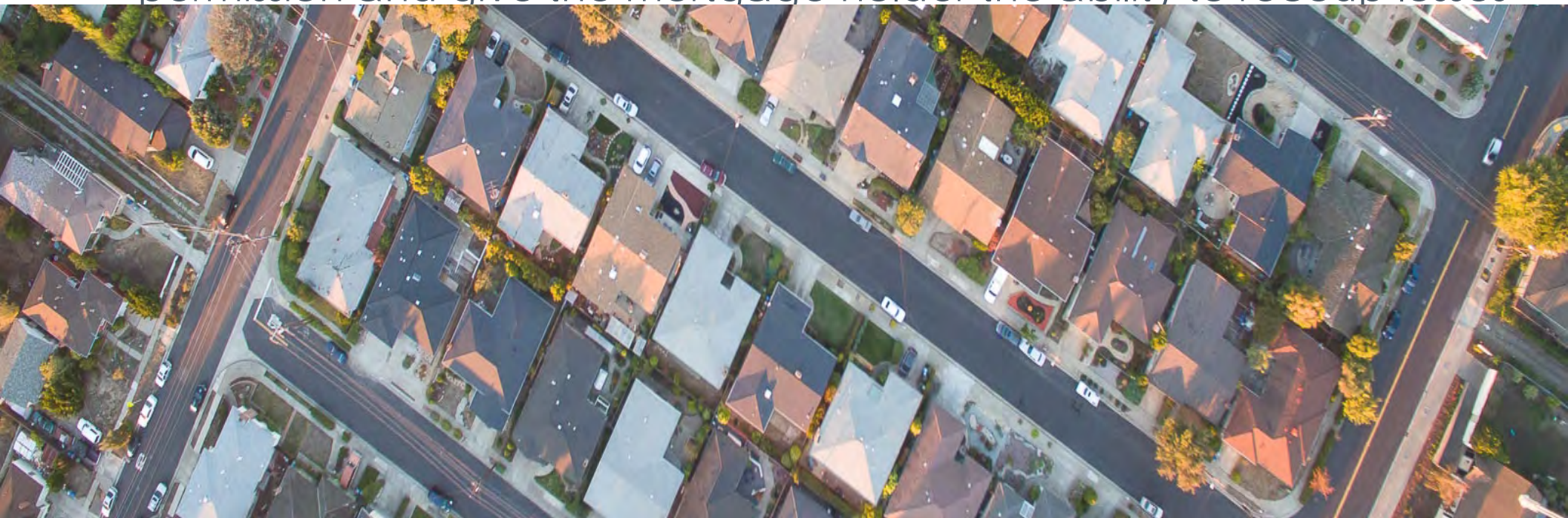
- PACE lien disclosure is part of the California Association of Realtors (CAR) Seller's Questionnaire
 - There is a question that plainly asks whether there is a PACE lien on the property
- PACE liens are now included in the Natural Hazard Disclosure that buyers and their lenders receive during escrow
- Every successive owner of a property with a PACE assessment will be required to disclose the existence of the PACE lien



Limited Subordination

Designed to facilitate closing of real estate transactions

- If a homeowner cannot sell or refinance property because of the existence of a PACE lien, “limited subordination” is available
 - PACE providers cannot legally place a tax assessment lower in priority than a mortgage
- Providers give up the right to foreclose without the mortgage holder's permission and give the mortgage holder the ability to recoup losses



Thank you

An aerial photograph of a single-story house with a grey shingled roof. Two sets of solar panels are installed on the roof. The house has tan horizontal siding and a large tan garage door. A concrete patio area in the backyard features a black basketball hoop. Three children are playing basketball on the patio. The house is surrounded by a brown mulch area and a wooden fence.

James Vergara,
Director
Spruce
415.742.8059
jvergara@sprucefinan

MLS Data

Appraising Solar/Energy Efficient SFR

From Access From Web From Text From Other Sources Existing Connections Refresh All Edit Links Sort Filter Advanced Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis Group Ungroup Subtotal Outline Analysis

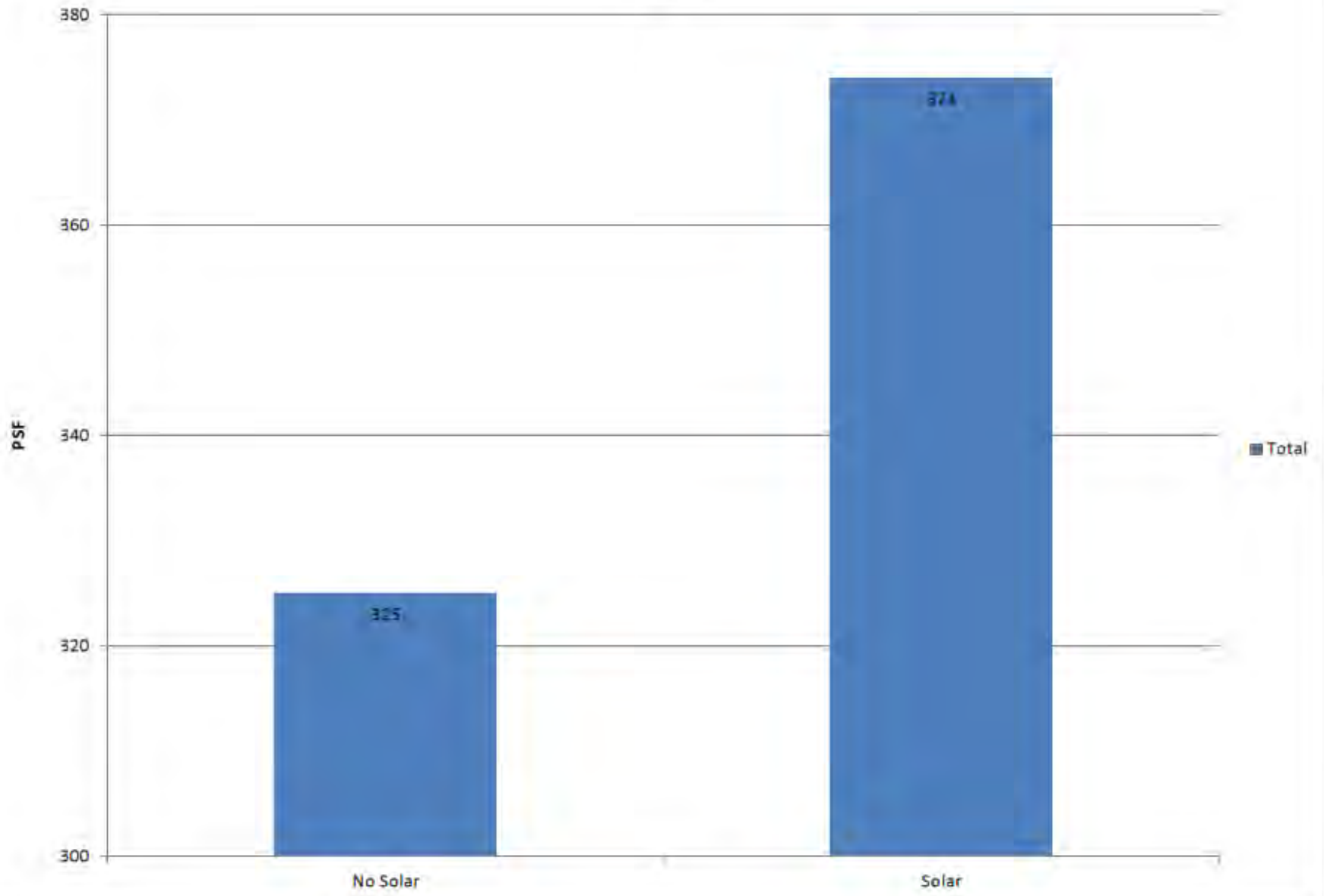
D37 1552

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Address	COEdate	Sold Price	EstSF	Beds	FB	Half BA	AC	FAU Heat	Garage	Solar Panels	Solar	Pool	Patio	YrBlt	LotsFApx	View
2	5125 Biltmore St	5/31/2016	\$701,000	1,903	3	2	1	N/K	Forced Air Unit	2	Yes	No	N/K		1978		
3	4065 Gros Ventre Ave	5/11/2016	\$750,000	1,633	3	2	0	Central Fo	Fireplace, Forced	2	Yes	No	N/K	Awning/Pc	1955	7,500	N/K
4	4761 Mount Abernat	4/25/2016	\$619,900	1,540	3	2	0	Central Fo	Forced Air Unit	2	Yes	No	N/K	Awning/Pc	1976	5,000	
5	3355 Hopi place	3/30/2016	\$645,000	1,575	3	2	0	Central Fo	Forced Air Unit	0	Yes	Yes	Below Ground		1954	6,300	Mountains/Hi
6	4636 Chateau Place	3/24/2016	\$475,000	1,486	3	1	0	N/K	Wall/Gravity	1	Yes	No	N/K	Slab	1963	9,100	
7	3520 Ottawa	1/25/2016	\$905,000	2,230	4	3	0	Central Fo	Forced Air Unit	2	Yes	No	Below Ground, Exercise	Deck	1953	6,900	
8	4761 Mt Abernathy	12/29/2015	\$515,000	1,540	3	2	0	Wall/Win	Forced Air Unit	2	Yes	No	N/K	Awning/Pc	1976		Panoramic, Ve
9	2909 Murat Street	12/15/2015	\$662,500	2,650	5	2	1	N/K	Forced Air Unit	2	Yes	No	Exercise	Brick	1976	7,000	
10	5940 Redbrook	12/10/2015	\$672,500	2,001	4	2	1	Wall/Win	Fireplace, Forced	2	Yes	No	N/K		1968	6,700	
11	3609 Paul Jones	10/19/2015	\$850,000	2,002	3	2	0	Central Fo	Forced Air Unit	2	Yes	No	N/K		1959	5,800	Mountains/Hi
12	3951 Ecochee	9/3/2015	\$495,000	806	2	1	0	N/K	Forced Air Unit	1	Yes	No	N/K	Covered, E	1955	6,800	
13	5085 Triana St	8/21/2015	\$429,975	1,018	3	1	0	N/K	Wall/Gravity	1	Yes	No	Below Ground	Covered	1960		N/K
14	4150 Raffee Dr	8/4/2015	\$870,000	1,794	4	2	1	N/K	Forced Air Unit	2	Yes	No	N/K	Awning/Pc	1965		
15	4765 Mount Durban	7/24/2015	\$620,000	2,140	4	3	0	N/K	Fireplace, Forced	0	Yes	No	N/K		1960		Bay, Ocean, Pt
16	5940 Redbrook Rd	7/15/2015	\$516,300	2,001	3	2	1	Wall/Win	Forced Air Unit	2	Yes	No	N/K	Balcony	1968	6,700	
17	3620 Argonne St.	7/8/2015	\$505,000	1,037	3	2	0	N/K	Wall/Gravity, Oth	1	Yes	No	N/K		1957	7,000	Mountains/Hi
18	6129 Castleton Dr	6/26/2015	\$565,000	1,799	4	2	0	Central Fo	Forced Air Unit	2	Yes	No	N/K		1961	6,500	
19	4441 Moraga	6/3/2016	\$695,000	1,355	3	2	0	N/K	Forced Air Unit	2	No	No	Below Ground		1956		Valley/Canyon
20	4904 Cannington Dr	6/2/2016	\$540,000	1,996	4	2	1	N/K	Fireplace, Forced	2	No	No	N/K	Covered, S	1977	8,000	
21	5258 Barstow Street	6/1/2016	\$487,000	1,264	2	2	0	Wall/Win	Wall/Gravity	1	No	No	N/K		1959		Other/Remark
22	3415 Conrad Avenue	6/1/2016	\$605,000	1,553	4	2	0	N/K	Forced Air Unit	2	No	No	N/K	Covered	1969	10,200	
23	4416 Mount Herbert	5/31/2016	\$540,000	1,715	4	2	0	N/K	Forced Air Unit	0	No	No	N/K		1959		
24	2969 Murat Street	5/31/2016	\$725,000	1,876	4	2	1	N/K	Forced Air Unit	2	No	No	N/K	Slab	1976		
25	4710 Chickasaw Ct.	5/31/2016	\$640,000	1,392	3	2	0	Central Fo	Forced Air Unit	1	No	No	N/K		1955	6,700	
26	4525 Cochise Way	5/27/2016	\$530,000	1,740	4	3	0	N/K	Forced Air Unit, Pe	2	No	No	N/K		1970		
27	4766 Lithrop Place	5/26/2016	\$505,000	1,125	3	2	0	N/K	Forced Air Unit	2	No	No	N/K		1965	8,300	N/K
28	5219 GAYLORD PLACE	5/25/2016	\$635,000	1,361	4	2	0	N/K	Forced Air Unit	4	No	No	N/K		1965	10,700	N/K
29	5137 Rebel Road	5/24/2016	\$580,000	1,326	3	2	0	Central Fo	Forced Air Unit	2	No	No	N/K	N/K	1958		
30	4765 Aberdeen	5/23/2016	\$495,000	1,176	4	2	0	N/K	Wall/Gravity	2	No	No	N/K		1956		
31	2950 Chicago Street	5/20/2016	\$900,000	2,446	3	2	1	Wall/Win	Forced Air Unit	1	No	No	N/K	Awning/Pc	1982	3,400	Parklike
32	4854 Mount Durban	5/20/2016	\$650,000	1,288	3	2	0	N/K	Forced Air Unit	2	No	No	N/K		1960	7,900	N/K
33	4562 Leathers St	5/20/2016	\$728,000	2,617	5	2	1	Central Fo	Forced Air Unit	2	No	No	N/K	Slab	1972	6,400	
34	2666 Havasupai	5/20/2016	\$620,000	1,360	4	2	0	N/K	Forced Air Unit	2	No	No	N/K		1957	6,400	
35	5037 ARROYO LINDO	5/20/2016	\$656,000	1,075	3	2	0	Central Fo	Forced Air Unit	2	No	No	Below Ground	Covered, C	1958	15,600	Mountains/Hi
36	4370 Berwick	5/20/2016	\$540,000	1,404	4	2	0	N/K	Forced Air Unit	2	No	No	N/K	Covered, S	1966	6,900	
37	5135 Arlene Place	5/18/2016	\$567,000	1,552	4	2	0	Wall/Win	Forced Air Unit	2	No	No	N/K	Enclosed	1962	5,600	
38	5135 Arlene Place	5/18/2016	\$567,000	1,552	4	2	0	Wall/Win	Forced Air Unit	2	No	No	N/K	Enclosed	1962	5,600	

Microsoft Excel ribbon showing tabs: Home, Insert, Page Layout, Formulas, Data, Review, View, Developer. The ribbon includes various tool groups such as Connections, Sort & Filter, Data Tools, and Outline.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Address	COEDate	Sold Price	EstSF	Beds	FB	Half BA	AC	FAU Heat	Garage	Solar Panels	Solar	Pool	Age	Lot	View		
2	5125 Biltmore St	5/31/2016	\$701,000	1,903	3	2	1	0	1	2	1	0	0	38	6000	0		
3	4150 Raffee Dr	8/4/2015	\$870,000	1,794	4	2	1	0	1	2	1	0	0	51	6000	0		
4	4761 Mount Abernathy Ave	4/25/2016	\$619,900	1,540	3	2	0	1	1	2	1	0	0	57	5,000	0		
5	6129 Castleton Dr	6/26/2015	\$565,000	1,799	4	2	0	1	1	2	1	0	0	40	6,500	0		
6	5940 Redbrook	12/10/2015	\$672,500	2,001	4	2	1	0	1	2	1	0	0	58	6,700	0		
7	5940 Redbrook Rd	7/15/2015	\$516,300	2,001	3	2	1	0	1	2	1	0	0	46	6,700	0		
8	3951 Ecochee	9/3/2015	\$495,000	806	2	1	0	0	1	1	1	0	0	56	6,800	0		
9	4065 Gros Ventre Avenue	5/11/2016	\$750,000	1,633	3	2	0	1	1	2	1	0	0	60	7,500	0		
10	4636 Chateau Place	3/24/2016	\$475,000	1,486	3	1	0	0	1	1	1	0	0	40	9,100	0		
11	4765 Mount Durban	7/24/2015	\$620,000	2,140	4	3	0	0	1	0	1	0	0	59	6000	1		
12	3609 Paul Jones	10/19/2015	\$850,000	2,002	3	2	0	1	1	2	1	0	0	44	5,800	1		
13	3620 Argonne St.	7/8/2015	\$505,000	1,037	3	2	0	0	1	1	1	0	0	55	7,000	1		
14	4761 Mt Abernathy	12/29/2015	\$515,000	1,540	3	2	0	0	1	2	1	0	0	48	6000	1		
15	2909 Murat Street	12/15/2015	\$662,500	2,650	5	2	1	0	1	2	0	1	1	61	7,000	0		
16	5085 Triana St	8/21/2015	\$429,975	1,018	3	1	0	0	1	1	0	1	1	48	6000	0		
17	3355 Hopi place	3/30/2016	\$645,000	1,575	3	2	0	1	1	0	0	1	1	61	6,300	1		
18	3520 Ottawa	1/25/2016	\$905,000	2,230	4	3	0	1	1	2	0	1	1	63	6,900	0		
19	4416 Mount Herbert Ave	5/31/2016	\$540,000	1,715	4	2	0	0	1	0	0	0	0	40	6000	0		
20	2969 Murat Street	5/31/2016	\$725,000	1,876	4	2	1	0	1	2	0	0	0	61	6000	0		
21	5137 Rebel Road	5/24/2016	\$580,000	1,326	3	2	0	1	1	2	0	0	0	56	6000	0		
22	4525 Cochise Way	5/27/2016	\$530,000	1,740	4	3	0	0	1	2	0	0	0	39	6000	0		
23	4765 Aberdeen	5/23/2016	\$495,000	1,176	4	2	0	0	1	2	0	0	0	51	6000	0		
24	2666 Havasupai	5/20/2016	\$620,000	1,360	4	2	0	0	1	2	0	0	0	53	6,400	0		
25	4562 Leathers St	5/20/2016	\$728,000	2,617	5	2	1	1	1	2	0	0	0	47	6,400	0		
26	4710 Chickasaw Ct.	5/31/2016	\$640,000	1,392	3	2	0	1	1	1	0	0	0	51	6,700	0		
27	4854 Mount Durban	5/20/2016	\$650,000	1,288	3	2	0	0	1	2	0	0	0	56	7,900	0		
28	4904 Cannington Dr	6/2/2016	\$540,000	1,996	4	2	1	0	1	2	0	0	0	57	8,000	0		
29	4766 Lithrop Place	5/26/2016	\$505,000	1,125	3	2	0	0	1	2	0	0	0	62	8,300	0		
30	3415 Conrad Avenue	6/1/2016	\$605,000	1,553	4	2	0	0	1	2	0	0	0	59	10,200	0		
31	5219 GAYLORD PLACE	5/25/2016	\$635,000	1,361	4	2	0	0	1	4	0	0	0	58	10,700	0		
32	5258 Barstow Street	6/1/2016	\$487,000	1,264	2	2	0	0	1	1	0	0	0	57	6000	1		
33	2950 Chicago Street	5/20/2016	\$900,000	2,446	3	2	1	0	1	1	0	0	0	40	3,400	1		

SFR



REMARKS AND SHOWING INFO

Artist designed 3 bedroom 2 bath home in scenic and serene neighborhood of Jacumba Hot Springs. The home faces a wilderness area with a pond and hiking trail. Its many unique features include, Front Courtyard with rock, cactus garden and water feature, Straw bale (adobe) walls with murals outside and inside the walls. Rustic Spanish wooden gates, Front vestibule with murals and custom stained glass panel (of Jacumba Peak) on front door. Vestibule includes arched granite pillars. Please see supplement.

Conf. Remarks: **All buyers to be pre approved. Listing agent will courtesy show your buyers with aptmt. Listing agent to be present at all showings.**

Cross Streets: [REDACTED] Map Code: [REDACTED] CBB%: **3.00** CBB\$:
 Directions To Property: [REDACTED]
 Showing: **All buyers to be pre qualified, and listing agent to be present at all showings.**
 Occupied: **Owner** Occupant: [REDACTED] Occupant Phone: [REDACTED] Lockbox: **No**

Listing Agent: [REDACTED] BRE License#: [REDACTED]
 2nd Agent: [REDACTED] Broker ID: [REDACTED]
 Listing Office: [REDACTED]

Off Market Date: [REDACTED] Close of Escrow: [REDACTED] Financing: **VA** Concessions:
 Selling Agent: [REDACTED] Selling BRE License#: [REDACTED]
 Selling Office: [REDACTED] 0 Sale Price: [REDACTED] Exp Date:

Wtr Dist: [REDACTED] Schl Dist: **Mountain Empire Unified** Equipment: **Dishwasher, Disposal, Garage Door Opener, Microwave, Range/Oven, Refrigerator, Solar Panels**
 HO Fee Includes: [REDACTED]

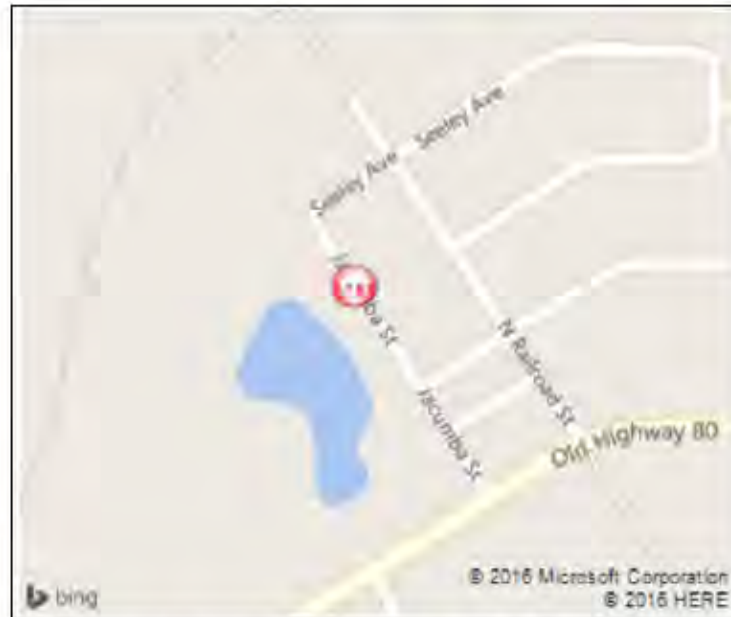
Home Owner Fees: **0.00** Paid:
 Other Fees: **0.00** Paid:
 CFD/Mello-Roos: **0.00** Paid:
 Total Monthly Fees: **0** Assessments:
 HOA: Other Fee Type:
 HOA Phone: Zoning:
 Prop Mgmt Co: Entry Level Unit:
 Prop Mgmt Ph: Cmplx Feat:

Est. % Owner Occupancy:
 Terms: **Cash, Conventional, FHA, VA**
 Cooling: **Central Forced Air**
 Heat Source: **Propane** Heat Equip: **Forced Air Unit**
 Fireplace Loc: **FP in Living Room**
 Fireplaces(s): **1**

Living Room: 18X15	Master BR: 18X16
Dining Room: 10X10	Bedroom 2: 12X9
Family Room: 0X0	Bedroom 3: 12X9
Kitchen: [REDACTED]	Bedroom 4:
Breakfast Area:	Bedroom 5:
Extra Room 1:	Extra Room 3:
Extra Room 2:	

SqFt Source: **Assessor Record** Lot Size: **7,500-10,889...#Acres 0.2...**
 Lot Size Source: **Assessor Record** Units/Building:
 Lot SqFt Approx: **8,712** Units/Complex:
 Laundry Location: **Garage**
 Sewer/Septic: **Septic Installed** Stories in Building:

Features also include, 11 varieties of fruit trees (apple, fig, persimmon, pomegranate, loquat, apricot, Santa Rosa Plum, White Nectarine, peach, lemon, mulberry, and two grape varieties and Extensive and fragrant rose garden. Interior boasts Custom granite floors with granite baseboards, Hardwood floors in bedrooms, Extra deep river rock tub in guest bath with granite back wash. Granite shower in Master bath, custom stained glass windows in kitchen, front door and both bathrooms. Massive granite and volcanic rock fireplace. Open dining/kitchen area with beautiful desert oasis mural. Built in Microwave and fan over propane stove, and Dishwasher. Lots of storage space in kitchen and hallway. Light tubes in hallway and both bathrooms. Third bedroom is two part home office/den with windows overlooking the back garden. Not just another pretty home, this home is complete with all the upgrades possible. 18 roof top solar panels, (German Made) installed in 2012, (18 micro inverters total system 5.75 kilowatt hours. Average electric bill is less than 15\$ per month, many months without cost. Back up Propane generator (17 kilowatts) this turns on automatically should there be a power outage, and turns off automatically when power is restored. This unit will run the entire house. High efficiency forced air central Heating and A/C (3 1/2 ton) installed August 2010. There is so much more, this truly is a must see property.





Virtual Tour Link



Restrictions: **N/K**

View:

Pool: **Below Ground, Private**

MandRem **None Known**

Pets:

Age Restrictions: **NK**

Stories: **2 Story**

Listing Type **ER**

REMARKS AND SHOWING INFO

Welcome to life with more space to dream and live! Yearn to go gourmet in the chef's kitchen and be amazed at the walls of windows looking out to the resort-like back yard. Rest your head upstairs or down with a choice of Master bedrooms and play or entertain in the spacious and open Great room. Come and live a more abundant lifestyle!

Conf. Remarks: **Home is semi-vacant and easy to show. Pool Table and Cabinet in Great Room to convey with house. Owner to add closet in 5th bedroom (office) if Buyer wants.**

Cross Streets: **Lipscomb** Map Code: CBB%: **2.75** CBB\$: **0**

Directions To Property: [REDACTED]

Showing: [REDACTED]

Occupied: **Owner** Occupant: **Caregiver** Occupant Phone: [REDACTED] Lockbox: **Yes**

Listing Agent: [REDACTED] BRE License#: [REDACTED]

2nd Agent: [REDACTED] Broker ID: [REDACTED]

Listing Office: [REDACTED]

Off Market Date: [REDACTED] Close of Escrow: [REDACTED] Financing: **CONV** Concessions:

Selling Agent: [REDACTED] Selling BRE License#: [REDACTED]

Selling Office: [REDACTED] Sale Price: [REDACTED] Exp Date:

Wtr Dist: Schl Dist: Equipment **Dishwasher, Disposal, Dryer, Garage Door Opener, Microwave, Pool/Spa/Equipment, Range/Oven, Refrigerator, Shed(s), Solar Panels, Washer**

Home Owner Fees: **0.00** Paid: HD Fee Includes:

Other Fees: **0.00** Paid:

CFD/Mello-Roos: **0.00** Paid:

Total Monthly Fees: **0** Assessments:

HOA: Other Fee Type:

HOA Phone: Zoning:

Prop Mgmt Co: Entry Level Unit:

Prop Mgmt Ph: Cmplx Feat:

Est. % Owner Occupancy

Terms: **Cal Vet, Cash, Conventional, FH...**

Cooling: **Central Forced Air**

Heat Source: **Natural Gas** Heat Equip: **Fireplace, Forced Air Unit**

Fireplace Loc:

Fireplaces(s):

Living Room: 18x13	Master BR: 13x12
Dining Room: combo	Bedroom 2: 11x10
Family Room: 20x14	Bedroom 3: 13x12
Kitchen: 14x13	Bedroom 4: 21x18
Breakfast Area:	Bedroom 5: 12x11
Extra Room 1: 21x18	Extra Room 3:
Extra Room 2:	

SqFt Source: **Assessor Record** Lot Size: **4,000-7,499 SF#Acres 0.1...**

Lot Size Source: **Assessor Record** Units/Building:

Lot SqFt Approx: **5,400** Units/Complex:

Laundry Location: **Garage**

Sewer/Septic: **Sewer Connected** Stories in Building:



Rene Seabourne
Certified Residential Real Estate Appraiser

Southern California Appraisal Services

(858) 324-1880

Email: appraisalcalif@yahoo.com

Blog: greenrealesateappraiser.com

Scappraisals.com

SHINE THE LIGHT



SHINE THE LIGHT

- Solar is a benefit to Buyers
- Solar adds value to a Seller's house
- Listing Agents need to present more solar details upfront on the listing
- Buyer's Agents need to uncover solar details early whether or not Listing Agents have details early

Benefits to Buyers

- Reduced electricity costs
- Provide power to electric cars
- Help reduce CO2 emissions
- Feel like they are helping in local energy solutions
- When the Buyer sells in the future the solar adds value

Value to a Seller's house

- Reduction to electrical bills increases home value
- Allows Buyer use utility expenditures elsewhere
- Other comparable homes may not have solar on them
- Can get marketed as a green home that's energy efficient

Listing Agents & the Listing

- Shine the light on this great asset!
- Serve the Sellers by providing the benefits and details in the marketing
- Mention details in the “Remarks” section because that gets rebroadcasted
- Give even more details in other parts of listing
- Have Sellers provide details as part of pre-listing

Buyers Agent's need a flashlight

- Buyers Agent's should be asking for solar disclosures upfront, even before an offer is made
- Need to realize that delays caused by solar can delay deal closings
- Inform their clients that they will need to qualify if a system is financed

MLS Examples

- 5% of homes on the market have “solar” in “remarks” section of MLS listing.
- Solar electric, thermal, solar lighting, solar pool, solar atrium, passive solar
- “Solar” vs. “36 solar panels powers both homes & pays sellers \$400 a year for their pocket
AND!!...see supplements - 36 solar panels bought and paid for keeps enough energy supply for Main house and guest house running all year and still gives sellers a \$400 check every year for their pocket.

MLS Examples

- “SOLAR AND WELL ! Solar will be paid off by seller at COE.” vs. “The solar is owned = owner pays \$200 a year for electric.”

Thank you and Go Solar!

Mark Pearson

Realtor[®], CNE, Keller Williams Realty

markpearson@kw.com

[Facebook.com/RealtorMarkPearson](https://www.facebook.com/RealtorMarkPearson)

Cell 760-650-5348

CA BRE# 01926841

Many Thanks to

- Ben Hoen
- Sandra Adomatis
- James Vergara
- Rene Seabourne
- Mark Pearson
- Department of Energy
- Lynn Dordahl
- Craig Foley

Speakers

- Ben Hoen bhoen@lbl.gov
(845) 758-1896
- Sandra Adomatis adomatis@hotmail.com
(941) 505-8783
- James Vergara jvergara@sprucefinance.com
(415) 742-8059
- Rene Seabourne appraisalcalif@yahoo.com
(858) 324-1880
- Mark Pearson markpearson@kw.com
(858) 720-1900

Links to Publications

- [Selling Into the Sun](#)
- [Exploring California PV Home Premiums](#)
- [Appraising Into The Sun](#)
- [Residential Property Assessed Clean Energy in California](#)
- [Survey of Buyers, Sellers and Realtors Involved in San Diego Third-Party Owned Solar Home Transactions](#)
- [An Analysis of Solar Home Paired Sales across Six States](#)
- [Residential Green Valuation Tools](#)



Center for
Sustainable Energy®

858 – 244 – 1177

csi@energycenter.org