

Sustainable Cities Network
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Arizona State University

The Challenges in Getting Solar Started in Your Community

Harvey Bryan, Ph.D., FAIA, LEED-AP
School of Architecture & Landscape Architecture
School of Sustainability
Arizona State University
harvey.bryan@asu.edu

The changing public perceptions of solar

Most public opinion polls have found that Americans strongly support solar energy (Roper 1979 & 1989). In the latest poll conducted by the Gallup Organization (2001) found that 91% of survey respondents indicated that they looked favorably on energy from the sun.

However, when it comes to actually making an investment in their own system, Americans are not yet buying in numbers.

The question we must ask is why?

The changing public perceptions of solar

Detailed surveys have identified specific reasons for consumers' hesitance to invest in solar energy.

Sozer, H; Elnimeiri, M. (2003) and Faiers, A; Neame, C. (2005) found that **cost, system reliability, appearance (aesthetics) and constructability** to be the major concerns voiced by consumers for not choosing solar for their homes.

We now need to ask are these concerns justifiable?











Were these concerns justifiable?

These concerns were justified and has caused significant marketing problems for solar energy, primarily because early adopters are not driven by the same motives as the general public.

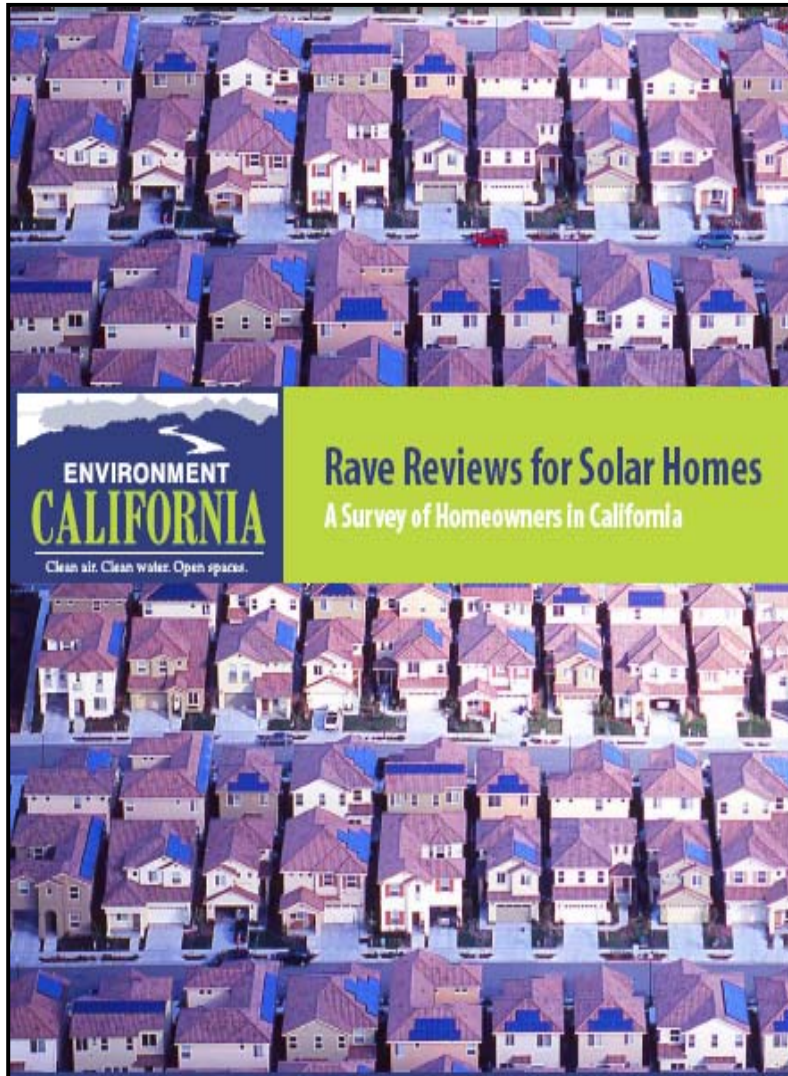
Characteristics of early adopters:

- More years of education
- Have a greater interest in technology
- Cost is not important, what matters is what it is worth to them as individuals
- Will put up with inconvenience or reliability problems because they are focused on the long-term benefits
- Not concerned with appearance

However, this phase is a necessary prerequisite for successful technology diffusion.

The changing public perceptions of solar

Fast forward 20 years: Two recent studies of solar homes



Occupied Home Evaluation Results

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PREPARED FOR:
MIDWEST RESEARCH INSTITUTE,
NATIONAL RENEWABLE ENERGY LABORATORY DIVISION,
1617 COLE BOULEVARD,
GOLDEN, CO
80401-3393

PREPARED BY:
BUILDING INDUSTRY RESEARCH ALLIANCE (BIRA)
7407 TAM O' SHANTER
STOCKTON, CA 95210-3370
TEL: (209) 473-3000 / FAX: (209) 474-0817
CONTACT: RYAN KERR OR BRUCE SACCHI

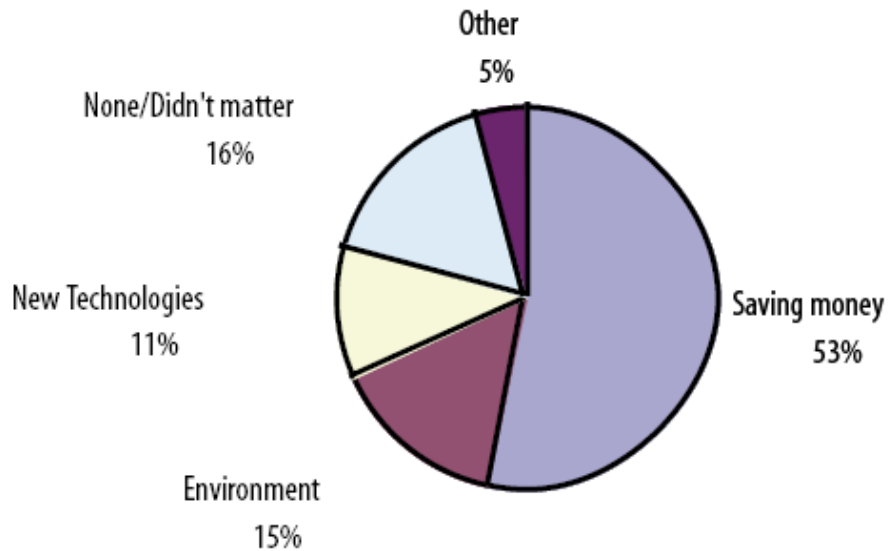
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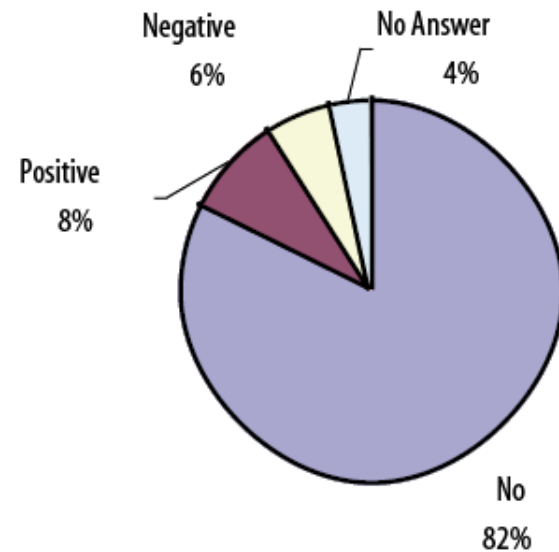
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Rave reviews from solar homeowners

Top motivations for buying a solar home

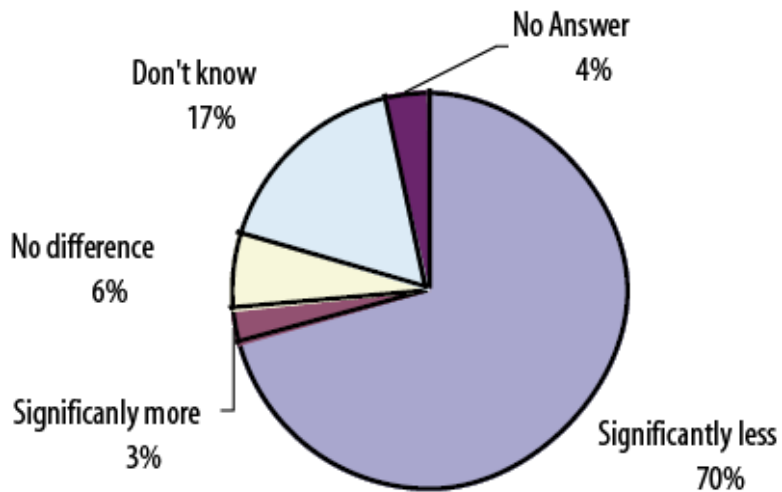


Do the panels affect your home's appearance?

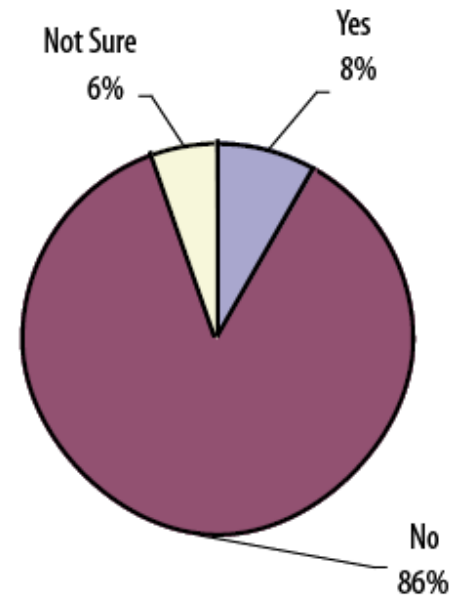


Rave reviews from solar homeowners

Difference between electric bills in solar home vs. previous non-solar home

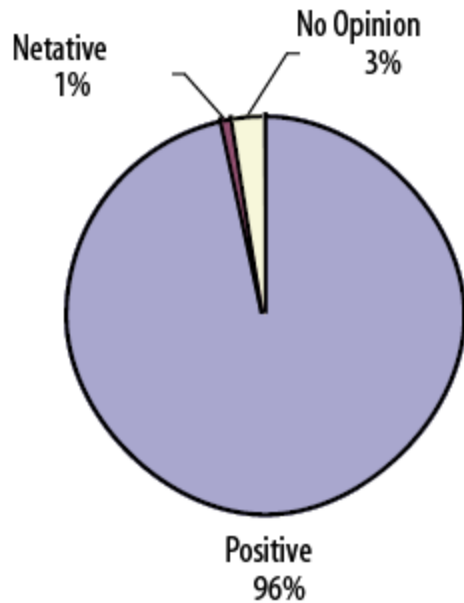


Have you had any problems with your solar power system?

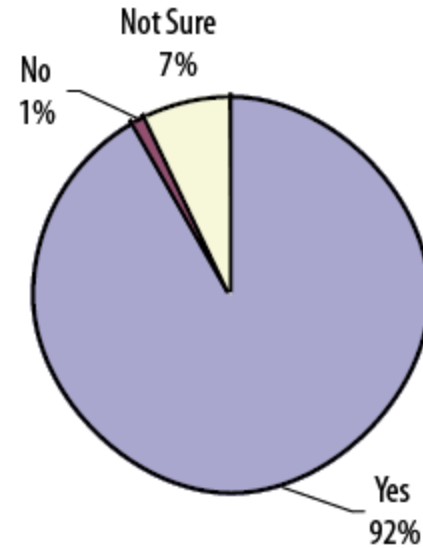


Rave reviews from solar homeowners

What is your overall impression of solar power?

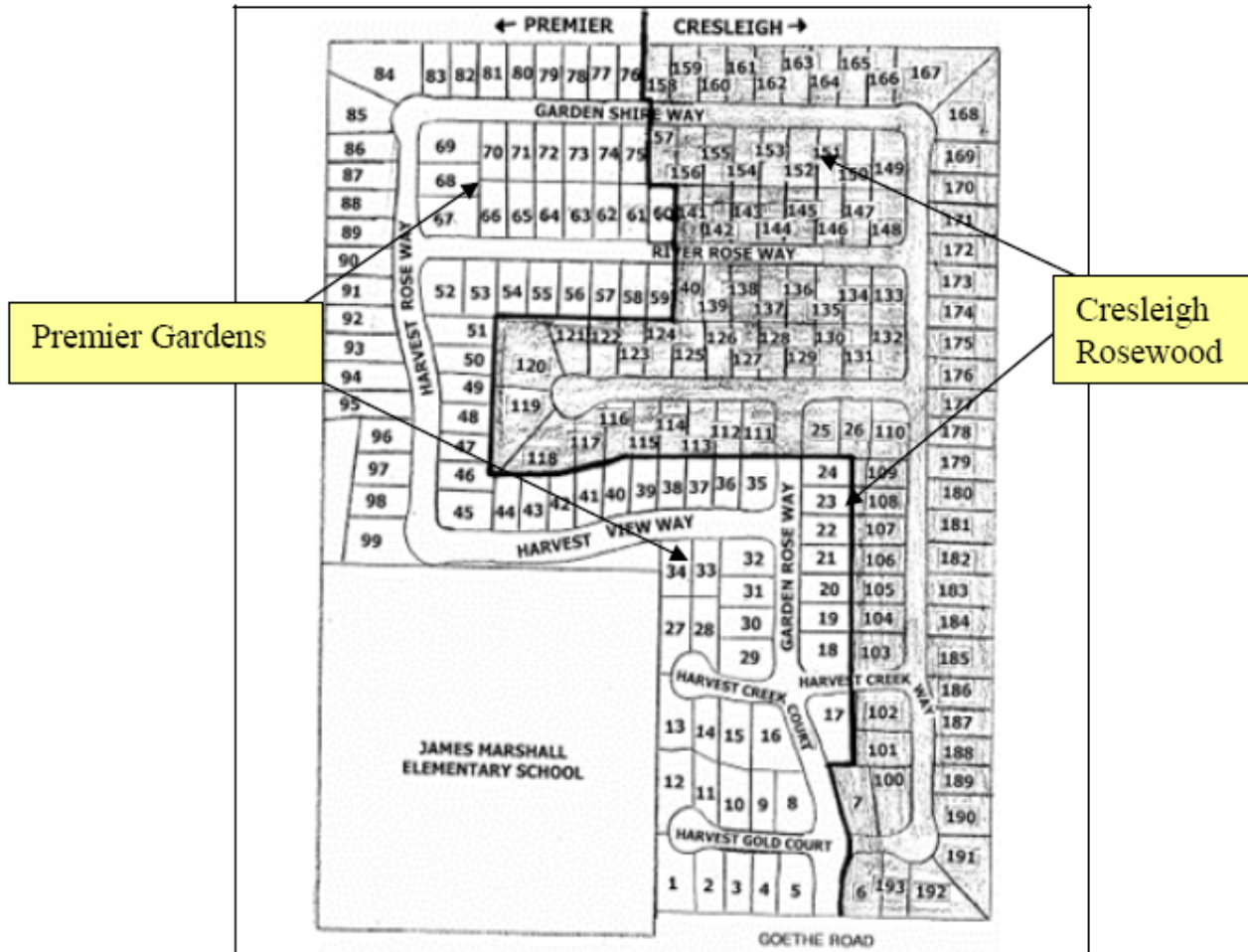


Would you recommend a solar home to a friend?



Premier Gardens, Rancho Cordova, CA.

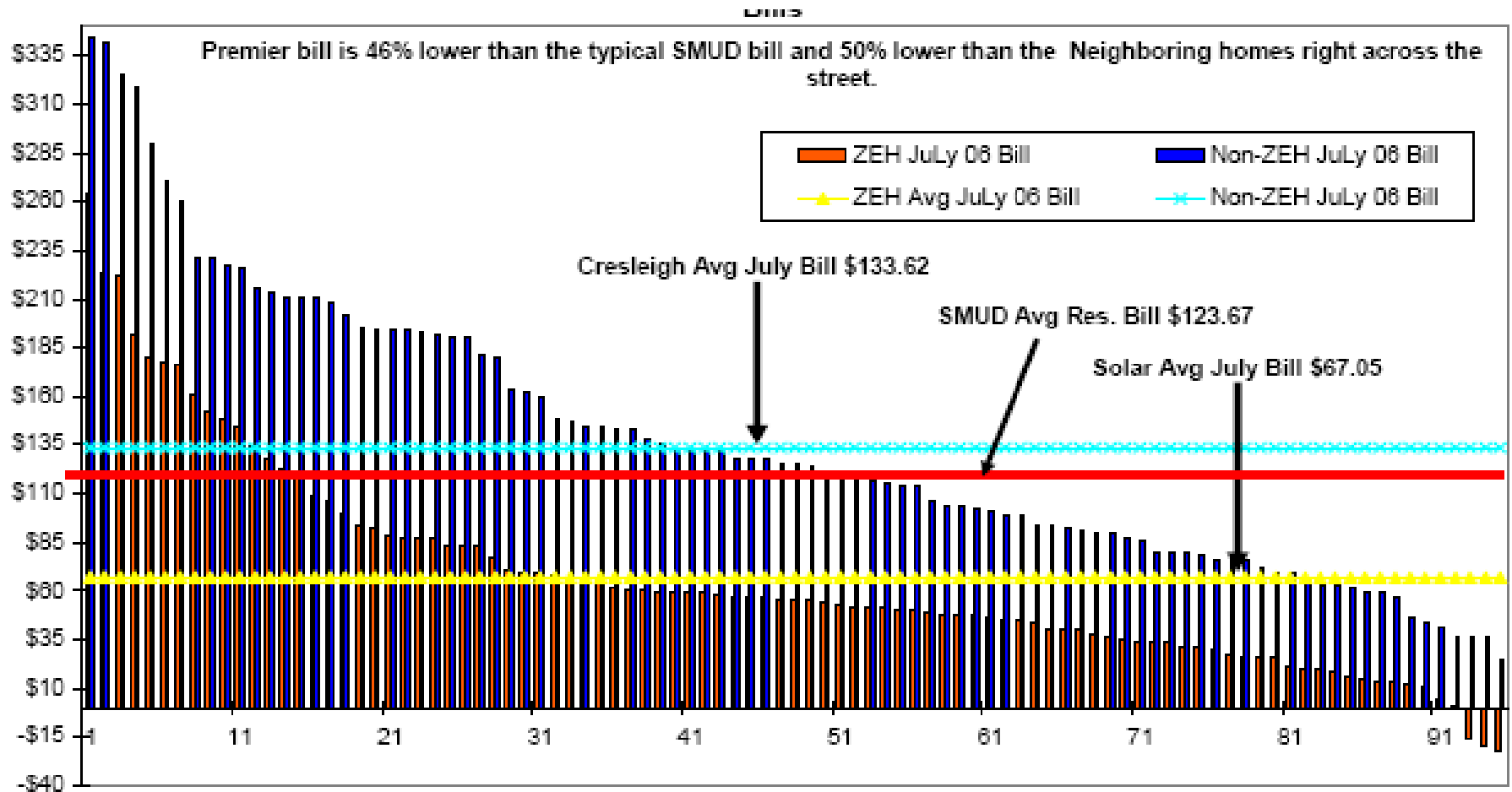




Premier Garden's included a highly integrated 2kW PV system on each house



Premier vs. Cresleigh electric bills for July 2006



Occupied home evaluation report

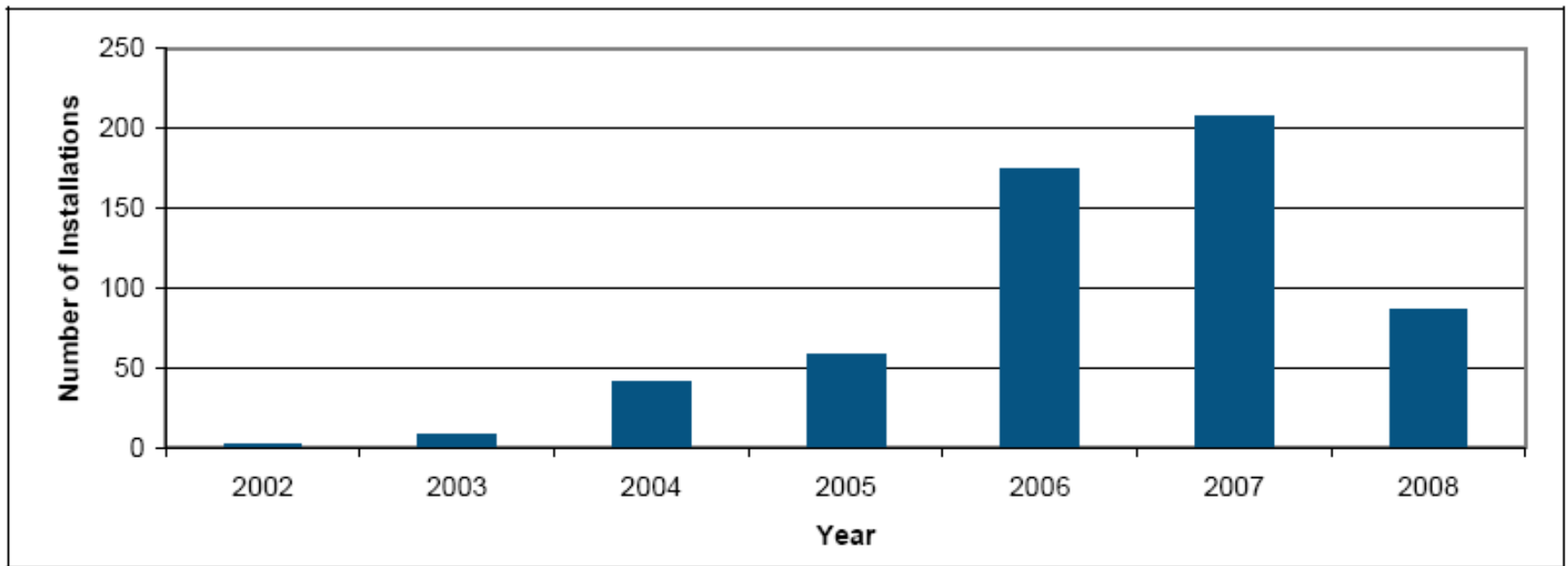
- Premier homes had a 44% in annual energy savings over Cresleigh homes
- Premier subdivision sold faster than the Cresleigh subdivision
- Premier buyers were younger than Cresleigh buyers
- Premier buyers were more environmental conscious than Cresleigh buyers
- Premier buyers had a lower household income than Cresleigh buyers
- Premier buyers had a higher education than Cresleigh buyers (2:1 @ degrees)
- Premier buyers visited twice as many homes as Cresleigh buyers
- Premier buyers did more research than did Cresleigh buyers

Premier Homes have found:

- The key to selling a solar home is educating the buyer
- The buyer must understand how a solar home works and the benefits it offers
- A two-pronged approach is most effective (good for the environment + energy efficient, which saves money)

Need to undertake a solar homes survey for Arizona

Number of residential PV in Arizona by year (581 to May 2008)



Source: R.W. Beck







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Characteristics of this most recent phase

- Provide a balance between concerns and the ability to execute multiple concerns simultaneously, such as cost, system reliability, appearance (aesthetics), constructability, etc.
- Provide a seamless and one stop delivery process
- Educate the buyer as to how a solar home works and to the benefits it offers
- Provide continuous consumer feedback to the process
- Provide a high level of consumer comfort – make it like buying a refrigerator

However, there are still some problems

HOA's are reluctant to accept solar (even given AZ law).

Building inspectors don't understand solar well and often give incorrect interpretations on the code.

Utilities need to standardize their interconnection rules and their field inspection processes.

Lack of trained solar installers is becoming critical in some areas.

Conclusion

The solar industry has come along way in 25+ years.

Educating the consumer is key to the success of solar.

Educating building professionals to solar.

The architectural challenges, especially the aesthetics for residential systems are being aggressively addressed by the solar industry.

To maintain the high level of public support it has historically received the solar industry must be continuously diligent concerning the products and services it provides.

Thank You

harvey.bryan@asu.edu