Evaluation of Energy Trust of Oregon's Solar Programs: Solarize SE Southeast Portland and Solar Energy Review

Prepared for
Client Energy Trust of Oregon

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Acknowledgements

> ***The cost/benefit analysis indicated that we would begin to break even when we were either very old or dead. We debated whether we wanted to invest when we might not be able to see a financial break- even point. But then we decided it was simply the right thing to do, even if we were dead!! - Full Participant, Solarize SE Portland***

Many thanks to Brien Sipe at Energy Trust of Oregon, our intrepid project manager, who rounded things up and kept them going despite various bumps along the research way. Thanks also are due to Matthew Taylor who provided such strong analytical support and insights, as well as project management. We also greatly appreciate the staff and contractors for the solar programs who kindly agreed to be interviewed and provide us with other resources. Finally, thanks to all the people who participated in the solar programs, at whatever level, for giving their time to provide feedback and help chart the future.

Executive Summary

Energy Trust of Oregon (Energy Trust) undertook this study to gauge the effectiveness of and participant satisfaction with two of its major solar efforts in 2009 and early 2010: Solarize SE Portland (Solarize SE) and Solar Energy Reviews (SER). Both these programs are designed to accelerate decision making and to minimize barriers to adoption of solar energy systems in homes. In particular, both programs would like to shorten the typical 2+ year solar installation decision-making process.

Solarize SE, a market building initiative, brought together Southeast Uplift, Mt. Tabor Land Use Committee, and Energy Trust to create a community solar installation program for Southeast Portland homeowners; the program attracted over 300 initial participants and resulted in over 100 households installing solar. The 2009 SER program provided solar reviews to over 200 homeowners to encourage speedier adoption of solar technologies. If possible, they also installed some energy efficiency improvements that would result in instant savings, such as compact fluorescent light bulbs and efficient showerheads. In addition, if time permitted, they provided advice on energy efficiency improvements.

The Cadmus Group, Inc, conducted this evaluation from April through July 2010. Findings in this report are based on:

- Review of relevant background materials.
- Telephone interviews with two Energy Trust solar staff, two program implementers and vendors, and one community partner.
- On-line surveys with 57 Full Participants (Participants) and 78 Partial Participants in Solarize SE Portland.
- On-line survey with 32 SER participants.
- Energy Trust program tracking system data (Fast Track).

Further information on research purposes and methods, including response rates to the surveys, may be found in Chapter 1. More detailed findings about evaluation results are included in subsequent chapters.

Key Findings: Solarize SE Portland

Overall

- Essential elements of Solarize SE are that it:
  - Selects a single contractor through a competitive bidding process;
  - Offers a low bulk price;
  - Makes the path to installing solar easier;
  - Steers participants to Energy Trust incentives and state and federal tax credits;
  - Educates consumers about solar energy;
  - Is community based and driven;

  - Is sponsored by known and credible organizations; and
  - Makes solar visible and desirable to the neighborhood and beyond.
- Solarize SE received rave reviews from implementers, including Energy Trust staff, its neighborhood partners, and the preapproved solar contractor. As one respondent put it, Solarize SE means *success, community, participation.*
- Participant satisfaction ratings were also high (generally 80%–90% very satisfied and satisfied), with 10% or less dissatisfaction ratings on all educational, communication, and sign-up dimensions. Full participants cited the easy process and good bulk prices as the program's two greatest strengths.
- Participants registered less satisfaction with contractor site assessments and communication (72%–74% very satisfied and satisfied). The lowest satisfaction ratings came from the program component asking participants to help recruit others.
- Participants uniformly liked their solar equipment after it was installed and operating, with one-half saying it was better than they expected it to be.

Key Drivers and Barriers

- Receiving a good price or deal was by far the overriding factor in driving Participants to install solar. However, once their systems were installed, the largest share of Participants chose the program's easy process as one of its greatest strengths.
- Partial Participants, on the other hand, had a greater focus on being green, followed by a desire to reduce costs, and had less attachment to program support.
- Participants who received a SER rated those services highly.
- The biggest barrier for the small subset of Participants who encountered bumps in the process was they felt the contractor was unreliable.
- Partial Participants tended to drop out after the solar contractor's site assessment or after receiving a bid from the contractor. One-quarter of Partial Participants dropped out after a site visit revealed their homes were not appropriate for solar, largely due to having too much shade.
- The biggest barrier for qualified Partial Participants was not being able to afford solar.

Marketing Messages

- Consistent with other findings, Participants chose pragmatic messages as the ones that would motivate them: *Solar is a good investment; Solar makes energy sense.*
- Partial Participants most favored broader environmental messages.

Follow-Through

- Installation rates were impressive, as shown in the table below; notably homes not receiving a SER as part of Solarize SE had the highest installation rate of 42%. Although the data are not definitive, it appears customers who chose to have a SER may have had poorer sites or been less ready or less able to install solar equipment.

Table ES - 1 Solarize SE PV Installation Rates

	N	% follow Through
All homes, including those receiving SERs	337	37%
Homes not receiving SERs	244	42%
Homes receiving SER s	93	26%

Solar Energy Review

Overall

- SERs provide personal, in-depth, face-to-face assessments of a home's solar potential for households less certain about installing solar and that want to gather information and reassurance. SERs identify homes with strong solar potential, inform customers when they do not have potential, and encourage customers with potential to take action. Satisfaction ratings of program elements are generally positive. The overall satisfaction rating was 82% very satisfied or satisfied with the solar assessment.
- When time and opportunity permit, SER specialists talk with owners about their home's energy efficiency and how it might be improved. Participants receiving these services generally rated them lower than the solar elements of the program.

Participant Characteristics

- The most frequent reason SER participants gave for signing up was to see if their homes qualified for solar (64%); the next drivers were to be greener (43%); and to find out about programs and incentives (29%).
- About two-thirds of SER participants said they were very interested in installing solar prior to the SER, while one-third said they were interested.
- Over one-half of SER participants (57%) said their homes did not have solar potential based upon the SER report.
- Where homes had solar potential, ratings of the clarity of information provided were higher than for those who did not have solar potential.
- Among those who qualified for solar, 42% said their interest got stronger due to the SER; 50% said it stayed the same; and one person said their interest decreased.

Program Delivery

- The unexpected strong demand for program services, in large part due to SERs being part of the Solarize SE offering, strained program resources, including call center staff and auditors. The most visible results of higher demand were schedulers became confused, visits were delayed, and some services were delivered out of order (e.g. SERs after contractor site visits).

Follow-Through

- Only one household reported they followed-through to install solar after having a SER.

- While many solar-eligible participants talked with other people about installing solar after receiving their SER, few took further steps toward installing solar.
- Participants said barriers to going further were the high cost of solar and having other life priorities.
- 82% of eligible solar participants said they still planned to install solar. Only 11% said they would install it within one year. Just over one-half of these participants (56%) said they would install in two years or less
- Fast Track data showed low follow-through to solar installations —generally 5% or less.
- SER follow-through on any energy-related measure in the Fast Track system was higher. One-quarter of SER participants in 2008 and 2009 made at least one energy saving or solar improvement through Energy Trust's programs within a year of having a review.

Comparison of Participants of Solarize SE and SER

- Full participants in Solarize SE differ from Partial Participants and SER participants; they tend to be older, more affluent, live in larger homes, are more likely to be focused on pragmatic reasons to install solar (i.e., get a good deal, take advantage of the program support), though they are also green-minded. Partial Participants are more driven by green ideas, and SER participants are more driven by wanting to find out if their homes qualify for solar.
- In general, Solarize SE participants are more satisfied with the program than those participating in SER.
- Based upon participant self-reports, the proportion of homes without solar potential was considerably higher in Solarize SE (64%) than in the SER offer overall (43%).
- Follow-through rates to installing solar were much higher in Solarize SE (37%) than in SER (4%); participants in Solarize SE who did not receive a SER had the highest follow-through to solar installations (42%).

Conclusions and Recommendations

Solarize Southeast Portland

From all perspectives, Solarize Southeast Portland has been a grand success. It has attracted a good share of households ready to take action, provided participants with what they would say was a good deal[1] and an easy process, and has helped push installations of solar electric systems in homes at a rate and level not seen in other programs. It has also satisfied customers and

[1] For this program, the credits and incentives came close to covering the costs for a 2 kW system; costs of these systems were $500-$1,000, which although lowering the payback, still took many years. With potential changes to the laws, costs may increase and simple paybacks may exceed 20 years.

energized sponsors. Given the interest the program has generated and the number of follow-on Solarize projects, the approach is living up to the adage that *"imitation is the sincerest form of flattery."* Still, the findings from this evaluation suggest these improvements:

- Streamline program processes even further to accommodate strong demand, including more automation of the registration process and better training of the call center staff who direct and schedule people.
- While the program's 'good deal' was the strongest driver for Participants on the front end, the most remembered strength of the program after installation was it's easy process. Program marketing should place greater emphasis on the ease of participating.
- Make sure customers in the decision-making mode are reached as soon as possible; so their interest does not wane.
- Help participants screen themselves in or out early in the process through a written self-assessment of potential. This questionnaire would help interested households gauge their levels of interest and preparedness; if their motivations are likely to result in follow-through; and the viability of their home and of their finances. The assessment would help bring wishful thinking down to earth, and would likely result in higher follow-through rates, fewer disappointments, and less confusion.[2]
- The program might consider reviewing the self-assessment with marginal applicants to see if barriers can be overcome or to encourage an early drop-out if solar is not feasible.

Solar Energy Review

SER cannot hope to have the same cachet as Solarize SE. Still, it is reasonable to assess the SER program both on its own merits and on how well it compares to the Solarize approach.

The central SER goal is to accelerate solar decisions among customers who need some extra information and assurance. However, since the program tends to attract households who are in an earlier, more uncertain stage of thinking about solar, and who may be less realistic about it, the program faces a steep challenge. In addition, while data show SER participants have a strong interest in solar, more than one-half of households visited turn out to have no solar potential. And, among those who have good solar potential, only one-half of those say they will install solar faster due to receiving a SER. Solarize SE, on the other hand, moved a much higher proportion of participants to install solar at a much faster rate. In addition, it made solar more visible and generated wide interest elsewhere.

Another SER goal is to educate consumers about solar and to give residential consumers a 'face' for Energy Trust. Along these lines, SER services are very strong; customers give auditors high marks for their solar expertise and teaching abilities and also give credit to Energy Trust for the service.

[2] While is it may be difficult to discourage interested people from participating, neither customers nor the program benefit from a mismatch of what a customer needs and the service being offered.

While adding instant measure savings to SER boosts its cost-effectiveness, adding a fuller energy efficiency review component to SER has some challenges. It requires auditors to have more expertise. It also competes with the time available for the solar review and thus, if time is limited, the value of the energy efficiency review may be diluted. Finally, Energy Trust's HER service already supplies a more complete energy-efficiency audit that includes installing instant measures for many Oregon homes.

Overall, we believe the data show the SER is a strong educational and marketing service for Energy Trust. However, in its present form, it does not appear to be meeting its primary goal of accelerating solar decisions.

Given these factors for the SER, we suggest the following steps be taken:

- Energy Trust and its SER contractor should revisit the goals and logic of the SER to see if a better model can be developed that will serve its purposes to accelerate solar decisions and put a more personalized face on ETO. The new model needs to focus on how to achieve higher follow-through rates and to be cost-effective. Based on this review, ETO can decide if a revamped SER makes sense or if the SER services should be stopped.
- ETO should consider these strategies – suggested by this evaluation – to help customers determine their interest, willingness, and ability to pursue solar. These strategies could be used as part of a revamped SER or other services for customers interested in solar. The first two could also be used as pre-requisites to other ETO solar services, including in-home services.
    - Having customers complete and submit an on-line self-administered screening tool to help them assess if they have (1) physical or monetary barriers to proceeding with solar, such as too much shading or the need to replace the roof; (2) adequate levels of solar interest and ability to act; and (3) specific types of help they can identify (e.g., dealing with a solar contractor). ETO could review the results of this screening tool with customers to identify their options, including cross-selling of other ETO programs and instant savings measures.
    - Offering solar workshops for those considering solar; customers would fill out and submit the screening tool as part of the workshop. Again, cross-selling and instant savings measures could be part of these workshops.
    - Provide more on-call, internet, and written solar advice and information.

MEMO

Date: December 7, 2010
To: Energy Trust Board of Directors
From: Brien Sipe, Evaluation Project Manager
Kacia Brockman Sr. Solar Program Manager
Subject: Staff response memo: Solar Energy Review and Solarize Southeast Portland process evaluation

The following describes staff takeaways from the process evaluation of two major components of the residential solar program during the 2009-10 program years: the solar energy review (SER) and the Solarize SE Portland project. The Cadmus Group conducted the study, which focused on gathering feedback about the participant experience, rather than an industry perspective, and explored each offering's efficacy in moving homeowners from curiosity to action.

Solar Energy Review
Despite high marks from participants about the professionalism and knowledge of SER auditors and high levels of self-reported interest in installing solar, an examination of program tracking data reveals installation following a SER is rare.

Staff has agreed that the report's findings, in addition to similar findings from the SER pilot's evaluation, point toward the discontinuation of the SER program as a standalone offering, and instead incorporate aspects of the SER in the Home Energy Review (HER). In lieu of a full solar assessment, Home energy auditors can ask participants about their level of interest in solar during a HER and provide a brief assessment of the home's orientation and roof condition/age. This approach will reduce residential program costs while retaining the program's ability to communicate face-to-face with consumers about all products and services available to them.

Given that roughly half of SER recipient's homes did not have adequate solar potential Energy Trust could explore providing, or referring, prospective solar consumers to basic self-screening tools such as Roofray.com, which can aid in verifying whether a home is a viable candidate for a solar.

Solarize Southeast Portland
The success of this delivery model attracted national attention with the Clean Energy States Alliance recognizing Lizzie Rubado of Energy Trust with a State Leadership in Clean Energy award. The judges praised the model for simplifying the process of going solar and emphasized that replicating the approach elsewhere could greatly speed the deployment of residential solar installations.

Since Solarize SE, several projects using this model and run fully by community organizations have cropped up across Oregon including Pendleton, Beaverton and Salem, as well as expanding more broadly in Portland (Solarize NE and SW). This novel approach to bring down system prices faced by consumers through bulk purchasing comes at a time of declining state incentives.

It should be noted that several smaller solar contractors have voiced frustration with the

Solarize model, as they do not have the staff or capacity to competitively respond to the project requests for proposals, and argue they cannot match the prices being offered by the Solarize projects. It should be noted that Energy Trust was not involved in the contractor selection process. Despite some vocal opposition to the Solarize efforts, it should be noted that the Portland Metro area saw a large increase in *non-Solarize SE* solar installations during project.

Another new development in Oregon's solar industry is the feed-in tariff pilot. System owners are paid a premium per kWh generated in lieu of incentives to buy-down upfront costs. This approach can open up the opportunity for consumers who may otherwise be priced out of the market due to the reduction in incentives, and could be particularly effective when combined with the Solarize model. To date, the feed-in tariff pilot has seen two phases, both of which were oversubscribed within minutes of going live.

Chapter 1: Introduction

Overall Research Goal, Program Summaries, and Context

The Energy Trust of Oregon (Energy Trust) undertook this study to gauge the effectiveness of and participant satisfaction with two of its major solar efforts in 2009 and early 2010: the Solarize SE Portland project (Solarize SE); and the Solar Energy Review program (SER).

Energy Trust, over the years, has launched a variety of educational and incentive initiatives aimed at raising visibility and adoption of solar power for Oregonians. According to research they sponsored in 2007—SmartPower's *Solar Incentive Research Study*—interest in solar keeps rising. However, adoption has not risen at the same rate as interest, due to a variety of emotional and practical barriers, including inertia, logistics, confusion about what solar can and cannot do, cost of systems, fear of lifestyle changes, and perceived lack of social acceptability. Both Solarize SE and Solar Energy Review were designed to overcome some or all of these barriers, and move people more quickly, with less stress and uncertainty, toward installing solar. This research will provide insights into how well these strategies have worked.

Solarize SE, a market building initiative, brought together Southeast Uplift, Mt. Tabor Land Use Committee, and Energy Trust to create a community solar installation program for Southeast Portland homeowners; the program attracted over 300 initial participants and resulted in over 100 households installing solar. The 2009 SER program provided solar and energy-efficiency reviews to over 200 homeowners to encourage speedier adoption of solar technologies and energy-efficient investments. While the two programs are separate, and were evaluated separately, they intersected when SERs were offered to participants as a step in the Solarize SE process. While not initially intended, we combined the two evaluations into one report. This allowed us to investigate how the programs compare in important ways, including who is participating, why they have participated, and what proportion have installed solar.

Evaluation Objectives

Solarize SE Project

The Cadmus Group (Consultant) worked with Energy Trust to establish these evaluation objectives for Solarize SE:

- Compare those who installed solar (Participants) with those who dropped out (Partial Participants).
- Measure satisfaction with all elements of Solarize SE.
- Describe reasons for participation.
- Describe barriers encountered.
- Identify project strengths and benefits.
- Identify needed improvements to the approach.
- Gauge satisfaction with systems installed.
- Measure follow-through rates.

Solar Energy Review Program

In addition, Cadmus collaborated with Energy Trust to define SER evaluation objectives, as listed below:

- Measure satisfaction with all elements of the SER program.
- Describe reasons for participation.
- Describe barriers encountered.
- Identify program strengths and benefits.
- Identify needed improvements to the program approach.
- Measure the intent of SER households to install solar and efficiency measures.
- Follow-through on renewable and energy-efficiency actions.

Methods

For both programs, we reviewed relevant reports and program materials, including: the Smart Power Report previously mentioned; the 2008 Energy Trust Residential Awareness Survey; and outreach and presentation materials used in Solarize SE. We also prepared interview guides and conducted in-depth interviews with five key actors in these programs: two Energy Trust solar program managers; one program implementation contractor who conducts the reviews for SER; the solar vendor chosen for Solarize SE; and the neighborhood representative for Solarize SE.

Working closely with Energy Trust evaluators, we developed on-line surveys (see Appendix A), including introductory and follow-up reminders, to be sent to Full (n = 101) and Partial (n=233) Solarize SE participants (Participants and Partial Participants) and 92 SER participants. Energy Trust distributed the surveys and worked with the Consultant to code and analyze the data. The response rate to each of the surveys is shown in Table 1. The response rate was particularly strong among Solarize SE Participants (56%), suggesting their strong ongoing interest in the project. While response rates are less for the other two groups, they are respectable. While all sample sizes are fairly small, limiting the amount of analysis that can be reliably conducted, we feel the survey findings, coupled with other data, produced results that can be firmly relied upon to assess the programs and to aid in planning future services.

Table 1 Response Rates by Target Audience

Type of Participant	Population N	Sample N	Response Rate
Solarize SE Participants	101	57	56%
Solarize SE Partial Participants	233	78	33%
Solar Energy Review Participants	92	32	34%

Finally, we worked with Energy Trust to obtain relevant data from their tracking system (Fast Track) to calculate follow-through rates for installing solar and energy-efficiency measures.

Report Organization

Subsequent chapters discuss: Solarize SE and SER in turn (Chapters 2 and 3); and program comparisons (Chapter 4). Conclusions and recommendations may be found in the Executive Summary.

Chapter 2: Solarize Southeast Portland

Program History and Description

Solarize SE was the result of a soft collision between Southeast Uplift (SE Uplift), a community action agency in Southeast Portland, and Energy Trust. A passionate SE Portland resident and volunteer for the Mt. Tabor Land Use Committee wanted to bring solar to their neighborhood, and asked SE Uplift for assistance in making this happen. SE Uplift supported the idea and began investigating possibilities. They had little knowledge about solar and taught themselves. As SE Uplift describes it, they "then reached the limits of their capacity and went to Energy Trust" with their ideas about doing a solar program involving bulk purchasing power, intensive community education, and grass roots organizing. They hoped Energy Trust could provide technical expertise and help them craft a Request for Proposals to find a suitable contractor through a competitive bid process.

As it turned out, Energy Trust had been deeply involved with developing a new solar effort based upon a "competitive approach" such as a corporate challenge, with bulk purchase, single contractor elements. When SE Uplift called, a potential corporate participant had just decided against pursuing solar due to the downturn in the economy. The two entities combined and evolved their ideas into what became the Solarize SE pilot project. Essential elements of the approach are it educates participants collectively, is community based and driven, is sponsored by known and credible organizations, leverages the bulk buying power of the neighborhood, uses one preapproved contractor who offers a low price[3], steers participants to Energy Trust incentives and state and federal tax credits, and, if successful, makes solar visible and desirable to the neighborhood and beyond.

The goals of Solarize SE are to make solar more affordable and easier to obtain, taking the customer from learning to doing, and making investing in solar safe, comfortable, and faster—accelerating the decision-making process. Key steps for the customer included:

1. Find out about the program through word of mouth, in local businesses, or through local media, driving people to the Solarize project website (SolarizePortland.org) to find out more information.
2. Take the next step to sign up with no obligation, or attend informational solar workshops and sign up there. The registration form asked participants to rate themselves "Cosmo magazine questionnaire style" on how ready they were to proceed to install solar.
3. Based on the readiness analysis, be scheduled for a Solar Energy Review from Energy Trust, or a full site assessment and bid from the contractor.
4. Decide on a system (attend Q&A on financing and other in-depth topics, if desired).
5. Have the system installed.

[3] Note, based on anecdotal evidence, it appears that Solarize SE and other subsequent similar efforts have influenced lower prices for solar products and services being offered to consumers.

6. Contractor assists with incentives and tax credits.

Results of Interviews with Key Informants

This description relies upon interviews with two solar program managers at Energy Trust, the SE Uplift community organizer, and the competitively selected contractor for Solarize SE.

Overall Assessment of Solarize SE

When asked to complete the sentence: *The first thoughts that come to my mind when I think of Solarize SE Southeast Portland are...* respondents were uniformly positive about the program's benefits to the consumer and to the community:

- *Increasing consumer confidence —confidence that comes with people being part of something, security in numbers.*
- *It's impressive how the program used tools existing in Portland—Energy Trust as a resource and SE Uplift as a communications channel and organization tool...pulling together the financial and other elements...haven't been done before...the excitement and positivity. People took the initiative and individual impacts are great, but the collective environmental impact is pretty impressive.*
- *Success, participation, community.*
- *Huge success, win-win for everybody.*

In addition, throughout the interviews, respondents mentioned they much positive feedback from participants about the ease of participation, the affordability, and the community focus. One respondent estimate was less than 10% had “constructive criticism” about some specific process issues, such as timing of visits and installation.

Coordination and Timing

Key informants agree some coordination and scheduling was less than perfect and not always timely, in large part due to the unexpected levels of demand. Still, they worked hard to figure out remedies, and several noted things improved considerably in the second recent phase of Solarize SE, launched in 2010.

Respondents thought they might interest 50 people, but attendance at the workshops built steadily, with 50 to 75 people attending each one. While all agree communication was generally easy, few processes existed at that point to streamline registration and the delivery of SERs and site visits. The central call centers were sometimes overwhelmed, and operators were not always as well trained as they needed to be to help callers decide on their next steps.

Evidence of Success

All agreed looking at the number and level of installations, compared to other geographic areas without Solarize SE, would indicate how well the project succeeded. They also urged looking at feedback from participants, both those that installed solar and those that dropped out, to learn more about their motivations, the barriers they faced, and how they overcame them (if they did).

Other suggestions for success indicators included: assessing the effort's impact on the larger solar industry, the spread of interest to other organizations and communities, strengthened relationships between Energy Trust and communities, and a lower price of solar. Respondents said Solarize SE brought attention and visibility to its sponsors, stronger relations between Energy Trust and community coalitions, and many requests to have Solarize SE cloned. One respondent mentioned the tugging on them to do it everywhere had had some downsides too. Respondents mentioned some solar contractors not chosen as the sole provider of services had complaints, but these had died down. Some respondents also said success could be measured by seeing if prices for solar have decreased in the area since Solarize SE came into play.

Areas for Improvement

Mostly respondents felt, while tweaks should be made to outreach, community involvement, price, and contractor selection, this was "toppings on ice cream, fun and exciting."

The biggest areas suggested for improvement were:

- Streamline program processes to accommodate strong demand, especially by automating and making sure everyone who is scheduling appointments is well trained. The scheduling of the contractor site visits appeared to be the slowest component, although once the site visit occurred, installation was usually rapid if the customer decided to go forward.
- As part of streamlining, make sure customers in the decision-making mode are reached as soon as possible; so their interest does not wane and projects stay on track. This will also avoid potential confusion from other contractors offering competing deals.[4]
- Help potential participants better screen themselves as to their level of interest, intent, and ability to act; so follow-through rates are higher, disappointments are fewer, and confusion is limited.

Lessons Learned

When asked what advice they would pass on to others thinking about offering a Solarize SE type service, several themes emerged:

- How important it is to have grass roots support before the launch and a strong volunteer force; so many in the community have already bought into the process, creating a critical mass of support. Along this line, recognize community building is the central goal of grass roots organizations, and programs such as Solarize SE serve as a conduit for reaching this goal.
- The critical need for someone to be dedicated to running it.

[4]Solarize SE did not prohibit consumers from using other contractors and it could be to their advantage price-wise and schedule-wise. However, competing offers can be confusing to customers who have already decided to take part in the program.

- Remember they (the sponsors) are part of something big—a solar revolution perhaps—and the opportunities outweigh the risks.

Survey Results

In this discussion of survey findings, questions common to both Solarize SE Full and Partial Participants are compared in one table. Questions unique to one group are discussed in individual subsections. Due to small sample sizes and complex comparisons, few statistically significant differences emerged between the two groups of participants. Still, the pattern of findings and some individual findings suggest the two groups had somewhat different characteristics, and thought differently about installing solar in their homes.

Respondent and Household Characteristics

Surveys collected some basic demographic and household characteristics from respondents, as shown in Table 2. Participant and Partial Participant households did not differ by age of home or type of heat source. However, Participants were more likely to live in homes larger than 2,000 SF (44% compared to 31%), have $100,000+ incomes (51% compared to 32%), and be 45 years of age or older (64% compared to 45%).[5]

According to ETO evaluation staff, these characteristics are all factors that increase the probability of the homeowner moving forward with solar. For instance, large homes are typically newer, and have larger and newer roof, and the larger and newer the roof the greater the probability that PV can be installed. In addition, higher incomes make it easy to finance solar.

Table 2 Household and Demographic Characteristics[6]

Size of Home	Less than 1,000 SF	1,000–1,999 SF	2,000–2,999 SF	3,000–3,999 SF	4,000+ SF	Total
Partial Participants	11%	57%	22%	6%	3%	63
Participants	7%	49%	39%	5%	0%	57
Total	9%	53%	30%	6%	2%	120

Age of Home	Before 1940	1940–1959	1960–1979	1980–1989	1990–1999	2000–2007	After 2007	Total
Partial Participants	61%	23%	7%	2%	0%	5%	3%	62
Participants	70%	12%	4%	2%	5%	2%	5%	57
Total	66%	18%	5%	2%	3%	3%	4%	119

[5] Please note: In Chapter 4 demographic and household characteristics of Solarize SE and SER participants are compared.

[6] With small sample sizes and many cells, it is difficult to produce statistically different results between groups. However, the pattern of larger homes, higher incomes, and older householders installing solar makes sense, given the cost and type of investment being made. The differences between the groups are not statistically significant for size of home. but are significant at the 0.10 for income and age.

Household Income	Less than $25K	$25K to 50K	$50K to $75K	$75K to $100K	$100K to $125K	$125K to $149K	$150K+	Don't Know	Total
Partial Participants	0%	17%	20%	25%	22%	8%	2%	7%	60
Participants	0%	7%	27%	9%	29%	11%	11%	6%	55
Total	0%	12%	24%	17%	25%	10%	6%	6%	115

Age of Respondent	18 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65 to 74	75 +	Total
Partial Participants	0%	21%	33%	21%	19%	3%	2%	63
Participants	0%	9%	28%	18%	30%	16%	0%	57
Total	1%	15%	31%	19%	24%	9%	1%	120

Primary Heat Source	Natural Gas	Electricity	Oil	Total
Partial Participants	80%	8%	12%	61
Participants	88%	4%	9%	57
Total	84%	6%	10%	118

Prior Solar Thinking

As we thought the length of time a household had been thinking about solar might influence follow-through, and explain differences between Partial Participants and Participants, the survey asked respondents: *How long had you been thinking about installing solar in your home before signing up with Solarize Southeast Portland?* However, as Table 3 shows, results are strikingly similar for the two participant groups, with almost two-thirds of respondents in each group having pondered solar installation for two or more years (see Table 3). This similarity in time frame between the groups about solar thinking is consistent with subsequent findings in this research.

Table 3 How Long Households Had Considered Solar

	Not much	LT 6 months	6 months to 1 year	1 to 2 years	2 to 3 years	3+ years	Don't Know	Total
Partial	15%	5%	8%	8%	7%	55%	3%	62
Full	16%	2%	7%	9%	14%	52%	0%	56
Total	15%	3%	7%	9%	10%	53%	2%	118

Reasons to Participate

The first question on each survey asked respondents to tell us in their own words: ***What were the one or two most important reasons for getting involved with Solarize SE Southeast Portland?***

As shown in Table 4, two leading top-of-mind reasons emerged for both Partial Participants and Participants. They wanted to:

- Reduce the cost of solar—*Affordability. Bulk buying power!*
- Be more green—*We are believers in alternative energy resources.*

Table 4 Most Important Reasons to Take Part in Solarize SE

Reasons Given*	Partial Participant		Full Participant	
	N	%	N	%
Reduce cost of solar/get incentives	30	46%	42	70%
Be green/use renewables/do the right thing/use less energy	41	63%	38	63%
Program expertise/convenience/education	13	18%	19	32%
Reduce energy bills	11	17%	10	17%
Reduce carbon footprint	12	18%	9	15%
Be self-sufficient	9	14%	6	10%
Take part in community effort	9	14%	5	8%
Other	3	5%	0	0%
N =	66		60	

* Multiple responses were encouraged.

A similar proportion of Participants and Partial Participants (18% and 15%) specifically said they wanted to reduce their carbon footprint and be self-sufficient.[7] Participants, compared to Partial Participants, more often said reducing the cost of solar was a driver to participate (70% to 46%). In addition, Participants were more likely than Partial Participants to say they wanted to take advantage of the expertise and convenience offered by the program (32% to 18%). Respondents mentioned other reasons to take part in the program much less frequently, including a small minority (14% Partial Participants; 8% Participants) who said one of their main reasons was to support a community effort.

As shown in Table 5, when the most important reasons were collapsed further, the findings suggest Partial Participants were more driven by green reasons, and Participants were more driven by cost and affordability reasons[8], even though both types of reasons were important to a strong majority in each group. The reasons behind this difference were unknown, but, in part, it may be because Partial Participants tended to be more tentative about installing solar, did not have adequate resources, and never reached the point of seriously considering it financially.

[7] This answer could also be categorized as a green reason, but was left separate to show the level of that specific concern.

[8] This is similar to the earlier Cadmus findings that the market as it evolves gets more interested in the costs versus early adopters that are enamored with the technology or the green features.

Non-financial program support had a strong and similar level of appeal to both groups, with these reasons appearing to be slightly more salient to Participants (32% Partial Participants, 40% Participants).

Table 5 Most Important Reasons to Participate (Collapsed)

Reasons Given*	Partial Participant		Full Participant	
	N	%	N	%
All affordability	41	63%	52	87%
All environmental	53	80%	41	68%
All program support (non-financial)	21	32%	24	40%
Be self-sufficient	9	14%	6	10%
N =	66		60	

* Multiple responses were encouraged.

Both types of participants then individually rated the importance of 11 reasons to participate. The questions allow more specific motivations of interest to be sponsors to be measured and compared across the two groups. This analysis focuses on the level of "very important" ratings, since these correspond to primary drivers of thinking and action. Table 6 includes the ratings for all 11 reasons to participate, ranked by the very important ratings for Participants. Overall, these findings reveal the range of thinking, and its complexity, for both Participants and Partial Participants as they considered the Solarize SE offer. While high importance ratings generally dovetailed with their own descriptions of what motivated them, some factors emerged as more important, and some further differences surfaced between the Participants and Partial Participants.

Once again, as 6A shows, getting a good financial deal was by far the most important reason to participate for both groups; in these close-ended ratings, more Partial Participants ranked it as very important compared to their top-of-mind responses. Almost 100% of respondents gave the deal a rating of 4 or 5 on the five point scale.

Table 6 Importance of 11 Reasons to Participate in Solarize SE (6A-6K)

6A. Believing you would get a good financial deal for installing solar (through a bulk purchase, plus Energy Trust incentives and tax credits).						
	1 - Not at all important	2	3	4	5 - Very important	Total
Partial	0%	0%	2%	14%	85%	65
Full	0%	0%	2%	8%	90%	62

Convenience and simplicity of participation also received higher importance in the close-ended ratings; almost two-thirds of each group said ease of participating was very important (6B).

6B. Ease of Participating.						
	1 - Not at all important	2	3	4	5 - Very important	Total
Partial	0%	3%	9%	24%	64%	61
Full	0%	0%	7%	31%	63%	60
Total	0%	2%	8%	27%	63%	121

About 6 of 10 participants in each group (6C) rated their ongoing interest in solar as a very important factor to take part in the Solarize SE effort; this is akin to many open-ended responses that described respondents long-term attachment to going solar. Notably, a small proportion of respondents may have been fairly new to considering solar—about 14%.

6C. Your prior interest in getting solar installed in your home.						
	1 - Not at all important	2	3	4	5 - Very important	Total
Partial	0%	0%	14%	27%	59%	64
Full	3%	3%	7%	26%	61%	61
Total	2%	2%	10%	26%	60%	125

Tables 6D and 6E are grouped together to highlight the importance of the program's educational components (solar workshop, in-depth Q&A sessions) to participants. These services seemed especially valuable to Participants, where well over half (56%) said this support was very important to their decision to participate.

6D. Having a local solar workshop that provided solar information and explained how to participate.						
	1 - Not at all important	2	3	4	5 - Very important	Total
Partial	14%	8%	16%	14%	48%	63
Full	9%	9%	14%	11%	57%	56
Total	12%	8%	15%	13%	52%	119

6E. Having in-depth Q&A sessions to answer questions about incentives & tax credits, technical installation details and net metering.						
	1 - Not at all important	2	3	4	5 - Very important	Total
Partial	8%	8%	14%	22%	48%	64
Full	5%	7%	12%	19%	56%	57
Total	7%	7%	13%	21%	52%	121

Fifty-five percent of Participants and 64% of Partial Participants said the free solar evaluations were a very important part of motivating them to move forward with Solarize SE.

6F. The availability of free solar site evaluations for your home.						
	1 - Not at all important	2	3	4	5 - Very important	Total
Partial	2%	3%	8%	24%	64%	66
Full	0%	5%	12%	28%	55%	60
Total	1%	4%	10%	26%	60%	126

The pre-selected contractor was clearly a greater benefit to Participants than Partial Participants (53% to 39% very important). While not pivotal for everyone, it appears having a preapproved contractor was a tipping factor for some in their decision to install solar (6G).

6G. Having the solar contractor pre-selected by SE Uplift						
	1 - Not at all important	2	3	4	5 - Very important	Total
Partial	8%	8%	12%	33%	39%	66
Full	2%	2%	11%	32%	53%	62
Total	5%	5%	12%	33%	46%	128

While the credibility of SE Uplift working in collaboration with Energy Trust did not surface as a key motivator in the top-of-mind responses, almost one-half of Participants said this factor was very important, compared to about one-third of Partial Participants (6H). Like having a single preapproved contractor, the support of credible, known, unbiased organizations was likely a tipping factor for many households.

6H. The support of SE Uplift working with Energy Trust to deliver the program						
	1 - Not at all important	2	3	4	5 - Very important	Total
Partial	3%	12%	20%	29%	35%	65
Full	2%	2%	15%	34%	48%	62
Total	2%	7%	17%	32%	42%	127

As shown in 6I, Participants were more likely than Partial Participants to rate having on-call assistance through the program as very important (although the top two percentages are similar when combined).

6I. Having help available through the program						
	1 - Not at all important	2	3	4	5 - Very important	Total
Partial	6 %	5%	13%	38%	38%	63
Full	2%	7%	16%	27%	48%	62
Total	4%	6%	14%	33%	43%	125

About one-third of respondents in each group rated their desire to be part of a community effort as a very important reason to participate (6J), but ratings were more spread out than for many other factors. The importance of being part of a community effort was more strong here than in the top-of-mind responses. It appears to be a somewhat strong motivator among Partial Participants, but, overall, was likely a tipping factor for a minority of respondents.

6J. Wanting to be part of a community effort.						
	1 - Not at all important	2	3	4	5 - Very important	Total
Partial	5%	12%	14%	39%	31%	65
Full	2%	10%	25%	28%	36%	61
Total	3%	11%	19%	33%	33%	126

While program sponsors may have assumed having a time limit inspired households to take action, these data suggest only a small minority (around 12%) said the time limit was very important to move them along (6K). These data may also reflect that other contractors lowered their prices and would be available to serve customers even if they missed the program deadlines.

6K. Having a time limit to participate in the program.						
	1 - Not at all important	2	3	4	5 - Very important	Total
Partial	18%	18%	31%	21%	12%	61
Full	13%	17%	28%	28%	13%	60
Total	16%	17%	30%	25%	12%	121

The next two questions forced respondents to compare the influence of two sets of motivators: prior interest in solar versus the Solarize SE program offering; and ease of participating versus a good financial deal. Table 7 shows the responses to these questions, and compares Participants and Partial Participants. Overall, the tables reinforce the notion that multiple factors influenced decisions, and a variety of decision-making patterns existed among participants. Clearly, however, financial help was critical to the majority of participants. However, these data suggest more Participants than Partial Participants were influenced by the combined benefits of the Solarize SE offer.

Table 7 Trade Offs: Solar vs. Program Appeal; Ease vs. Good Financial Deal

	Prior Solar Interest More Important	Solarize SE Program More Important	Both Equally Important	Total
Partial	27%	36%	36%	66
Full	16%	31%	53%	61
Total	22%	34%	44 %	127
	Ease More Important	**Financial Deal More Important**	**Equally Important**	**Total**
Partial	6%	62%	32%	66
Full	3%	58%	39%	62
Total	5%	60%	35%	128

When and Why Partial Participants Dropped Out

The Partial Participant survey asked respondents to pinpoint when they decided not to continue further with Solarize SE. Table 8 shows two points in the process account for over three-quarters of the timing for drop-outs:

- After the site assessment by the Solarize SE Contractor, but before the bid (39%).
- After receiving a bid for the solar design (37%).

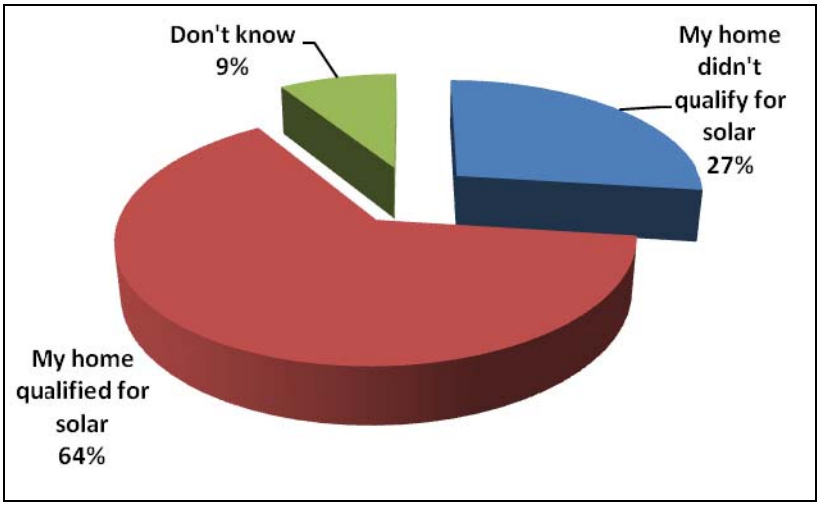
Notably, 12% dropped out after only taking part in the informational sessions, and another 10% dropped out after receiving the results of a SER.

Table 8 When Households Dropped Out

Participation Stage	%
After the introductory Going Solar with Solarize Portland workshop about how to participate	5%
After the in-depth Question and Answer Sessions, but before having your home assessed for its solar potential	7%
After a solar assessment of your home through Energy Trust's Solar Energy Review program, but before having the Southeast Solarize contractor do a site assessment	10%
After the Solarize Southeast Portland program contractor did a site assessment but before you received a bid and system design proposal	39%
After receiving a bid and system design proposal but before signing your contract	37%
After securing the funds to install solar, but before signing your contract	3%
After signing your contract, but before installing solar in your home	0%
N = 62	

When the survey asked Partial Participants to indicate whether their home qualified for solar based on a SER or the site visit from the Solarize SE contractor, just over one-quarter (27%) said they found out their homes did not qualify (see Figure 1).

Figure 1 Percent of Home Qualifying/Not Qualifying for Solar (n = 64)



When asked the reason for not qualifying, the large majority of Partial Participants reported their homes had too much shade—94%—as shown in Table 9, below.

Table 9 Reason for Not Qualifying for Solar

	N	%
Too much shade	15	94%
Roof too steep	4	25%
N =	*16*	

* Multiple responses encouraged

Partial Participants who made it through a site-visit screening were asked what prevented them from completing their solar installation. Their responses to this question are shown in Table 10 below. Two-thirds of partial participants cited barriers due to price – simply not being able to afford the costs of the installation and/or that solar required them to replace their roof and that was too expensive. Much smaller proportions gave other reasons for not going forward, including that their solar project would not produce enough electricity (15%); that they found another contractor with a better deal (13%); that it was a low priority for them to remodel (13%); and that they didn't find the contractor reliable. One or two respondents gave a variety of other barriers.

Table 10 Barriers Preventing Qualified Partial Participants from Installing Solar

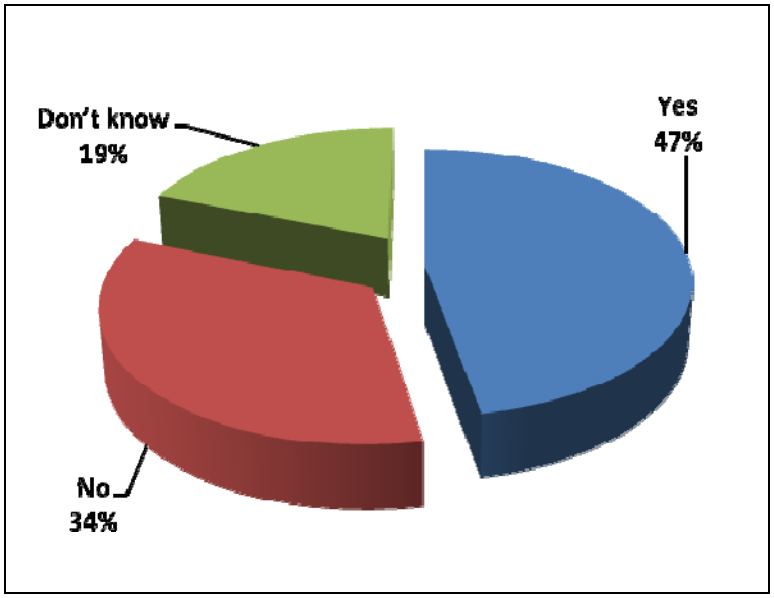
	Partial Participant	
	N	%*
Could Not Afford	20	51%
New Roof too Pricey	7	18%
Solar Not Productive Enough	6	15%
Other Contractor with Better Deal	5	13%
Low Remodel Priority	5	13%
Unreliable Contractor	4	10%
Inadequate Roof for Electrical	2	5%
Waste of Public Money	1	3%
Lack of Warranty	1	3%
Too Much Shade	1	3%
Illness	1	3%
Build Baseline	1	3%
Scared of Home Appraisal	1	3%
N =	39	

* Multiple responses encouraged

Participant Use of Solar Energy Reviews

As described in the program steps, registrants for Solarize SE were urged to assess whether they were ready to jump in whole and have the solar contractor do a site visit, or whether they would wade in with a SER. Figure 2 shows that among Participants, many (47%) opted to have a SER.

Figure 2 Percent of Participants Receiving a SER (n = 53)



When asked to recall if they received several types of feedback from the SER visit (see Table 10), almost all Participants said the visit clearly told them if their home was a good candidate for solar, and if they should continue to work with Solarize SE to install solar equipment.

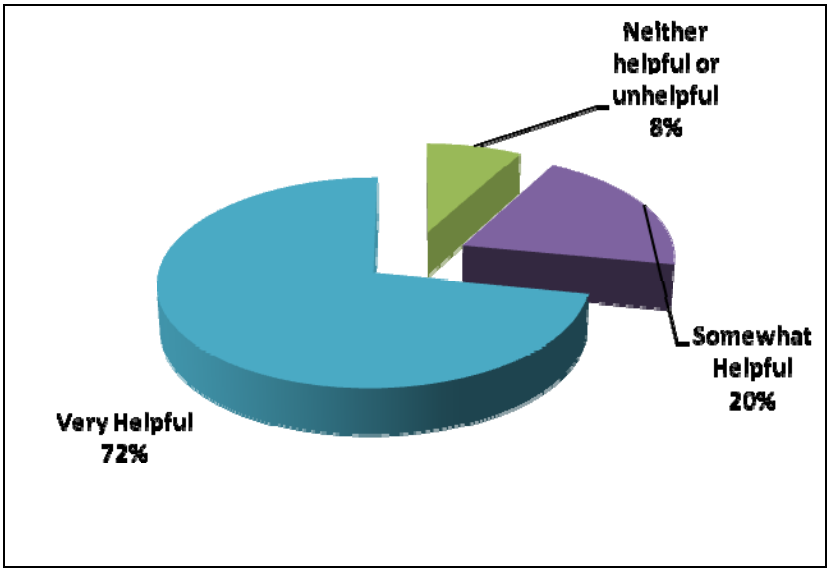
About two-thirds of Participants (65%) said the site visit left them with a clear understanding if they had other opportunities for saving in their homes; this reflects SER providing homeowners with energy efficiency suggestions if time and opportunity existed.

Table 11 Participant Recall of SER Services

Do you recall receiving information that told you...	Yes	No	Don't Know	Total
If your home was a good candidate for adding solar	96%	4%	0%	26
If you should continue with Solarize SE Portland program to install solar equipment	100%	0%	0%	25
If you had other opportunities for saving energy in your home	65%	31%	4%	26

As shown in Figure 3, almost three-quarters of Participants receiving a SER gave it a very helpful rating, and another 20% said it was somewhat helpful. No one rated the service as unhelpful.

Figure 3 Helpfulness of SER For (n = 25)



Tipping Point Reasons

Participants were asked to *think back to the point where you decided to go ahead and install solar* and to describe as fully as possible: *What happened to spur you to install now*? Their responses listed in Table 11 show that respondents said a good price or a good deal was the

overriding consideration that tipped them in favor of going solar. In addition to the good deal, a constellation of other reasons—good word of mouth, program support, easy steps, wanting solar, community activism, and media coverage—strongly contributed to people being convinced to go forward.

Table 12 Factors that Closed the Deal for Participants

	N	%
Good Price/good deal	34	69%
Good Review or a Friend's recommendation	8	16%
The Program support	8	16%
Ease of Involvement	7	14%
Wanted Solar/ Heard About Program	6	12%
Community Effort	4	8%
Newspaper coverage	2	4%
N =	*49*	

* Multiple responses encouraged

Barriers Encountered by Participants

> *The cost/benefit analysis indicated that we would begin to break even when we were either very old or dead. We debated whether we wanted to invest when we might not be able to see a financial break- even point. But then we decided it was simply the right thing to do, even if we were dead!!* -- Participant

Even though Participants completed solar installations, we were interested in knowing if they encountered any difficulties or barriers along the path to installing solar as part of Solarize SE. As Figure 4 shows, while most did not encounter problems, a minority of participants (21%) identified factors that might have made them pause or stopped them altogether. As shown in Table 13, some were concerned about the reliability of the contractor (13%) and affordability of the solar project and/or the new roof required (14%).

Figure 4 Bumps in the Process? (n = 53 Participants)

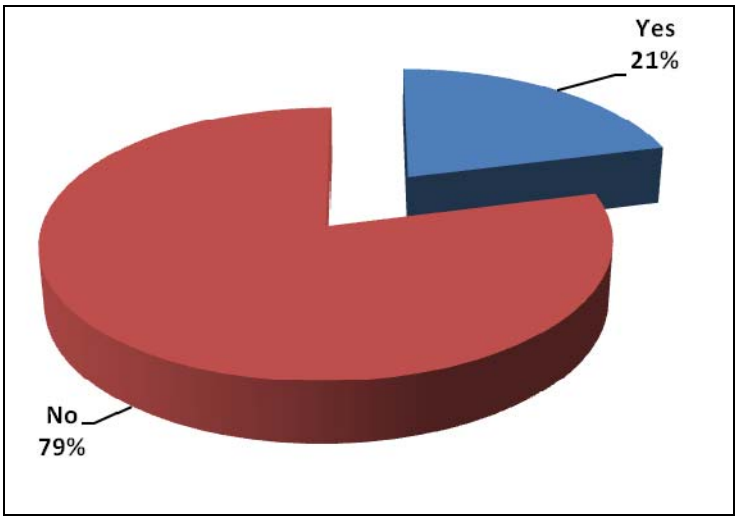


Table 13 Types of Bumps Encountered

	Full Participant	
	N	%
Unreliable Contractor	7	13%
Could Not Afford	4	8%
New Roof too Pricey	3	6%
Inadequate Roof for Electrical	3	6%
Other Contractor with Better Deal	1	2%
N of all Participants =	53	

* Multiple responses encouraged

Participant and Partial Participant Satisfaction with Program Elements

Table 14 shows high satisfaction ratings with most program elements across all respondents. Ten percent or less of all respondents gave any component poor ratings; the highest non-satisfied ratings were related to contractor communication and site assessment and to the need, among Participants, to recruit others to the cause. The highest positive ratings were given for educational sessions and ease of signing up.

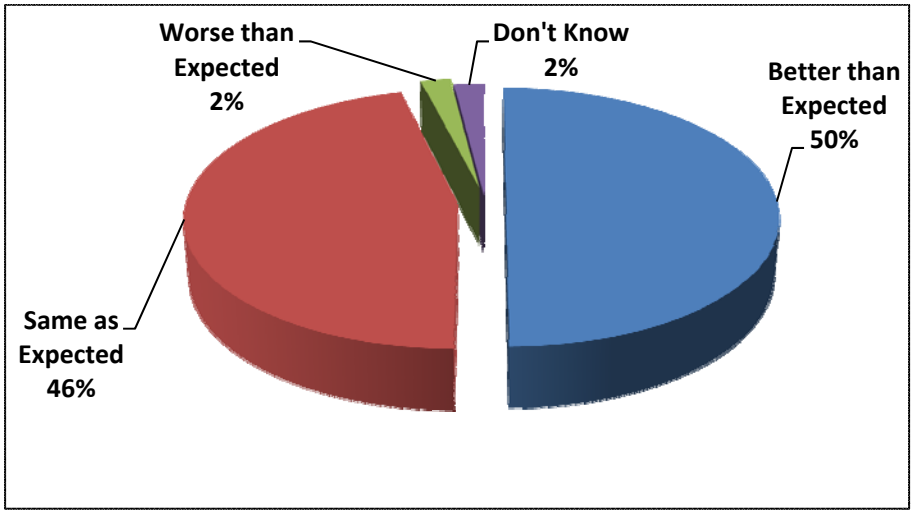
Table 14 Satisfaction Ratings with Program Elements by Participant Group

Introductory Workshop	1 - Not at all Satisfied	2	3	4	5 - Very Satisfied	Total
Partial Participants	0%	0%	5%	27%	68%	37
Participants	0%	0%	20%	34%	46%	41
Q&A Session	**1 - Not at all Satisfied**	**2**	**3**	**4**	**5 - Very Satisfied**	**Total**
Partial Participants	0%	3%	0%	42%	56%	36
Participants	0%	0%	13%	40%	47%	38
Total	0%	1%	7%	41%	51%	74
Contractor Site Assessment	**1 - Not at all Satisfied**	**2**	**3**	**4**	**5 - Very Satisfied**	**Total**
Partial Participants	2%	11%	9%	26%	51%	53
Participants	2%	7%	5%	22%	64%	58
Total	2%	9%	7%	24%	58%	111
Communicating with Contractor	**1 - Not at all Satisfied**	**2**	**3**	**4**	**5 - Very Satisfied**	**Total**
Partial Participants	10%	6%	18%	18%	47%	49
Participants	10%	0%	14%	26%	50%	58
Total	10%	3%	16%	22%	49%	107
Communicating with SE Uplift	**1 - Not at all Satisfied**	**2**	**3**	**4**	**5 - Very Satisfied**	**Total**
Partial Participants	2%	2%	26%	30%	40%	47
Participants	2%	4%	18%	29%	47%	45
Total	2%	3%	22%	29%	44%	92

Ease of Signing Up	1 - Not at all Satisfied	2	3	4	5 - Very Satisfied	Total
Partial Participants	0%	0%	11%	28%	61%	57
Participants	0%	3%	3%	22%	71%	58
Total	0%	2%	7%	25%	66%	115
Recruiting Others	**1 - Not at all Satisfied**	**2**	**3**	**4**	**5 - Very Satisfied**	**Total**
Partial Participants	3%	3%	28%	38%	28%	29
Participants	4%	14%	21%	32%	30%	44
Total	4%	10%	23%	34%	29%	73

Participants were asked to rate how they liked their solar system after installation, and ratings were very positive. Half of respondents said the results exceeded their expectations, and another 46% said results fully met their expectations (see Figure 5).

Figure 5 Satisfaction with Installed Solar Projects (n = 52 Participants)



Strengths of Solarize SE Southeast Portland

Participants and Non-Participants had strong areas of overlap (Table 15) when asked to describe program strengths: easy process, good price, good contractors and staff, education and workshops, and community involvement. Not surprisingly, however, each group tended to focus on the program elements with which they were most involved. Participants more often mentioned the easy program process and contractors and staff as strengths while Partial Participants were more likely to praise the educational components than Participants. About an equal proportion in each group praised the bulk prices available through the program (44% and 42%), and about 17% in each group found the community involvement a great strength.

The table also shows how perspectives changed over time for Participants. While Table 12 shows that the 'good deal' aspect of the program drove front end of decisions, Table 15 shows Participants who completed the program most often recognized the high value of its easy process.

Table 15 Greatest Strengths of Solarize SE

	Partial Participants		Participants	
	N	%	N	%
Easy Process	17	31%	32	62%
Good Bulk Prices	24	44%	22	42%
Contractors and Staff	5	9%	17	33%
Education/Workshops	17	31%	11	21%
Community Involvement	9	16%	9	17%
Open Enrollment	0	.0%	1	2%
Time Limit	1	2%	1	2%
Inspiring Kick Off Meeting	0	0%	1	2%
Free Site Assessment	1	2%	1	2%
Generally Positive	5	9%	0	0%
N =	*55*		*52*	

* Multiple responses encouraged

Recommended Improvements and Advice For the Future

The strongest recommendations for improvements among Participants were to have: better information (38%); and a more responsive, quality control oriented contractor (32%). One in five Partial Participants wanted better information about cash flow and financing, and 10% in this group wanted more customer solutions available. Notably, faster turnaround times did not surface here as a problem (see Table 16).

Table 16 Suggested Improvements for Solarize SE

	Partial Participants		Participants	
	N	%	N	%
Better information	6	12%	18	38%
More responsive contractor/better quality control	14	29%	15	32%
None	6	12%	9	19%
Cash flow and financing	10	20%	3	6%
Better tax credit info	0	0%	2	4%
Too slow	0	0%	2	4%
Workshop alternative	1	2%	1	2%
Custom solutions	5	10%	1	2%
More households involved	0	0%	1	2%
Booklets of meeting material	1	2%	0	0%
Too fast	4	8%	1	2%
Include solar hot water	3	6%	0	0%
Target those reroofing	1	2%	0	0%
More big picture approach	2	4%	0	0%
Return recs after five	1	2%	0	0%
Panels generate with grid down	1	2%	0	0%
N =	*49*		*47*	

* Multiple responses encouraged

As Table 17 shows, faster service surfaced strongly when respondents gave their advice for future similar services: 46% of Participants said they wanted faster follow-up. Better information and outreach for Participants and Partial Participants surfaced, as did better financing options for Partial Participants.

Table 17 Advice for the Future: Solarize Efforts

	Partial Participants		Participants	
	N	%	N	%
Faster follow-up	4	9%	17	46%
More Community Outreach	4	9%	6	16%
Better Information and Marketing	8	19%	5	14%
Replicate with other programs	1	2%	5	14%
Other Options for non-qualifiers	2	5%	4	11%
Nothing	13	30%	3	8%
Longer Timeline	3	7%	2	5%
Better Financing and Pricing	8	19%	2	5%
Use More Local Companies	1	2%	1	3%
Better Contractors	1	2%	3	8%
More Professionalism	1	2%	1	3%
N =	*43*		*37*	

* Multiple responses encouraged

Ratings of Marketing Messages

Respondents were asked to choose the top two themes, from five provided, that they would emphasize if they were going to try to persuade another person to take part in a program like Solarize SE Portland. Results for both Participants and Partial Participants are found in Table 18. Notably, the two groups chose quite different themes to emphasize.

Almost half (47%) of Participants said they would emphasize the good investment opportunity of solar, compared to only 32% of Partial Participants. Participants also liked the good sense theme more than Partial Participants (40% to 23%). Partial Participants, however, said they would most often include environmental themes if they were trying to persuade others to participate (40%), a theme much less in evidence for Participants (28%). About one-third of each group included the energy independence theme at one of their top two, and an equally small proportion favored the theme of protecting future generations. Still, the top four themes listed appealed to a strong minority in each group and all would be useful to use in marketing messages.

Table 18 % Choosing Each Marketing Theme as First or Second Choice[9]

Themes	Partial Participants	Participants
Solar is a good investment	32%	47%
Solar makes energy sense	23%	40%
Solar is a move to energy independence	35%	33%
Solar is good for the environment	40%	28%
Solar is good for the health of future generations	14%	14%
N =	78	57

[9] Percentages are based upon total number in sample selecting them as one of their top two choices.

Chapter 3: Solar Energy Review

Program History and Description

As described in the introduction to this report, for many customers, installing solar equipment is alluring but daunting. Previous research has shown people encounter many barriers along the way that either derail them or make decide solar was too long a process. As reported in the 2009 evaluation of the SER pilot program: *Energy Trust of Oregon created the Solar Energy Review pilot program to see if the typical 2+ year solar installation decision process could be shortened by providing tailored, impartial, third party solar audits to prospective solar customers.* The program's mission remains the same today.

Based on results of the pilot program, SER continued as a regular Energy Trust service. Its process has remained similar over time, but some requirements have changed, and services have been added. For the pilot program, all SER participants were required to have attended a "basics of going solar" workshop; this requirement did not continue into the regular program. In addition, as a result of experience in the pilot program, and if time permits, auditors look for and tell customers about energy-efficiency opportunities in their homes, and install instant savings measures for free (such as compact fluorescent light bulbs and low-flow showerheads). Finally, expanded demand for the program, in part due to offering SERs as part of Solarize SE, has meant more auditors have been trained to provide the solar review service.

The current program process is based upon customers requesting a SER, usually through Energy Trust's or the implementer's PMC's call center. The program then sends a specially trained SER auditor to assess the solar potential and energy-efficiency opportunities of the home and provide a report to the customer about their options for installing solar and improving their home's efficiency. If the home lacks solar or efficiency potential, those findings are relayed to the customer.

Interviews with Key Actors

This description relies upon interviews with two solar program managers at Energy Trust and the lead auditor for SER.

Overall Assessment of SER

When asked to complete the sentence: *The first thoughts that come to my mind when I think of Solar Energy Review are...* the two respondents talked about SER informing customers about their home's solar potential and building their confidence so they can call an contractor and move forward with solar installations. While asked a slightly different question, the third respondent concurred SERs *helped customers and moved them to action*. In addition, she said a SER is a great way for Energy Trust to have face-to-face interactions with customers, and to build relationships and still be a cost-effective service. One respondent said she thought the visits were useful even when people did not qualify (and the data here show many do not) because people learn about what it takes to make solar a reality for homes.

Still, while certain that customers appreciated and learned from the service, and noting that demand continues to be strong, all three respondents wondered how well SERs were motivating participants to take further action. They noted the SER program does not do much targeting or

screening of its applicants and that due in part to efforts like Solarize SE and lower prices for solar, the pool of interested customers is getting broader.[10] Finally, respondents pointed out that the SER is able to partially justify its costs because it is installing instant savings measures.

Coordination and Timing

Overall, the three respondents reported SER coordination and timing were generally good. However, they did note that that staff in the call centers have high turnover and represent multiple programs and would benefit from ongoing training and clarification about programs being offered.

The intersection of the SER and Solarize SE programs created some specific challenges. Those participating in Solarize SE could "check a box" to request a SER and this increased demand. At the same time, it appeared some Solarize participants did not understand what they were requesting. Whatever the source of confusion, some SER visits were so delayed that the solar contractor had already done his assessment, which, as one respondent put it, *makes them a little far along* in the process for the SER to be beneficial.

Evidence of Success

Respondents said they did not have a great deal of information about the success of SER, and are looking to this evaluation for more information—from the participant survey and the Fast Track database. They say the feedback they have had from customers, while anecdotal, has been positive; they say customers give strongly positive reviews for the energy advisors, saying the information they supply helps them make decisions about whether or not to install solar.

Areas for Improvement

All respondents said the coordination/schedule issues need to be fixed, both in terms of explaining the service to customers and with staff at both call centers.

Lessons Learned

When asked what advice they would pass on to others thinking about offering a SER type service, several themes emerged:

- Figure out better ways to get participants to assess what they want and need from a home visit: solar assessment, energy-efficiency assessment, or both? If both types of assessments are desired, it is not clear how best to combine them.
- Figure out a way to claim savings to justify doing SERs.
- Do not go into the field to do solar or energy-efficiency assessments unless you are an expert.
- Figure out a way to schedule visits efficiently.

[10] While this evaluation only looks at Solarize SE, the Solarize approach is being applied in other Portland neighborhoods and other parts of the state.

Participant Survey Results

Small sample sizes are shown throughout this section; overall, data should be viewed as more qualitative than quantitative, especially when findings are based upon fewer than 20 respondents.

Household and Demographic Characteristics

As Table 18 shows, participants in SER have a mixture of household and demographic characteristics, with both small and larger homes, older and newer homes, and lower and higher incomes and ages. These findings suggest the program is attracting different types of audience segments—for instance, those who just want information and do not have the financial resources to follow through, and those who just want a little reassurance before they tip over into solar.

Table 19 Household and Demographic Characteristics

Size of Home	Less than 1,000 SF	1,000–1,999 SF	2,000–2,999 SF	3,000–3,999 SF	4,000+ SF	Don't Know	N
	4%	59%	26%	11%	0%	0%	27

Age of Home	Before 1940	1940–1959	1960–1979	1980–1989	1990–1999	2000–2007	Built after 2007	N
	37%	19%	26%	11%	0%	4%	4%	27

Primary Heat Source	Natural Gas	Electricity	Oil	Total
	77%	19%	4%	26

Household Income	Less than $25K	$25K to 50K	$50K to $75K	$75K to $100K	$100K to $125K	$125K to $149K	$150K+	Don't Know	Total
	8%	12%	16%	16%	20%	8%	8%	12%	27

Age of Respondent	18 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65 to 74	75 +	Total
	0%	4%	38%	23%	23%	12%	0%	26

Reasons to Participate and Level of Interest in Solar

When asked why they signed up for a SER, the responses revealed people were at various stages of their interest in or quest for solar: from thinking about solar abstractly or as part of a bigger

energy picture; to gathering information to see if they could install solar at their home; to having an immediate goal such as participating in Solarize SE. [11]

As shown in Table 20, almost two-thirds of respondents said they wanted a SER due to general interest and to see if their home qualified for solar—*to see if we could make solar work for us; wanted to learn the advantages of solar energy in my house.* Another 43% said that signing up for a SER was a way to be greener, support alternative energy, reduce energy use, and reduce carbon emissions. One-quarter of respondents specifically wanted to find out what it cost to install solar. Finally, 17% of respondents each said they wanted to save money or they had had a SER as part of joining Solarize SE.

Table 20 Reasons to Sign Up for a SER

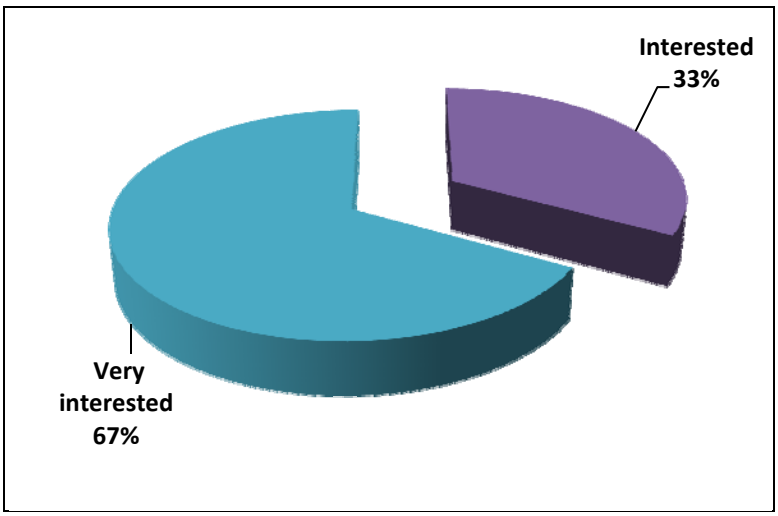
Reasons *	N	%
To see if home qualified for solar	18	64%
To do the right thing/be green/save energy	12	43%
To find out more about programs/incentives	8	29%
The find out what Solar costs	7	25%
To save money	5	17%
Did as part of Solarize SE	5	17%
Other	3	11%
N =	*28*	

* Multiple responses encouraged.

When asked about their interest in installing solar equipment prior to receiving a SER, two-thirds of respondents said they were very interested before the review, and another one-third said they were interested, as shown in Figure 6.

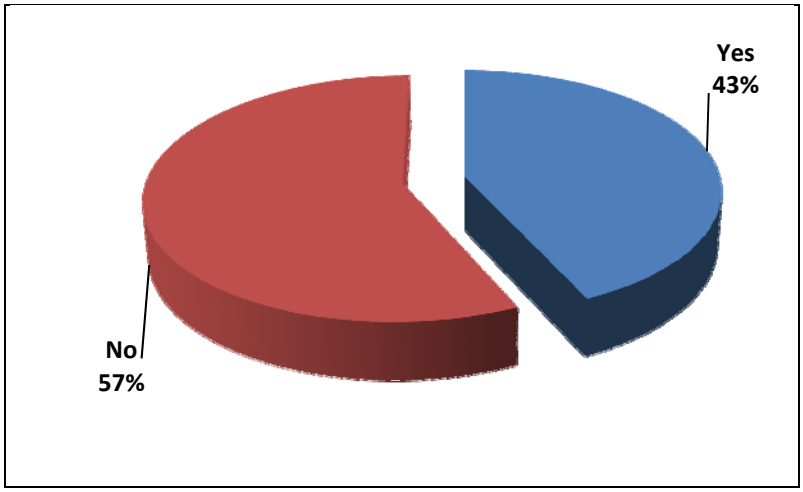
[11] It would be interesting to test the hypothesis that the closer a person gets to having a specific goal, such as wanting to install solar within a specific time frame or to take advantage of a specific program, the closer they may be to adopting solar.)

Figure 6 Interest in Installing Solar Equipment Before SER (n =27)



A majority of respondents (57%) said SER results indicated their home did not have any solar potential, while 43% said the SER showed their home could successfully accommodate solar.

Figure 7 Proportion of SER Homes With Solar Potential (n = 27)



Clarity of the Solar Component of SER

The survey asked participants to rate how clearly the SER report told them about their homes solar potential. Table 20 compares responses of those saying the SER indicated solar would not work in their homes with respondents receiving a favorable review. While overall, ratings about the clarity of SER results were quite positive in both groups, those who received a favorable review were more positive in their ratings than those whose homes did not qualify for solar (40% versus 75% strongly agree). We have no data to explain why these ratings differ, two possibilities may be:

- Households with no solar potential may be reflecting their general disappointment about losing what they hoped was a solar option.
- SER reports for households with no solar potential may be less communicative in some way—for instance, they may not be convincing or may be incomplete.[12]

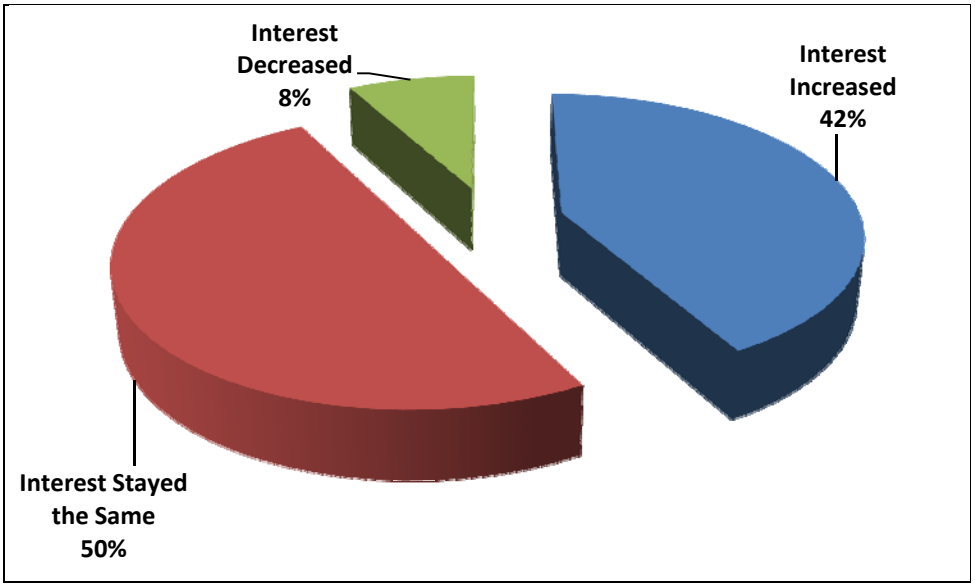
Table 21 Did the SER Clearly Tell You About Your Home's Solar Potential?

I feel the review clearly told me about the solar potential of my home	1 - Strongly disagree	2	3	4	5 - Strongly agree	Total
No Solar Potential	7%	0%	13%	40%	40%	15
Solar Potential	0%	0%	8%	17%	75%	12
N =						27

Profile of Homes with Solar Potential

Customers who received a green light for solar were asked if their interest in installing solar changed as a result of receiving a SER. As shown in Figure 8, below, most participants thought their interest increased (42%) or stayed about the same.

Figure 8 Change in Solar Interest Due to SER (n = 12)



When asked why their interest strengthened, weakened, or remained about the same, answers fell into two camps: either solar made more sense (or was reinforced or confirmed); or the reality of

[12] An ETO solar staff member noted upon review of this finding that ambiguity may stem from the inability of specialists to access the roof and thus the inability to provide participants with "clarity about their total solar resource fraction."

how much solar would cost made them recognize it would be too expensive for them. Respondents who said solar made more sense said the SER established it was feasible for their home, what the costs would be, and that good contractors were available to do the work, as shown in the quotes below:

- *Because [the auditor] outlined the incentives and the payback period, and it seemed to make sense. Also the fact that there are vetted contractors with the program made it seem like a good idea.*
- *Because the savings are measurable and dramatic, and having new ways to afford the capital investment.*
- *The Reviewer's recommendations confirmed what I was hoping was already true.*

Table 22 Reasons that Solar Interest Increased, Decreased, Stayed the Same after SER

	N	(%)
Solar made more sense	7	58%
Too expensive	3	25%
Other	2	17%
N =	*12*	

* Multiple responses encouraged.

Homeowners with solar potential rated how much they agreed with statements describing two other desired outcomes of the program: participants would feel better prepared to talk with a solar contractor; and people received the guidance needed for them to take the next steps to install solar. These ratings are shown in Table 22. While the ratings are generally positive, the barriers to taking further steps toward solar installation are likely to be steep. Follow-through, in part, depends upon having as strong a share of strongly agree ratings as possible. In this case, fewer than half of eligible solar households felt the SER completely prepared them to move forward.

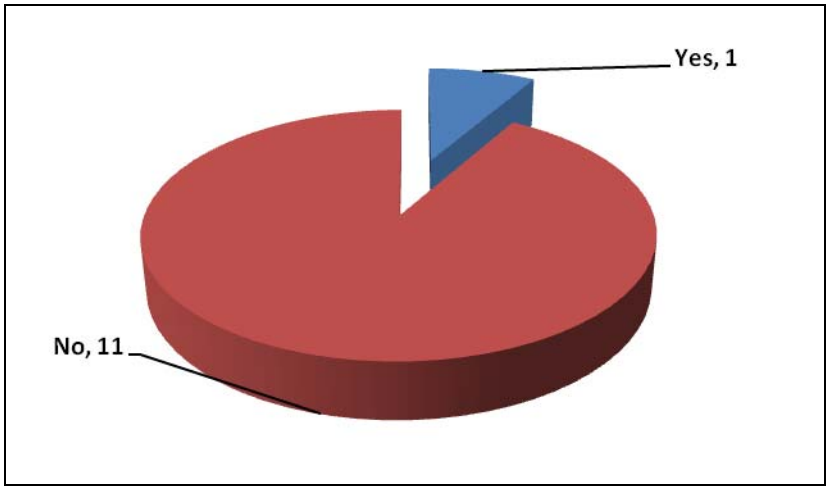
Table 23 How Well Does SER Prepare Customers for Next Steps?

	1 - Strongly disagree	2	3	4	5 - Strongly agree	Total
I feel the review better prepared me to talk with a solar contractor	0%	0%	27%	27%	45%	11
I feel the review clearly explained the next steps I needed to take to install solar	0%	0%	18%	45%	36%	11

As shown in Figure 9, just 1 respondent out of 12 respondents whose homes were good solar candidates, said their household had installed solar since the SER. This is consistent with the follow-through rates reported in the Chapter 4.[13]

[13] The rates shown in Chapter 4 range from 2% to 5%.

Figure 9 How Many Installed Solar Since SER (n =12)



We offered respondents a series of steps they could have taken along the solar path, and asked them to check the ones they had taken since the SER. While just over one-half of the 11 respondents (55%) said they solicited the opinions of other people about solar, only one household had progressed further, taking steps such as upgrading their home to make it solar ready, calling a contractor, getting an assessment from a contractor, and receiving a bid from a contractor.

Table 24 Steps Taken Since SER

	Yes	No	Total
Talked with other people to get their opinions about solar	55%	45%	11
Upgraded home to be able to install solar	10%	90%	10
Called a solar contractor	10%	90%	11
Had a solar contractor assess my home for solar potential	10%	90%	11
Received a bid from a solar contractor	10%	90%	11
Signed a contract with a solar contractor to install solar	0%	100%	11
Applied for financing for solar equipment	0%	100%	10
Obtained financing for solar equipment	0%	100%	9

When asked what barriers they had to overcome before installing solar, the most frequent reasons were cost (n = 7 respondents), and having other priorities (n = 4), as shown in Table 24. The list below the table illustrates the types of specific hurdles householders face when considering solar; they show significant barriers still exist, even though some continue to say they very much want to install it.

Table 25 Hurdles to Installing Solar

	N	%
Cost involved	7	70%
Other priorities	4	40%
Aesthetics	1	10%
N =	*12*	

* Multiple responses encouraged.

- *Initial investment cost is the only significant barrier.*
- *My wife and I are semi-retired and do not have the income to take advantage of the tax credits... as much as I would like to install solar, it does not make financial sense.*
- *Existing roof is too old and needs to be replaced before installing solar.*
- *Yes, we have to retrofit our heating system (heater broke) as well as a bathroom (shower broke), so we are needing to plan more carefully.*
- *I also had an energy audit undertaken and have installed new windows; the cost of also installing solar was prohibitively expensive.*
- *Going Solar is a priority but ... two higher priorities... 1) an unfinished house; 2) a newborn baby. After about a year, I expect to continue with solar installation.*
- *Changing appearance of home.*

Despite the significant barriers they mentioned and the lack of forward momentum so far, most solar-qualified SER participants (82%) said they would install the recommended equipment in the future. When those who said yes were asked how long it would take them to install (see Figure 11), one household (11%) said within one year; four households said one to two years; three households said two or more years; and one household did not know. Thus, of the group of SER participants who said they would install solar, just over half (56%) reported they would do it faster than the average 2+ year decision-process. If applied to the whole sample of 27 SER participants, this means that one in five households (19%) would follow-through in two years or less.

Figure 10 Install Solar at Some Point? (n = 11)

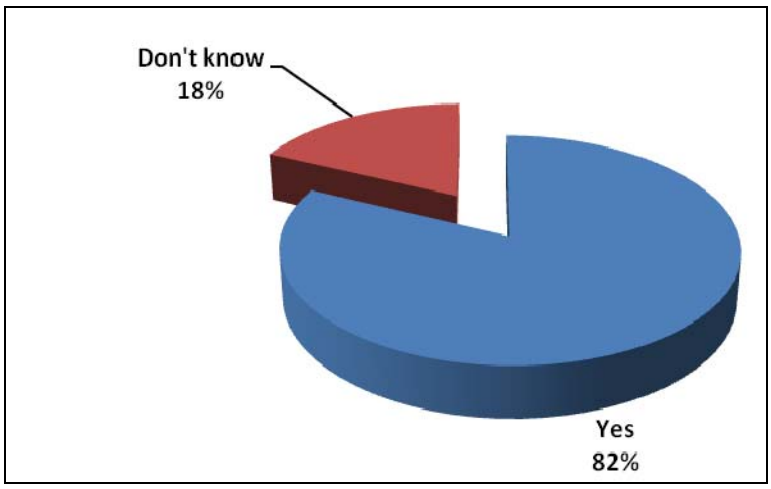
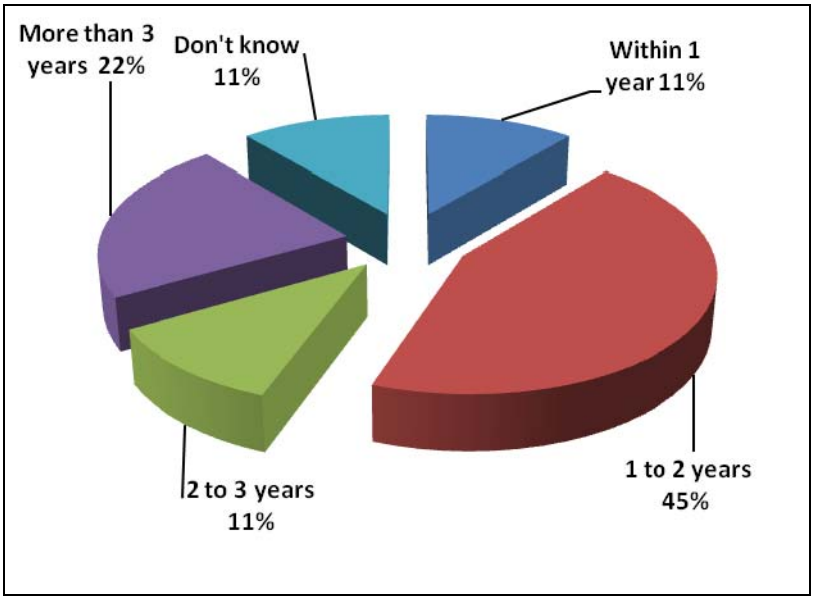


Figure 11 Estimated Time to Install Solar (n = 9)



Assessment of the Energy Efficiency Component of SER

While not formal, Energy Trust experimented with adding, where opportune, advice to participants about actions they could take to improve their homes energy efficiency; this effort stemmed from the SER pilot program which showed that many of the homes visited could benefit from such a service. In addition, where possible, SER specialists installed instant savings measures, in part to help make SER more cost-effective. As Figure 12 shows, many customers (49%) did not expect energy efficiency services to be part of the SER. Still, as shown in Figure 13, most customers were either very interested (69%) or interested in learning more ways to save energy in their homes.

Figure 12 Aware SER Specialist Would Advise on Energy Efficiency (N = 27)

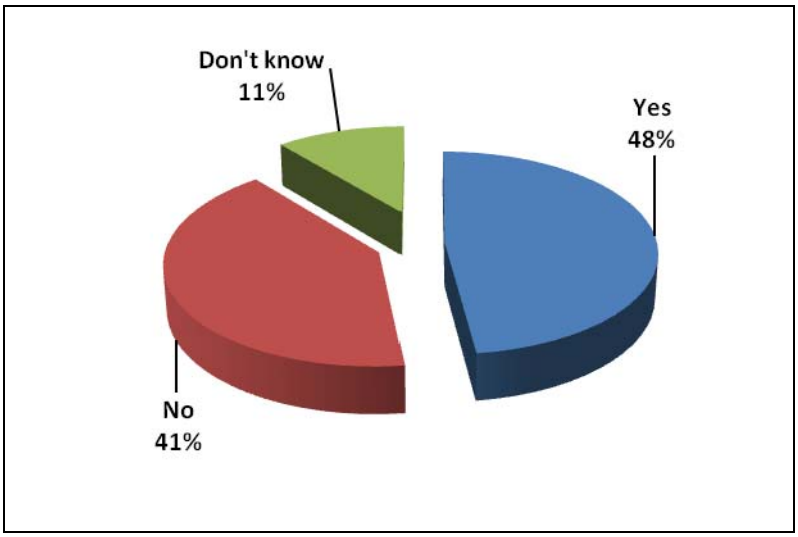
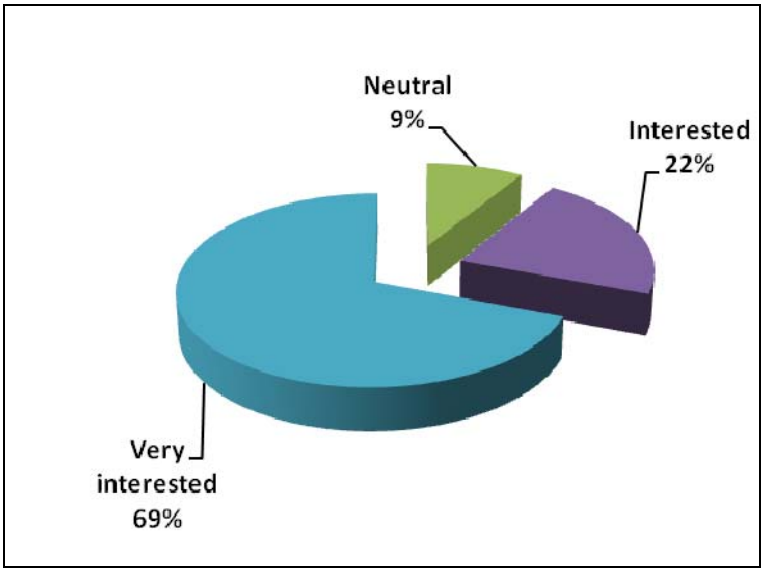


Figure 13 Interest in Learning about Saving Energy as Part of SER (n =23)



Just over one-half of SER participants said the energy-efficiency review provided them with information about good ways to save energy in their homes.

Figure 14 Did SER Reveal Good Energy Saving Opportunities? (N =27)

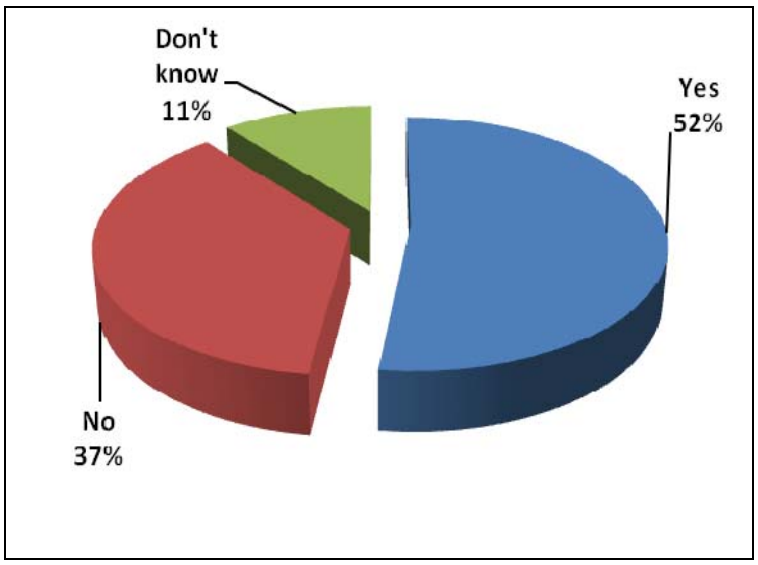


Table 26 compares respondents saying the SER showed their homes have little energy-efficiency potential with those with SERs have good opportunities to save energy. Not surprisingly, those who have little opportunity tended to disagree that the review left them better prepared. However, for those with good energy-efficiency potential, only 29% strongly agreed that the review helped them be more prepared to take energy saving actions, while another 36% agreed, 29% were neutral, and one person disagreed. This suggests that more can be done in terms of providing specific tips and next steps to customers about how they can increase their homes' energy efficiency.

Table 26 How Prepared to Take Savings Steps: Homes with and without EE Potential

I feel the review better prepared me to take energy saving steps in my home	1 - Strongly disagree	2	3	4	5 - Strongly agree	Total
Little EE Potential	18%	36%	45%	0%	0%	11
Good EE Potential	0%	7%	29%	36%	29%	14
N =						27

Profile of Homes with Energy-Saving Potential

As with the solar assessment component of the SER, just respondents with energy savings potential were asked a series of questions. Figure 15 shows one-half of respondents found they had increased interest in energy efficiency due to the review, while 43% remained at the same interest level, and one person's interest decreased. Reasons respondents gave for their increased interest were: they got new ideas and information, and tips for financial incentives. Those whose interest remained the same or decreased said they did not learn anything new or efficiency cost too much.

Figure 15 Change in Interest in Energy Efficiency due to SER (n = 14)

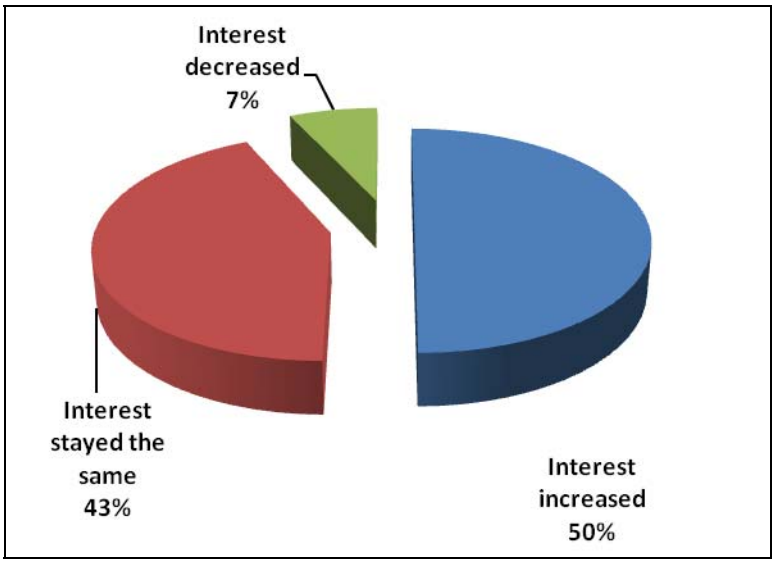


Table 27 Why EE Interest Changed or Stayed the Same

	N	%
New Ideas and Information	7	54%
Financial Incentives	1	8%
Already Interested/Have Taken Steps	3	23%
Cost Too Much	3	23%
N =	*13*	

* Multiple responses encouraged.

Customer comments about the impact of SER on their interest in energy efficiency included:

- *Because of the specialist's recommendations and also the great tax incentives available.*
- *The information about things I could do to make the house more efficient/comfortable was compelling. Specialist made sense, practical ideas.*
- *I got the recommendation and I went ahead with insulating and sealing leaks.*
- *I already knew what a lot of my options are, have already made many efficient improvements.*
- *We'd already had an energy-efficiency review before the recent evaluation for solar, so we knew what needs to be done and were prepared for what the specialist told us.*
- *Have to wait for cost to go down or some promotion.*

Table 27 shows most households with energy-efficiency potential felt the recommendations were clearly explained—50% strongly agreed while 36% agreed. Still, as with the feedback on the solar assessment, there is room for improvement concerning clarity. Results indicate many respondents did not feel highly motivated to take more steps to save energy in their homes, with only 23% being strongly positive.

Table 28 Assessment of Next Steps and Motivation

	1 - Strongly disagree	2	3	4	5 - Strongly agree	Total
I feel the review clearly explained the next steps I needed to take to save energy	0%	7%	7%	36%	50%	14
I feel the review helped motivate me to save more energy in my home	0%	15%	38%	23%	23%	13

Whether motivated or not, over one-half of respondents said they had followed through on recommended energy saving improvements. Ten of the 14 said they had gone on to take energy-saving actions not suggested by the energy specialist (see Table 28), including big items such as installing a geothermal heat pump, to medium-level changes, such as more efficient appliances and windows, to smaller but important improvements, such as fireplace sealing. To show the array of energy saving thoughts and activities, verbatim comments are listed below the table.

Figure 16 Percent Follow-Through on Energy Saving Steps (n = 14)

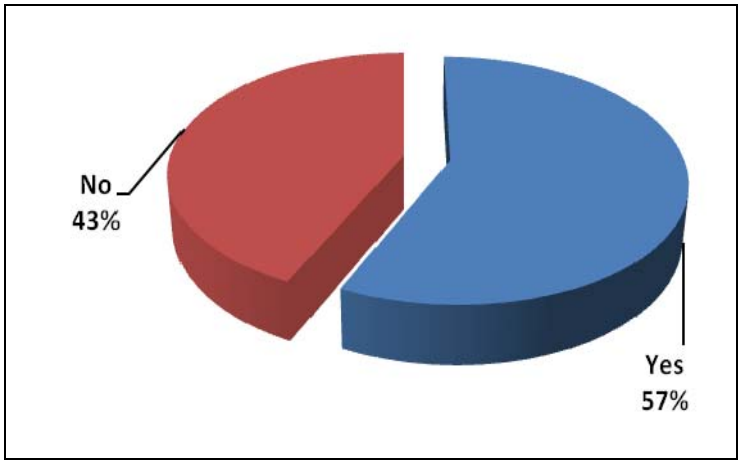


Table 29 Spillover Actions to Save Energy

Steps Taken	N
Installed more efficient HVAC	4
Replaced doors/windows/air sealing/insulation	8
Timers and behaviors	7
N =	*10*

* Multiple responses encouraged.

Equipment

- *Installed geothermal heat pump.*
- *New furnace.*
- *Otherwise, we invested in a new furnace and AC.*
- *Already spent $92k on 10.5kW PV system, already had solar thermal water heater.*
- *Gradually replacing old windows.*
- *I have had 19 new double paned windows installed.*
- *New windows.*
- *New windows, doors.*
- *Reinstalled interior doors to zone heating.*
- *Sealed fireplace. Plastic sheet over thin wood panel wall.*
- *Insulation.*
- *Siding with proper sheathing and vapor barrier for energy and cost efficiency over the course of the past three years, our idea.*

Behaviors

- *Installed timers to power down electronics at night.*
- *Turn off our computers when not in use, our idea.*
- *When I am gone at least overnight from the house I turn off many electrical items, such as the dish washer, the washing machine, the dryer, the hot water and the heat.*
- *When I am gone many hours in the day, I turn off the heat.*
- *We already use shading and southern facing windows for cooling and heating.*
- *Already used curtains inside the house to regulate airflow.*
- *I use the ceiling fans that are installed in every room rather the AC except when it is very hot outside.*

Wrap-Up Questions

A single question asked respondents to rate their overall satisfaction with SER. Their ratings are shown in Table 29, below. Across the various components of satisfaction, the highest ratings were for the solar assessment (82% overall for very and somewhat satisfied), with somewhat lower ratings for the energy-efficiency assessment (72% overall). The energy specialist's knowledge about using less energy at home was rated the lowest—62% "very satisfied" and "satisfied" ratings.

Table 30 Satisfaction Ratings of SER

	1 - Not at all satisfied	2	3	4	5 - Very satisfied	Total
Overall satisfaction with the solar assessment for your home	4%	7%	7%	26%	56%	27
The length of time needed for the review	0%	7%	19%	22%	52%	27
Overall satisfaction with the energy-efficiency review	0%	8%	16%	28%	48%	25
The knowledge of the specialist about solar energy	0%	0%	26%	33%	41%	27
The knowledge of the specialist about using less energy at home	4%	8%	25%	29%	33%	24

The final question asked respondents to suggest ways to improve SER. The 12 people who answered this question said they would have liked to have more information and discussion, more help for households that did not qualify for solar, and better reviewers.

Table 31 Suggestions for Improving SER

	N	%
More information and discussion	4	33%
More options for households that don't qualify for solar	3	25%
Better reviewers	2	17%
None	2	17%
Other	1	8%
N =	*12*	

Chapter 4: Comparison of Programs

This chapter discusses and compares aspects of the Solarize SE and SER participants, including household and demographic characteristics, reasons to participate, and follow-through rates.[14]

Demographic and Household Characteristics

Overall, Partial Participants in Solarize SE most resemble SER participants, with somewhat smaller homes, lower incomes, and younger owners; these characteristics suggest they may have more trouble following through with installing solar due to life-stage priorities and financial barriers. SER homes, however, are markedly newer and have more electric heat than Solarize SE participants.

Size of Home	Less than 1,000 SF	1,000–1,999 SF	2,000–2,999 SF	3,000–3,999 SF	4,000+ SF	Total
Partial	11%	57%	22%	6%	3%	63
	7%	49%	39%	5%	0%	57
Total	9%	53%	30%	6%	2%	120
SER	4%	59%	26%	11%	0%	27

Age of Home	Before 1940	1940–1959	1960–1979	1980–1989	1990–1999	2000–2007	After 2007	Total
Partial	61%	23%	7%	2%	0%	5%	3%	62
Full	70%	12%	4%	2%	5%	2%	5%	57
Total	66%	18%	5%	2%	3%	3%	4%	119
SER	37%	19%	26%	11%	0%	4%	4%	27

Primary Heat Source	Natural Gas	Electricity	Oil	Total
Partial	80%	8%	12%	61
Full	88%	4%	9%	57
Total	84%	6%	10%	118
SER	77%	19%	4%	26

Household Income	Less than $25K	$25K to 50K	$50K to $75K	$75K to $100K	$100K to $125K	$125K to $149K	$150K+	Don't Know	Total
Partial	0%	17%	20%	25%	22%	8%	2%	7%	60
Full	0%	7%	27%	9%	29%	11%	11%	6%	55
Total	0%	12%	24%	17%	25%	10%	6%	6%	115
SER	8%	12%	16%	16%	20%	8%	8%	12%	27

[14] Please note the surveys were not designed to compare the two programs; so comparisons, while interesting, are limited.

Age of Respondent	18 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65 to 74	75 +	Total
Partial	0%	21%	33%	21%	19%	3%	2%	63
Full	0%	9%	28%	18%	30%	16%	0%	57
Total	1%	15%	31%	19%	24%	9%	1%	120
SER	0%	4%	38%	23%	23%	12%	0%	26

Reasons to Participate in Solarize SE and SER

As Table 31 shows, the three groups are both similar and different from one another in their reasons to participate. The most striking difference are financial considerations of solar drive Participants—primarily how to get it funded—compared to the other two groups (70% to 46%). They, like Partial Participants, also have strong green concerns. Unlike Partial Participants, however, one-third of Participants want to take advantage of the convenience and expertise of the program. Participants thus combine pragmatic reasons for pursuing solar, set within a green context. For Partial Participants, the pattern is the opposite. For SER participants, the dominant force is to investigate if solar is possible at their homes, followed by finding out about funding and being green.

One hypothesis, based on these and other data, is the three groups are at different points along a continuum of adoption. Participants are taking on practical, personal hurdles, which Solarize SE can help them solve. Partial Participants have good intent, but are more motivated by being green and helping the community. SER participants are in a learning, investigative mode.

Table 32 Reasons to Take Part in Solarize SE and SER

Reasons Given*	Partial Participant %	Full Participant %	SER %
Reduce cost of solar/get incentives/reduce bills	46%	70%	46%
Be green/use renewables/save energy/do the right thing	63%	63%	43%
To see if home qualified for solar	0%	0%	64%
Program expertise/convenience/education	18%	32%	0%
Take part in community effort	14%	8%	17%
Reduce carbon footprint	18%	15%	0%
Be self-sufficient	14%	10%	0%
Other	5%	0%	11%
N =	66	60	26

* Multiple responses encouraged.

Solarize SE and SER Solar Installation Rates

All statistics in this section are drawn from Energy Trust's Fast Track database, which tracks customer participation in their energy and renewables incentive offerings. Table 31 shows Solarize SE produced a strong follow-through rate for installing PV systems. The highest level of solar project installation rates was for participants not receiving a SER (42%), closely followed by the overall installation of 37%, which included both homes receiving and not receiving an

SER. The installation rate was much lower for homes receiving SERs as part of Solarize SE, but a much higher than the normal installation rate for SERs (see Table 32). Table 33 shows the follow-through rate across all households receiving a SER on any measure installed through an Energy Trust program in 2008, 2009, and the first quarter of 2010. Follow-through, perhaps due to the economy, may be decreasing. The first quarter of 2010 was lower than any previous first quarter statistics.

Table 33 Solarize SE PV Installation Rates

	N	% follow Through
All homes, including those receiving SERs	334	37%
Homes not receiving SERs	244	42%
Homes receiving SER s	93	26%

Table 34 SER Homes: PV Installation Follow-through Rates over Time

Year	Number of SERs	3 Month	6 Month	1 Year	2 Year
2008	60	3%	5%	5%	5%
2009	104	2%	2%	3%	na
2010	66	2%	2%	na	na
Total	230	2%	3%	3%	3%
Total less 2010	164				

Table 35 SER Homes: Follow Through on any Energy Measure

Year	Number of SERs	3 Month	6 Month	1 Year	Total
2008	76	11%	17%	24%	37%
2009	230	12%	17%	22%	22%
2010	80	4%	NA	NA	NA
Total	386	10%	15%	18%	21%
Total less 2010	306				

Appendix A. Interview Guides and Questionnaires