

U.S. DEPARTMENT OF
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Energy Efficiency &
Renewable Energy



THE SOLARIZE GUIDEBOOK:

A community guide to collective purchasing of residential PV systems



ACKNOWLEDGEMENTS

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BPS develops and implements programs that provide environmental, economic and social benefits to residents, businesses, and government, which strengthen Portland's position as an international model of sustainable practices. The BPS took on a management role in several Solarize campaigns and funded replication efforts including this Solarize Guidebook. www.portlandonline.com/bps/solar

Energy Trust of Oregon

Energy Trust of Oregon is an independent nonprofit organization dedicated to helping utility customers benefit from saving energy and tapping renewable resources. Their services, cash incentives and energy solutions have helped customers of Portland General Electric, Pacific Power, NW Natural and Cascade Natural Gas save nearly \$660 million in energy bills. Their work helps keep energy costs as low as possible, creates jobs and builds a sustainable energy future. Energy Trust created the program blueprint for the first Solarize Portland campaign and provided technical support, incentives, and program evaluation. www.energytrust.org

Solar Now! Campaign

Solar Now! connects Oregonians with the resources and assistance they need to choose solar energy. Partners are Solar Oregon, Oregon Department of Energy, Energy Trust of Oregon and City of Portland Bureau of Planning and Sustainability. They have conducted workshops and other events to catalyze solar across Oregon State, since January 2007. www.solarnoworegon.org

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SOLAR  OREGON

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INTRODUCTION

Communities are abuzz with interest in solar power. In Portland, Oregon, known for bicycling, recycling, and all things “green”, the interest is especially intense. But interest is not a guarantee of action. Although Portland and its educational outreach partners conducted popular Solar Now! workshops for several years, the high attendance at workshops did not translate into high numbers of solar installations.

Enter the Solarize campaign: a grassroots effort to help residents overcome the financial and logistical hurdles of installing solar power. Over two years and multiple campaigns, residents of Portland installed over 600 solar electric photovoltaic (PV) systems. Although the success seemed to come out of nowhere, it didn’t just happen overnight. It took a concerted effort by many partners —neighborhood volunteers, a neighborhood coalition, Energy Trust of Oregon (Energy Trust), the City of Portland, Solar Oregon and solar contractors— to convert customer interest into action.

Purpose

This guidebook is intended as a road map for project planners and solar advocates who want to convert “interest” into “action,” to break through market barriers and permanently transform the market for residential solar installations in their communities. It describes the key elements of the Solarize campaigns in Portland, and offers several program refinements from projects beyond Portland. The guidebook provides lessons, considerations, and step-by-step plans for project organizers to replicate the success of Solarize Portland.

The guidebook is funded by the U.S. Department of Energy (DOE) Solar America Communities program, as part of a broader program to accelerate the adoption of solar energy technologies for a cleaner, more secure energy future. Under this umbrella, Portland and other communities are partnered with the DOE to identify barriers to solar energy use, and to collaboratively develop solutions to overcome those barriers.



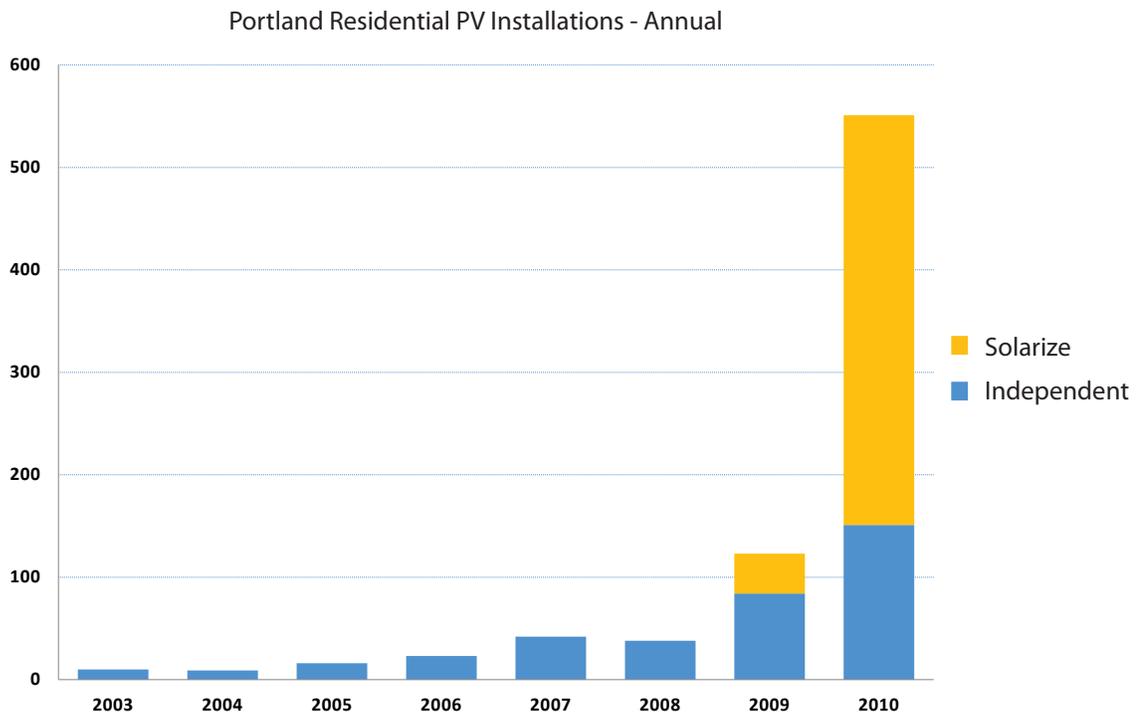
Source: Energy Trust of Oregon and Solar Oregon

BACKGROUND AND OVERVIEW OF MODEL

The First Solarize Campaign

The first Solarize campaign started with a simple wish: Stephanie Stewart, a resident of Mt. Tabor neighborhood in Southeast Portland, wanted to install solar power, but she didn't know what to ask for, whom to trust, or where to start. She imagined that if she could organize a group of neighbors to "go solar" together, they could collectively make an informed purchase and possibly negotiate a volume discount. She turned to her neighborhood association and the local neighborhood coalition, Southeast Uplift, for assistance. Southeast Uplift was willing to help and approached Energy Trust for technical and program planning support. Energy Trust developed a volume purchasing program to meet the needs of the neighborhood coalition and the Solarize Southeast campaign was born.

Within six months of starting their campaign, Solarize Southeast had signed up over 300 homes and installed solar on 120 homes. The 120 installations added 350 kilowatts of new PV capacity to Portland, and will produce an estimated 359,000 kWh of electricity per year. The project also helped provide 18 professional wage jobs for site assessors, engineers, project managers, journeyman electricians, and roofers.



The neighborhood bulk purchase concept spread quickly. With support from their Solar America Cities grant, the City of Portland's Bureau of Planning and Sustainability helped other neighborhood organizations take Solarize Portland citywide, completing projects in Northeast and Southwest Portland and a second round in Southeast. Taken together, these follow-on projects produced another 400 Solarize installations in 2010, increasing total PV installations almost 400% over the previous year.

Overcoming Market Barriers

Although the volunteer organizers of the first campaign did not set out to transform the market, their program design resulted in spectacular market growth. The Solarize Portland model tackles three major market barriers: **cost**, **complexity**, and **customer inertia**.

High Up Front Cost

Residential solar installations have high up front costs. By presenting the full package of federal and state tax credits and the Energy Trust cash incentive, the Solarize campaign showed that the final costs were much lower than the initial sticker price. In addition, the contractor savings on marketing costs and volume pricing drove costs down by 30-35%. A typical 3 kW installation in the first Solarize project cost only a couple thousand dollars after tax credits and incentives.

Complexity

For many, a solar purchase seems a dauntingly complex decision, involving choices about technical issues such as inverter efficiency, PV modules, and optimal array tilt. Even choosing between contractors can be an overwhelming task for those not technically inclined. Every aspect of the Solarize program was designed to provide actionable information while reducing complexity. A committee of neighbors pre-selected the contractor through a competitive bidding process and negotiated the cost. Workshops and Q&A sessions focused on the practical steps to making a purchase. The program reduced a dizzying array of technical choices to one simple question for participants: yes or no?

Customer Inertia

The sales cycle for solar is usually more than two years from first inquiry to installation. The Solarize project overcame customer inertia to get installations in three to six months. By offering a highly competitive price in a limited time offering, the campaign motivated customers to act. In addition, the spirit of group endeavor afforded safety in numbers, so that people didn't feel that they were making a decision on their own.

By tackling cost, complexity, and customer inertia, the Solarize campaign succeeded in transforming interest into action.

Essential Elements of the Solarize Model

In Portland, each successive Solarize campaign looked slightly different, reflecting the different priorities and goals of the differing neighborhoods, but there were some common elements that led to success: competitive contractor selection, community-led outreach with a trusted community partner and a limited time offering.

Competitive Contractor Selection

Selecting the contractor(s) through a competitive process led by community volunteers is essential on several fronts. First, it affords homeowners the simplicity of a pre-selected contractor while building confidence that the contractor was selected from a range of options. Second, it provides a transparent process that builds customer and contractor trust. Although the criteria for selection may vary from campaign to campaign, they should reflect the particular values of the community, whether they are creating local jobs or driving prices down. By having a competitive process with clear criteria, the project organizers can justify their choice, while sending a clear market message about customer and community values.

Community-led Outreach and Education

Another element of a successful campaign is community-led outreach supported by a trusted local organization. In Portland, neighbors distributed flyers, built and updated the program website, and spoke at workshops, delivering a direct appeal from one friend to another to join the campaign. The volunteers were supported by a Neighborhood Coalition, which had a long history of helping people and a high level of community trust. Harnessing community power in this way has many benefits: the community becomes invested in

*"Thanks to the community outreach, we saved 30% on marketing!"
Rob LaVigne, Solar City*

the success of the project, the scope and scale of the outreach is amplified, and neighbors are more responsive to the appeals. Community-led outreach also allows the contractors to save on marketing costs because they do not need to spend as much time generating leads. With neighborhood volunteers generating hot leads, the contractors can focus on site assessments and installations.

Limited-Time Offer

Nothing motivates people like a deadline. A Solarize campaign is a limited-time offer, creating a sense of urgency among residents who don't want to miss a good deal. The limited time offer also keeps the program true to its market transformation goals: to jump-start the solar market and then step aside. Some contractors may object to the perceived "monopoly" awarded to the contractors selected for the project. The limited-time offer may help mitigate that contractor concern. In fact, a successful Solarize campaign can increase business for non-Solarize installers as well. Installation numbers from Energy Trust demonstrate that Portland actually experienced an increase in non-Solarize installations during the Solarize campaigns.

SOLARIZE 1.0

The Basic Program

The Energy Trust's volume purchase program for Southeast Portland was designed to lead the customer through a simple process, from awareness to installation, over the course of six months. The process included:

- ▶ **Awareness:** The Solarize Southeast campaign was advertised in flyers, emails, newsletters, blogs and by word of mouth. Even TV and radio media took notice late in the program.
- ▶ **Education:** Workshops and Q&A sessions were offered throughout the community to allow all interested neighbors a chance to ask questions in a supportive environment and to lay out the steps to participation.
- ▶ **Enrollment:** Residents enrolled in the program through a simple email to Southeast Uplift. In subsequent projects, this became an on-line application. In some projects, a short questionnaire helped enrollees self-screen for solar suitability.
- ▶ **Site Assessment:** The installation contractor provided a site assessment and bid to all enrollees. The Energy Trust also provided an optional Solar Energy Review for participants who wanted consultation before deciding whether to get a contractor bid.
- ▶ **Decision:** The customer decided whether to accept the contractor's bid at the Solarize program price. A descending price, depending on the volume of installations, encouraged the community to promote the program in order to get the lowest price possible. There were few variables, other than system size and in some cases, a choice of modules, so the customer's decision usually came down to a simple yes or no.
- ▶ **Installation:** The contractor installed the system and helped the customer through the paperwork for the Energy Trust cash incentive and state and federal tax credits.

The program offered a significant discount, enabling people to go solar for as little as a few thousand dollars after tax credits and cash incentives. This chart shows the 2011 pricing for a typical Solarize project.

3 kW PV System	Cost	Notes
Solarize Installed Price per Watt	\$6.00	
Total System Cost Before Incentives	\$18,000	
Energy Trust of Oregon Cash Incentive	\$5,250	\$1.75/watt
Out of Pocket	\$12,750	
Federal Tax Credit - 30%	(\$3,825)	Calculated after Energy Trust incentive
Oregon Residential Tax Credit	(\$6,000)	\$2.10/DC watt; taken over 4 years
Final Cost After 4 Years	\$2,925	

The Partners

While volunteers propelled the project forward, the project required the coordinated efforts of many community players. These partners worked together through all of the Solarize campaigns in Portland:

- ▶ **Neighborhood Coalition Office:** A staff member devoted a portion of their time for six months to manage the program. They played a crucial role in managing volunteers and reaching out to involve other supporting partners.
- ▶ **Energy Trust of Oregon:** In addition to providing the template for program design, Energy Trust created a Request for Proposals (RFP) and presented the technical tax credit and financing workshops. On the back end, Energy Trust verified that each installation met its solar requirements and issued cash incentives.
- ▶ **City of Portland:** The City created a program to provide project coordination for budding Solarize projects across Portland. The City designed additional outreach materials and presented the introductory workshop series. In addition, the City provided technical support on the RFP and created a streamlined on-line process for solar permitting, with a one-day turnaround on prescriptive path systems. The City's Bureau of Development Services inspected all systems.
- ▶ **Solar Oregon:** As the local chapter of the American Solar Energy Society (ASES), Solar Oregon offered support in several ways. They created a database for capturing enrollees and monitored customer progress. In addition, they provided staff and volunteer Solar Ambassadors to present and offer testimonials at workshops.

Community Feedback Spurs Innovation and Improvement

The first neighborhood volume purchasing effort, run out of Southeast Portland in 2009, was an unprecedented success, resulting in 130 new residential PV systems in six months. Although the community response was overwhelmingly positive, there were inevitably some lessons learned. A formal program evaluation commissioned by the Energy Trust showed that project organizers were unprepared for the sheer volume of customer interest. Organizers held all the enrollee information until the end of the enrollment period, and then gave the leads to the contractor in one batch. While this allowed the contractor to know the final price (which depended on the volume of sign-ups) before contacting the customers, it meant that the contractor received the 300 sign-ups at once. This led to several issues:

*"Our mission is community-building. The Solarize project allowed people to get their hands on something and work together to make great things happen."
Tim O'Neal, Sustainability Coordinator, SE Uplift*

1. Customer follow-up time suffered. The number one suggestion for future programs, expressed by 42% of respondents, was that contractor follow-up could be faster. 32% hoped for a more responsive contractor.
2. The solar installer and electrical subcontractors faced a boom and bust cycle rather than a sustainable modest increase in jobs. Although the solar installer could handle the surge by re-signing internally, the electrical subcontractors actually faced time off.
3. The Coalition office had a hard time processing customer information manually due to the high volume. An electronic process was needed to automate data collection and reporting.

Subsequent projects took these lessons to heart and created refinements, including an on-line registration process and a strategy to send leads to the contractors as they came in, allowing for a more steady stream of contractor referrals and quicker follow-up times. The following case studies show how the program has evolved since the first project, with innovations and adaptations for each neighborhood.

VARIATIONS ON THE CONCEPT

Since the first project in Southeast Portland, each successive Solarize effort has carried the stamp of its particular community values. Indeed, allowing for this expression of values is what makes the Solarize model so attractive and empowering for participants. The first few examples that follow were directly inspired by the first Solarize campaign. Other examples, from San Jose, CA and 1BOG, were devised independently and are included to show a breadth of possibilities, including workplace and commercially-led campaigns. The installation numbers for Portland projects reflect sales reported by Solarize contractors in 2010, although some of the systems may not have been placed in service by year's end.

NE Portland: Addressing Equity Issues, Hiring & Weatherization

Installations: 204 homes

Total Installed Capacity: 549 kW

The Northeast Coalition of Neighbors (NECN) led the effort to ensure that their Solarize campaign benefitted everyone in the community. Northeast Portland has a higher proportion of low-income residents that would be unlikely to participate in a project requiring several thousand dollars out of pocket. However, they could benefit by weatherization services and job training.

NECN's RFP asked contractors to demonstrate a commitment to diversity in hiring and they partnered with the Community Energy Project, a non-profit specializing in education and support for do-it-yourself weatherization projects.

Lessons and Considerations:

- ▶ *Contractor Memorandum of Understanding (MOU):* NECN signed an MOU requiring the installation contractor to coordinate with three community-based pre-apprenticeship programs that train people to enter the construction trades. The contractor ultimately hired eight of their 18 hires from these programs.
- ▶ *Weatherization:* In keeping with the goal of program simplicity to accelerate the sales cycle, project organizers chose not to deliver weatherization services. Instead, they partnered with the Community Energy Project on weatherization workshops. They also provided a check box on the enrollment form, for customers to request more information on weatherization, allowing them to make "warm leads" to Portland's comprehensive energy retrofit program, Clean Energy Works Portland, while focusing their own efforts on delivering the solar installations.

*"Solarize appeals to homeowners, not renters. By including weatherization and local job training in our campaign, we made sure it would benefit the entire community."
David Sweet, Board member,
NECN*

SW Portland: Working with Smaller Contractors & Local Manufacturers

Installations: 168 homes

Total Installed Capacity: 450 kW

Southwest Neighborhoods, Inc. (SWNI) decided to open up the playing field by encouraging the smaller contractors to band together and pool resources to respond to the RFP. They hoped that smaller contractors would form alliances to deliver the large number of jobs anticipated. In practice, although they received several "collaborative" proposals, the volunteer RFP committee was not convinced that the contractors had worked out the details enough to handle the collaborative work.

The committee ultimately chose a local contractor who experienced a steep increase in customer service load. The contractor expressed reservations about the profitability of such a boom and bust workload, though they would definitely participate again.

Lessons and Considerations:

- ▶ *Using small contractors:* Small contractors need support to develop customer service mechanisms such as a customer tracking database. In addition, contractors are independent businesses and do not generally partner with one another. Rather than ask for collaboration, the RFP committee might decide to award half the jobs to one contractor and half to another, as they did in Salem, Oregon.
- ▶ *Assuring unbiased contractor selection:* The volunteer RFP committee signed a Non-Conflict of Interest so that there would be no question of bias in selecting the contractor.
- ▶ *Using local manufacturers:* Project organizers in Southwest Portland wanted to “buy local.” The contractor suggested using panels and inverters made in Oregon. While customers were offered an option to purchase out of state parts (because the locally manufactured products were more expensive) almost all chose the locally manufactured products, magnifying the economic impact of the program in Oregon.

SE Portland Round 2: Contractor Driven

Installations: 109 homes

Total Installed Capacity: 358 kW

Southeast Portland was the first neighborhood to run a Solarize campaign. As such, the intense media coverage began just as registration was closing, leaving many people eager to participate. Rather than go through the entire RFP process again, the project organizers at Southeast Uplift chose to give the late registrant leads to the installing contractor who won the first RFP. In this round, the contractor required that participants attend a workshop, and Southeast uplift was much less involved. From a customer service standpoint, the customers received the same product as the first round, without the intensive time commitment from the project organizers.

Lessons and Considerations:

- ▶ *Contractor driven projects:* SE Uplift noted that the project was a success from the standpoint of solar installations, but less of a community building opportunity. They felt it was worth getting more solar installed for little effort on their part, and it was beneficial to have a contractor who “knew the ropes” for the program.
- ▶ *Required workshops:* While contractors would like all potential customers to attend a workshop before the site assessment, any “required” element will produce resistance. Some homeowners complained.
- ▶ *Second round campaigns:* Running a second round with the same contractor could open a project to criticism on the grounds of creating a monopoly. Clearly, the data from Portland show that non-Solarize installations rose as well, but project organizers should be aware that running a second campaign with the same contractor in the same neighborhood could cause some hard feelings in the other contractors.

Salem, OR: Using a Co-op Model

Installations: 52 homes

Total Installed Capacity: 165 kW

The structure of Solarize Salem, spearheaded by the non-profit Salem Creative Network (SCN), was modified to address one key barrier: program funding. Lacking the Neighborhood Coalition staff or city funding, SCN adopted a co-op model to fund their Solarize efforts in Salem, charging program participants a fee of \$0.10 per watt (e.g. \$250 for a 2.5 kW system) to join the co-op. The fee covered program management, database administration and outreach. SCN selected two contractors to carry out the solar installation and negotiated identical pricing packages. Both contractors gave customers the choice between in-state modules and foreign modules. Customers were assigned to one of the two contractors and could choose to switch if desired, although in practice almost all customers were satisfied with the assigned contractor.

Lessons and Considerations:

- ▶ *Fee for service:* Solarize Salem was the first Solarize project to require a fee for service. Home-owners were required to write two checks: one to the contractor for their solar system and the other to SCN for the co-op fee. This fee was enough to partially fund the management and database administration, covering about one month of the three-month operations. SCN had to rely on marketing funds from contractors to pay for the outreach materials.
- ▶ *Multiple contractors:* Solarize Salem was also the first Solarize project to use two contractors to carry out installations. Customers were evenly split between the two contractors. Contractors were provided leads every three days throughout the enrollment period. As such, customers were contacted promptly, which helped to maintain enthusiasm and prevent a backlog.

For More Information: Ross Swartzendruber, Salem Creative Network, ross@solarizesalem.org, (503) 551-2818

Pendleton, OR: Providing Financing

Installations: 55 homes

Total Installed Capacity: 135 kW

The City of Pendleton took the lead in advancing a Solarize project in this Oregon community. They provided a paid AmeriCorps volunteer to manage the project and made available 50 zero-interest loans of \$10,000 to finance Solarize installations. However, the rural location of Pendleton meant that there were no qualified local contractors in the area to complete the installations. To address this issue, Pendleton required that the selected contractor partner with local electricians and roofers to train them in installation and racking. This developed local expertise and assured that solar systems would be maintained even after the project ended. In addition, the contractor provided marketing support to the project, facilitated by an increase in their initial per watt rates.

Lessons and Considerations:

- ▶ *Financing via loans:* The 50 zero-interest loans of \$10,000 offered by the City of Pendleton proved invaluable to the success of Solarize Pendleton. Funds were borrowed from an existing wastewater treatment facility rate stabilization fund, with loan repayment structured over four years: half paid back the first year and the remaining half paid back over the remaining three years. These funds were vital in bridging the gap between the customers' payments to the

contractor and their receipt of state and federal tax incentives. Ultimately, the loans were used to finance two thirds of the program's solar installations.

- ▶ *Contractor marketing:* Solarize Pendleton benefitted from substantial marketing by the contractor. The contractor, in partnership with Solar World panel manufacturers, assisted with marketing by funding the website, performing outreach at farmer's markets, and funding newspaper inserts and advertisements.
- ▶ *Solar Oregon outreach:* Solar Oregon provided substantial pro-bono support in Pendleton, creating the customer database and delivering many of the workshops.

For More Information: Lindsey Hardy, City of Pendleton, Lindsey.Hardy@ci.pendleton.or.us, (541) 966-0248, www.pendleton.or.us/

Columbia Sportswear's "Lighten Our Load": Workplace Campaign

Installations: 5 homes

Total Installed Capacity: 14.3 kW

The Solarize model was, in fact, originally developed by Energy Trust for Columbia Sportswear in 2008. Columbia Sportswear had installed solar on its Beaverton headquarters, and they approached Energy Trust interested in developing a workplace-centered solar option for their employees. From this partnership emerged the "Lighten Our Load" campaign, a group buy program for Columbia Sportswear employees. "Lighten Our Load" focused on the complete energy picture, not just solar, and offered a "Home Energy IQ" series to educate employees on conservation, efficiency, and renewable energy.

Lessons and Considerations:

- ▶ *Workplace-limited participant pool:* Instead of focusing on a residential community, Columbia Sportswear's "Lighten Our Load" campaign focused on a work-place community. This dilutes the geographic focus of the program (as compared to the Solarize projects that followed), because employees did not necessarily live in the same area. Furthermore, the "Lighten Our Load" campaign held workshops and information sessions during the work day, meaning that household members who were not Columbia Sportswear employees were not present. Project organizers should consider when and where to target decision-making change: Who should be present? What mind frame should they be in? What "community" are you targeting?
- ▶ *Broad emphasis:* The "Lighten Our Load" campaign went beyond the traditional scope of Solarize projects to include energy conservation and efficiency measures. While participants received valuable education on these issues, they were not offered any "product" or "package" to accompany energy conservation and efficiency similar to the group buy benefits offered for solar. As such, program clarity was compromised. Program organizers should be clear about what the program is asking people to do, and delineate who is going to be responsible for what.

For More Information: Energy Trust of Oregon, www.energytrust.org

San Jose Credit Union: Workplace Campaign with Financing

Installations: 38 homes - 88 homes (anticipated)

Total Installed Capacity: 52 kW - 120 kW (anticipated)

The City of San Jose undertook solar market transformation through a partnership with the San Jose Credit Union. The resultant “San Jose Employee Solar Group Buy” program offered bulk purchase solar savings for San Jose employees and retirees, in addition to a 3.99% interest home equity loan through San Jose Credit Union to help homeowners finance solar installations. The employee group ultimately ran the program, with technical support from the City and financial support from the Credit Union. Participants had the option to install both solar PV and solar thermal, and a separate contractor was chosen for each.

Lessons and Considerations:

- ▶ *Workplace-limited participant pool:* Similar to the Columbia Sportswear campaign, the “San Jose Employee Solar Group Buy” targeted people in the workplace rather than the household. Especially since the program included retirees, this meant that installs happened all over California rather than being geographically limited to San Jose. SunPower, the contractor chosen for solar PV installs, had a network of dealers dispersed throughout California and thus could manage this demand. Consider your contractor’s capacity to perform state-wide installations, and the economies of scale preserved or lost with a geographic expansion of the program.
- ▶ *Financing via trusted lenders:* Although San Jose Credit Union is not limited to City of San Jose employees, it is the bank used by most of them. Hence, there was already a substantial amount of trust established between program participants and the Credit Union prior to the group buy. Using trusted entities to forward your project will advance its credibility and opportunities for community engagement.

For More Information: Jesse Denver, City of San Jose Office of Sustainability, Jessie.Denver@sanjoseca.gov, (408) 975-2588

One Block Off the Grid: Commercially-Led Projects

Installations: 1,300 homes

Total Installed Capacity: 7,800 kW

One Block Off the Grid (1BOG) is a San Francisco based for-profit company that aims to figuratively take one city block “off the grid” by installing solar. 1BOG establishes programs in target cities with promising solar markets, and aims to address three major barriers to widespread solar energy implementation: 1) high cost, 2) confusing process, and 3) lack of trust between potential customers and installers. 1BOG’s city-based programs feature ongoing solar campaigns that run for three months at a time. To initiate a campaign, 1BOG issues a Request for Proposals to local contractors. Rather than tiered pricing, chosen contractors offer campaign participants a low, flat-rate fee. Residents of targeted cities can choose to sign up for solar at the given price offered by the chosen installer.

Lessons and Considerations:

- ▶ *Ongoing campaigns:* 1BOG targets promising solar communities in which to launch programs. Currently, there are 20 1BOG programs throughout the United States. Within each of these programs, 1BOG runs ongoing campaigns of three-month duration. Consider whether you

want your project to be a one-time offer or to be ongoing. If ongoing, will you keep the same contractor or issue a new RFP for each iteration?

- ▶ *For-profit fee for service:* To finance their business model, 1BOG charges a \$0.25 per watt installed fee to the chosen contractor. This adds approximately \$1,250 to the price of a five kilowatt system, about five percent of the overall system cost. The customer never “sees” this fee, because it is built into the flat-rate price offered by the contractor. Consider how a fee for service will affect solar prices and play into the customer experience. How does this reflect the mission and goals of your project?

For More Information: 1BOG, www.1bog.org/

Make Mine Solar H₂O: Solar Hot Water

Project organizers need not limit themselves to solar PV. Minnesota Renewable Energy Society recently initiated a volume purchase solar hot water program called “Make Mine Solar H₂O”. Make Mine Solar H₂O hopes to install 1,000 solar hot water systems in the Twin Cities by the end of 2012. Consider how the bulk purchase model might be applied to other renewable energy technologies: solar PV, solar hot water, and beyond!

For More Information: www.mnrenewables.org/MakeMineSolar

GENERAL LESSONS AND CONSIDERATIONS

The following lessons and considerations are based on the feedback from all of the Solarize campaigns in this guidebook.

Tap the Grassroots

The Solarize campaigns are successful because they tap the grassroots to design and market the program. In a positive feedback loop, the process of creating and deploying the program builds community pride that encourages higher levels of participation in the community.

Involve the Community in Decision-Making

The RFP process is an opportunity for the community to create an empowering statement of values. With guidance from technical experts, volunteers craft the contractor selection criteria and exercise choice in the selection of the installer(s).

Use Community-Based Marketing

Solarize is a classic example of community-based social marketing: Information reaches people through face-to-face encounters with friends and neighbors, house parties, and other social interactions. Although the campaign uses the web and other traditional media, the thrust of the marketing appeal is personal. In contrast to a plea from the government or the utility, the appeal comes directly from a friend or neighbor.

"Solarize Southwest was perhaps the single most satisfying project I've worked on at SW Neighborhoods. The shared experience of residents attending workshops together and installing solar energy equipment at the same time helped to create a strong sense of community amongst those who participated, and helped us fulfill our mission to the community: to empower citizen action to improve and maintain the livability of southwest neighborhoods."

*Leonard Gard, Project Coordinator,
Southwest Neighborhoods, Inc.*

Collaborate with a Trusted Local Organization & Find a Project Manager

A successful campaign collaborates with a trusted local organization that has a history of helping people. In Portland, the neighborhood coalitions served this role. In Pendleton it was the City and in Salem the non-profit Salem Creative Network was the trusted organization. Regardless of the organization, each campaign had a dedicated project manager to orchestrate the effort.

Plan for success

The first Solarize effort set a goal of 25 installations. When 350 residents signed up, the manual process of entering enrollee information into a spreadsheet quickly became untenable, and the contractor realized that they needed a customer service plan to keep in touch with customers over the several months that they would have to wait to get through the installation queue.

Project organizers should plan for success, and put efficient systems in place for capturing enrollment information, sharing information with contractors, and following up with customers. Consider selecting more than one contractor, so that no single contractor is overwhelmed with jobs.

Support Contractor Systems

Smaller contractors in particular may need support to build their administrative systems to handle a database of customers and a program of regular follow-ups to keep warm leads "warm" until they can reach the customer. Project organizers can help contractors by ensuring that they have thought through their customer service plan, requiring specific plans in the RFP response.

Make Contractors Responsible for Site Assessments

The early Solarize campaigns offered an optional free site assessment in which Energy Trust helped

residents determine their home's suitability for solar and consider energy efficiency options. Although attractive in principle, in fact, offering these third party reviews created a bottleneck, slowing the installation process as contractors had to wait for the reviewers to complete their assessment before meeting with the homeowner. The first program evaluation showed that homeowners who requested the optional site assessment actually installed solar at a lower rate than those who did not. (It may be that they were requested by homeowners who suspected that their home was unsuitable.) In any case, the contractor must ultimately visit the home to advise on the system size and sign the contract, so the site assessments can be part of the contractor's plan.

Consider Trademarking the Solarize Name

The first Portland campaigns were so popular that contractors wanted to use the Solarize brand beyond the campaign. For project organizers, eager to preserve the grassroots nature of the effort, "Solarize" means a competitive process of limited time duration. To use the Solarize brand in Oregon, project organizers need a service agreement from the City of Portland. They have a sublicense agreement with Ms. Stewart, who controls the service mark. Outside of Oregon, project organizers should consider filing with the appropriate state department to ensure that the Solarize brand remains associated with the grassroots process of selecting a contractor.

Pricing Considerations

To what extent was the success of Solarize due to the low price? The campaign results suggest that project organizers should consider several points when designing the price of the offer.

Absolute Price is Less Important than the Perception of a Good Deal

Few people know what a solar installation is supposed to cost, so they have no price yardstick to evaluate the program offering. More important than getting a good deal is the assurance that they are not getting a bad deal. As long as the price is set the same for everyone, and it is demonstrably less expensive than the "going rate" for individual solar installations, people perceive the cost as "a good deal." In fact, many RFP committees selected final bids that were not the lowest price, but the best value, providing a reasonable price for high quality service.

Fixed Price vs. Descending Price: Pros and Cons

The Solarize campaigns in Portland used a descending price scale to encourage higher participation. While a descending price can motivate early enrollees to recruit others, it also adds complexity: it delays the time when you know the final price, so the contractor cannot quote a final price to early enrollees. Contractors might quote the highest price, and collect payment in three installments, with a contract clause that the final installment will be adjusted to reflect the final price. However, organizers might consider fixed flat pricing from the start, and use other means to encourage recruiting. For example, in Salem, the contractors each pledged to donate a system to a local organization if the installations reached a certain goal. Fixed pricing allows installers to start work right away, and avoid the boom and bust cycle.

Another argument in favor of fixed pricing is that the contractor's ability to offer a lower price is not due to the savings on volume purchases of equipment as much as the savings in time and effort in marketing. Larger contractors often have access to volume equipment pricing even without the group purchase, so their savings are more likely to be realized in the community-run sales and marketing. They can commit to their lowest price knowing that the grassroots community based social marketing effort will bring them hot leads with a high conversion rate.

Program Funding Considerations

Deploying a Solarize campaign costs money. Despite harnessing volunteer labor for everything from

planning to marketing, to contractor selection, a successful campaign will need the oversight of a project manager and will incur costs for marketing materials, database administration, graphics, and communications. The Portland campaigns relied on the staff at the neighborhood coalitions, as well as paid staff from Energy Trust and City of Portland, who were supported in part by a federal grant. Communities without paid neighborhood coalition staff or federally funded grants should consider options for funding that can make the program self-sustaining.

Collecting a Per Watt Fee

Project organizers could consider building a small per watt fee into the contractor's scope of work. The contractor can still offer a competitive price, because they are saving money on marketing, while the program maintains an important source of funding for everything from staff time to outreach materials to venue rentals.

Salem took another approach, creating a buyer's co-op that homeowners must join for an up front fee. The co-op fees supported the campaign organizing staff for about a month. It may be more palatable to customers to have the per watt fee rolled into the contractor fee, so that they only write one check.

Tapping Contractor Marketing Dollars and Expertise

As noted, the community-led marketing campaign saves contractors money. In return, the selected contractors may have marketing materials and expertise that they can share with the campaign. For example, in Pendleton, Oregon, the installing contractor provided yard signs, marketing flyers, rented a booth at the farmer's market, and covered other incidental marketing costs.

PLANNING YOUR SOLARIZE CAMPAIGN

The following section describes the steps to carry out a successful Solarize campaign.

Step 1a: Develop Partnerships and Initiate Planning (Months 1 – 3)

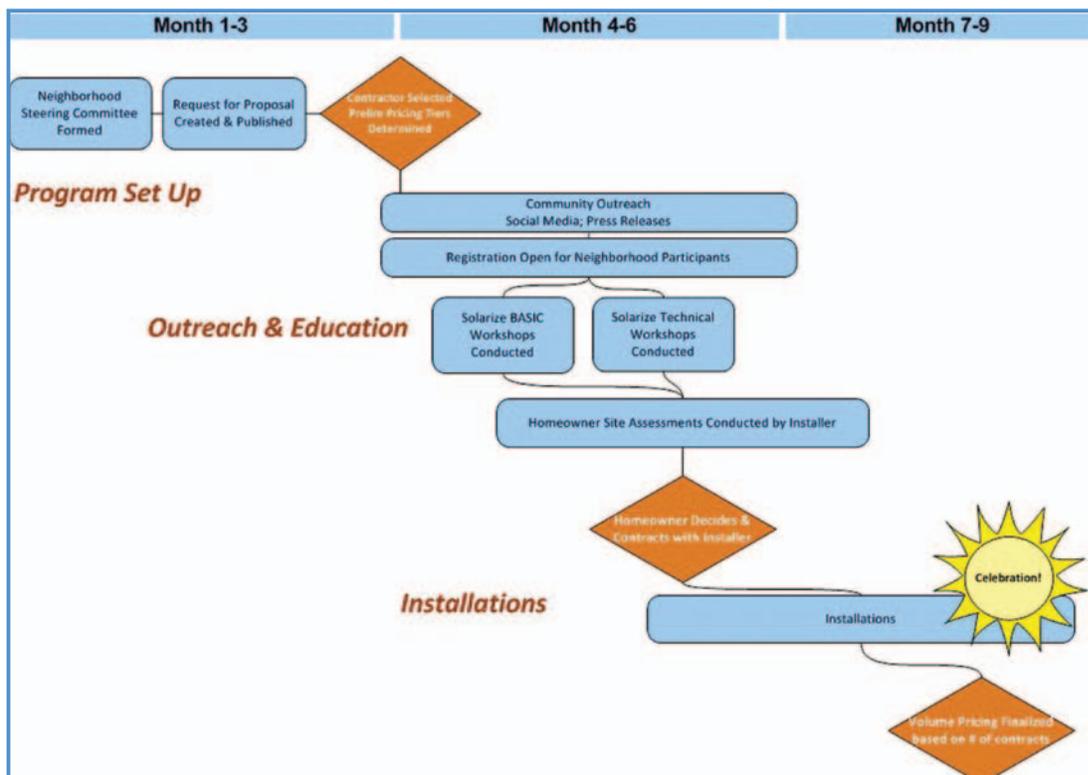
A successful campaign begins with strong planning and partnerships. The institutional project organizer should enlist key allies and support starting with a primary project manager (one very dedicated individual who will oversee all the moving parts). Usually, the initial campaign organizing involves these players:

- ▶ Primary project manager (may be a neighborhood volunteer)
- ▶ Institutional project lead (such as a Neighborhood Coalition Project Manager)
- ▶ Technical support lead (a solar specialist such as utility or city staff)

These project players collaborate to build the project work plan and timeline, identifying all the tasks, responsible parties, and community partners. Potential community allies include:

- ▶ ASES chapter
- ▶ Local non-profit
- ▶ City government
- ▶ Local utility
- ▶ Neighborhood coalitions or associations
- ▶ Local manufacturer of solar equipment
- ▶ Churches
- ▶ Rotary or other service clubs
- ▶ Credit Union or local bank

Sample Project Timeline



Sample Roles in a Solarize Campaign

The following chart shows sample roles and responsibilities in a typical Solarize campaign. The Project Organizer is an essential role and could be a neighborhood coalition, a municipality, a local ASES chapter, or any organization with the capacity to devote a half time person to leading the charge.

	Project Organizer	Volunteers	Contractor	Utility/ Municipality
Planning	Manage program; Provide resources	Provide ideas		Provide tech support; Provide resources
Volunteer Recruitment	Recruit & organize committees			Advise committees
Request for Proposal (RFP)	Issue RFP; Advise on RFP and contractor selection	Draft RFP; Select contractor	Respond to RFP	Advise on RFP
Outreach	Manage outreach campaign; Create and print flyers; Lead workshops	Build website; Distribute flyers, outreach materials; Schedule workshops; Identify venues	Teach Nuts & Bolts and Q&A session	Provide workshop curriculum; Teach workshops
Enrollment	Compile database of enrollees; Engage customers	Recruit neighbors	Conduct preliminary assessment and schedule site assessments	
Site Assessments	Track contractor turnaround time and signed contracts		Conduct site assessments with homeowners; Prepare bids	
Installations	Track contractor turnaround time and customer experience		Execute contracts; Install systems; Complete paperwork	Streamline solar permitting process; Inspect installations; Interconnect systems
Celebration!	Issue press release; Promote, evaluate and replicate	Plan and/or host party	Plan and/or host party	Evaluate

Step 1b: Build Database and Customer Interface (Months 1 – 3)

A customer service database is a gold mine for contractors and project organizers to track customer follow-up, schedule installations, and capture project results. The project organizer should provide the database structure and protocols to the contractor. (Some contractors may have their own customer relationship management software, but they should also update the database supplied by the program.) This way, the contractor's process is transparent to the project organizer, and if there are delays in implementation, the project organizer can see these and plan accordingly. Solar Oregon has developed a database for use with Solarize projects and is available on contract to build, manage, administer a customized database for a reasonable fee. Other Solarize projects have used CRM software such as Salesforce to manage customer enrollment. The project organizer, as the agent of public trust, must be sensitive to the privacy of participants, and take care not to disclose information beyond the program or misuse information submitted by participants.

Step 2: Volunteer Recruitment (Months 1 – 2)

Whether paid or volunteer, every project needs a primary project manager. This manager is the point person to ensure that the overall project tasks and timeline are moving forward as planned. There is no substitute for a dedicated project manager and this program is too complex to move forward without one!

One of the first tasks of the primary project manager is to host a meeting to recruit core volunteers. The core volunteers can be organized into two committees:

- ▶ Outreach committee: Manage the communication and outreach to all neighbors. Members should be media savvy people who can get articles in the newspaper, build a website and recruit neighbors.
- ▶ RFP committee: Write the RFP, review contractor submittals, interview, and select a contractor. Members should include at least one solar professional or tradesperson and preferably non-voting technical support from the institutional sponsor (city, neighborhood coalition, etc.)

The neighborhood recruitment meeting should be advertised in neighborhood papers, by talking personally with neighborhood association chairs/community groups and generally casting a wide net. This will be the core group to get the ball rolling, so don't leave anyone out!

Step 3: Request for Proposal Process (Months 2 – 3)

Writing the RFP and creating the RFP scoring rubric is a chance for the community to express their values. The volunteer committee, acting as the agent of public trust, is creating a defensible, open process to select the contractor. Usually, at least one solar professional or person with solar expertise supports the committee. It is important to have a clear method of scoring the proposals, and to communicate this to the bidders. It is best to use a low number of points (3 – 5) for each desired category so that score variations are significant.

"The RFP process was extremely important for our committee. We learned more about the contractors than we ever could as individual customers, and we communicated our values to the contractors."
Todd Farris, Volunteer Program Manager, Solarize Southwest

The RFP should be issued widely. Give the contractors several weeks to respond, and post all questions and answers to a public website, where all of the bidders see the same information. After proposals are received, the committee members begin evaluation. Even where the project receives many excellent proposals, it is best to interview only the top two or three contractors, as a courtesy to the volunteers and to keep the time manageable.

When a contractor is selected, you may receive inquiries from contractors who did not get selected. If you have followed your RFP evaluation criteria, your response is simple: the committee scored the applicants and chose the one or two that scored the highest on the rubric. Keep your conversations positive and do not try to explain why the committee chose one over the other.

Step 4: Outreach and Education (Months 4 – 6)

Once the contractor is selected, the outreach begins in earnest. The outreach committee creates or adapts material – flyers, buttons, stickers, yard signs, etc. and a website to help spread the word. In the Portland campaigns, the outreach materials had a signature sunflower and a strong “brand” appearance, to help convey the message. Elements of the outreach campaign should include:

Website

A program website serves as a central location for updates on the campaign, a calendar of events, and a place to enroll. It is essential for volunteers to direct people to the website for timely information. Having a dedicated volunteer to update the website regularly helps build and maintain program momentum.

Print Materials

A colorful campaign logo and photo on a flyer help lend legitimacy and spread the word. Flyers, posters, door hangers and other print materials should be distributed widely.

Blogs and Emails

Electronic media provides an affordable and convenient way to increase the outreach of the campaign. The outreach committee in the first Portland campaign submitted information on blogs, wrote letters in their neighborhood newsletters, and sent emails to friends, neighbors and family members encouraging them to join the campaign.

Workshops

All interested homeowners are strongly encouraged to attend at least one basic workshop. A contractor representative should attend each workshop to answer questions. This will provide technical support to workshop presenters, while building a relationship of trust between the contractor and the homeowners. The group setting is important, to build trust and neighborhood cohesion while encouraging attendees to enroll in the program

Basic Workshop

This is an introductory, one-hour workshop, held at multiple locations throughout the community. The basic workshop explains how the project works, the benefits of buying in bulk, how to participate and a brief introduction to solar PV. In Portland, the City, Energy Trust, Solar Oregon and neighborhood leads all helped deliver workshops.

Technical Q&A Sessions

Participants who want additional, in-depth information can attend three technical Q&A sessions held three weeks in a row. These informal, open-format sessions allow potential participants to get their questions answered in a friendly and educational environment. Each session focuses on a topic presented by subject matter experts:

- ▶ Cash incentives, tax credits and financing (Presenter: financing partner/utility)
- ▶ Net metering (Presenter: utility)
- ▶ Technical nuts and bolts (Presenter: contractor)

Solar Ambassadors

A successful campaign will enlist the support of solar champions who already have solar on their homes. For example, Solar Oregon organizes a program of Solar Ambassadors, local residents who have gone solar. These supporters are strong advocates and positive examples for homeowners considering a solar purchase. Ambassadors can attend or present at workshops, providing an important validation to others looking to install solar.

Step 5: Customer Enrollment (Months 4 – 6)

The enrollment period, usually three months, should run concurrently with outreach and education. Kick off with a press release and a high profile community event, perhaps at a farmer's market or other public venue. Ideally, enrollment occurs on-line, and participants enter their data directly into a database. Programs may make a provision for participants to register by phone if they have no internet access, in which case a project organizer could enter the customer data into the web interface. The on-line enrollment process should generate an auto-reply email, alerting the customer of the date on which their information will be given to the installation contractor, and telling them to expect a call within two weeks (or the agreed upon turnaround time.) At this point, the leads are hot and the sooner the contractor can act, the more likely the leads will convert to installations.

Throughout the enrollment period, the outreach committee volunteers drive people to the web site through various avenues that suit their own comfort level: hosting coffees, going door to door, sending emails, posting flyers on public message boards or submitting articles to the local press. As the enrollment period draws to a close, the media may take interest, if they haven't already. It is best to invite the media early on, so that they can help get the word out, rather than generate a lot of interest after the enrollment has closed.

Step 6: Site Assessments (Months 4 – 8)

As soon as people begin enrolling, the project organizer can begin passing participant information to the contractor. Although several Solarize campaigns waited until the end of enrollment to pass the leads to the contractor, passing leads as they enroll will help even out the contractor workload and improve the follow-up time. The contractor may perform an initial drive-by to screen out any obviously ineligible participants (e.g., with heavy shading) and then schedule an appointment to meet with the customer for a more detailed evaluation and system sizing. If all goes well, the customer and contractor sign a contract for installation.

In Portland, the systems applying for Energy Trust incentives were required to have 75% Total Solar Resource Fraction (TSRF), meaning the solar array had to receive at least 75% of the sunlight available to a completely un-shaded and perfectly oriented array on the same site.

Step 7: Installations (Months 5 – 9)

The contractor is responsible for installations, but the project organizer should stay on top of the customer database, to ensure that installations are occurring within an appropriate time frame. At this phase, the contractor should be updating the customer database as they contact customers and install systems. All customers should continue to get periodic messages from the program, offering updates on the status of the program. In Portland, the project manager coordinated weekly or twice monthly team meetings to discuss installations statistics, and address and issues or concerns that arose. Meetings built a strong team atmosphere and gave the City, neighborhood leads, and the contractor opportunities for increased project cooperation and correction when needed.

Some Portland participants expressed frustration with long waiting periods between enrollment and installation. This is a characteristic of a volume purchasing program but can be alleviated in part by choosing more than one contractor and/or releasing names to the contractor as soon as the homeowner enrolls.

Step 8: Celebrate and Reflect (Month 9)

After the installations were complete, the homeowners came together for a walking tour of neighborhood homes and a celebratory picnic. Another Portland neighborhood held their celebration at the local brewpub.

It's important to acknowledge the hard work of everyone who supported the program and celebrate the community effort. The contractor and/or manufacturer may be willing to sponsor a public celebration. The media will want to attend, and the positive energy generated by the celebration can help fuel the next project, in the next neighborhood. Equally important is reflection and evaluation. Project organizers can continue to build public trust by listening to feedback in order to improve future programs.

Sample Budget

Although every program will vary by location and population size, we provide a sample budget based on the experiences in Portland.

Labor Hours	Project Organizer	Volunteers	Contractor	Utility	Total
Project Management	250	250			
RFP Committee	40	80			
Outreach Committee	70	50			
Workshop Design/ Delivery	100	50	20	10	
Site Assessments			*		
Installations			*		
Celebration and Evaluation	30	30	20		
Total Hours	490	460	40	10	1,000
Materials Expenses					
Collateral (flyers, yard signs, etc.)	\$1,000		\$1,000		
Advertising	\$150				
Database Development	\$2,000				
Workshop Venue Rental	\$400				
Speaker Fees	\$300				
Booth Rental for Events	\$100				
Web Hosting/Domain Name	\$200				
Celebration Event	\$200		\$300		
Total Materials	\$4,350	\$0	\$1,300	\$0	\$5,650

*Contractor hours for site assessments and installations will vary by number of participants and are not shown here because they are not unique to a Solarize campaign.

The budget above reflects a possible scenario for a project lead, volunteers and program partners. Of course, labor costs will vary widely, depending on how much of the labor is volunteer.

Some communities have successfully leveraged AmeriCorps or other service learning volunteers to serve key program roles, while others have used volunteers primarily in outreach and the RFP process. In some municipalities, the existing staff in the office of neighborhoods or the office of energy or sustainability can take on the project lead hours as part of a special campaign.

As with labor, the materials budget will vary widely, depending on the media market and the amount of outreach materials that can be donated. The budget does not suggest a source for program funding. Each program planner will have to consider options discussed elsewhere in this guide, including grants, volunteer contributions, or a fee assessed on each installation.

ADDITIONAL RESOURCES AND REFERENCES

Solarize Portland

City of Portland Bureau of Planning and Sustainability (BPS)

The BPS took on a management role in several Solarize campaigns and funded replication efforts including this Solarize Guidebook with a grant from the U.S. Department of Energy Solar America Cities program. www.portlandonline.com/bps/solar

Energy Trust of Oregon

Energy Trust created the program blueprint for the first Solarize Portland campaign and provided technical support, incentives, and program evaluation. www.energytrust.org

Solar Oregon

Solar Oregon provided staff and volunteers to speak at Solarize workshops, and created an online database to track enrollees. <http://solaroregon.org/>

Supporting Organizations and Institutions

U.S. Department of Energy Solar America Communities

The U.S. Department of Energy (DOE) Solar America Communities program is designed to increase the use and integration of solar energy in communities across the United States. Through federal-local partnerships and nationwide outreach, DOE supports local governments' efforts to accelerate adoption of solar energy. www.solaramericacommunities.energy.gov

The American Solar Energy Society (ASES)

ASES is a non-profit organization dedicated to increasing the use of solar energy, energy efficiency, and other sustainable technologies in the US. Solar Oregon, the Oregon ASES chapter, contributed to the success of the Solarize campaigns in Oregon. www.ases.org

Northwest Sustainable Energy for Economic Development (Northwest SEED)

Northwest SEED empowers community-scale clean energy through targeted technical assistance, education and outreach. Northwest SEED authored this guide for the DOE and the City of Portland. They are currently leading a Solarize campaign in Seattle, WA. www.nwseed.org

Publications

Solar Powering Your Community: A Guide for Local Governments. U.S. Department of Energy, 2010. This guide includes case studies and lessons learned from Solar America Cities. Report: www.solaramericacommunities.energy.gov/resources/guide_for_local_governments

Solarize Portland: Community Empowerment through Collective Purchasing. Lizzie Rubado, Energy Trust of Oregon, August 2010. This paper provides more details on the success of Solarize Portland. www.energytrust.org/About/policy-and-reports/Reports.aspx

Evaluation of Energy Trust of Oregon's Solar Programs: Solarize Southeast Portland and Solar Energy Review. The Cadmus Group, November 2010. The evaluation contains detailed customer feedback and participation profiles for the first Solarize project. www.energytrust.org/library/reports/101101_SolarizeSE_Process_Eval.pdf

Smart Solar Marketing Strategies. Rosoff, L., and Sinclair, M., Montpelier, Vt.: Clean Energy Group 2009. The report offers valuable lessons in marketing solar. www.cleanegroup.org/Reports/CEG_Solar_Marketing_Report_August2009.pdf

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