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THE SOLARIZE GUIDEBOOK:

A community guide to collective purchasing of residential PV systems

ACKNOWLEDGEMENTS

This guide is an updated version of the original The Solarize Guidebook, published in February 2011 (see www.nrel.gov/docs/fy11osti/50440.pdf), which was developed for the National Renewable Energy Laboratory and the City of Portland. The original Solarize campaigns were initiated and replicated by Portland's Neighborhood Coalition network with help from the Energy Trust of Oregon, City of Portland, and Solar Oregon.

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City of Portland, Bureau of Planning and Sustainability (BPS)

BPS develops programs that provide environmental, economic and social benefits to Portland residents, businesses, and government. The BPS took a management role in several Solarize campaigns and funded replication efforts. 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. 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 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 events to catalyze solar since 2007. www.solarnoworegon.org

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Bureau of Planning and Sustainability

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City of Portland, Oregon
Sam Adams, Mayor • Susan Anderson, Director



SOLAR OREGON

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The first “Solarize” campaign started as a grassroots effort to help residents of Portland, Oregon, overcome the financial and logistical barriers to installing solar power. What began in one neighborhood as “Solarize Southeast!” quickly caught on with residents across the city. With support from the U.S. Department of Energy’s (DOE) Solar America Communities program, the City of Portland Bureau of Planning and Sustainability partnered with neighborhood coalition offices, Solar Oregon (the state American Solar Energy Society chapter) and Energy Trust of Oregon to provide community organizing, technical assistance, project management, and rebates in a wildly popular grassroots-driven program. After three years of Solarize campaigns, Portland has added over 1.7 MW of distributed photovoltaics (PV) and established a strong, steady solar installation economy.

Since the publication of the first Solarize Guidebook in 2011, dozens of communities, companies and contractors across the U.S. have launched their own versions of a neighborhood collective purchasing program. With installed costs for behind-the-meter (distributed) solar dropping 17% in 2010 and continuing to fall in 2011,¹ the residential PV market in the U.S. is poised to continue expansion and Solarize campaigns can accelerate this growth.

Purpose

This guidebook is intended to be a roadmap for project planners and solar advocates who want to create their own successful Solarize campaigns. It describes the key elements of the Solarize Portland campaigns and variations from projects across the country, along with lessons learned and planning templates.

The guidebook is funded by the DOE SunShot Initiative, a collaborative national initiative to make solar energy cost competitive with other forms of energy by the end of the decade.



Source: Energy Trust of Oregon and Solar Oregon

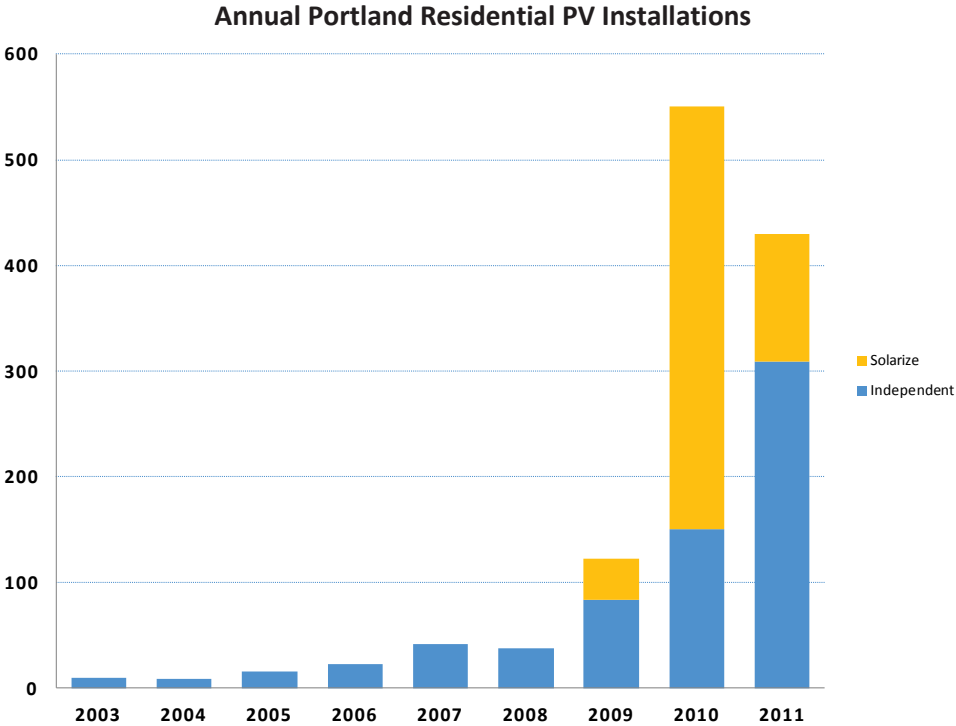
¹ Tracking the Sun IV: The Installed Cost of Photovoltaics in the U.S. from 1998 – 2010, Lawrence Berkeley National Laboratory, Jan. 2011, p. 1. <http://eetd.lbl.gov/ea/ems/reports/lbnl-5047e.pdf>.

BACKGROUND AND OVERVIEW OF MODEL

The First Solarize Campaign

The first Solarize campaign began with local Portland residents who wanted to install solar power, but didn't know where to start. They imagined that if they could organize a group of neighbors to "go solar" together, they could collectively make an informed purchase and negotiate a volume discount. They turned to the local neighborhood coalition, Southeast Uplift, for assistance. Southeast Uplift approached Energy Trust of Oregon for technical and program planning support. By coincidence, Energy Trust had developed a solar PV volume purchasing program and was eager to test the model. With community volunteers, neighborhood association staff, and Energy Trust support and rebates, the first Solarize campaign was born.

Within six months of starting their campaign, Solarize Southeast had signed up more than 300 residents and installed solar on 130 homes. The 130 installations added 350 kilowatts of new PV capacity to Portland and created 18 professional-wage jobs for site assessors, engineers, project managers, journeyman electricians, and roofers.²



The neighborhood collective purchase concept spread quickly. With support from a DOE Solar America Communities grant,³ the City of Portland's Bureau of Planning and Sustainability helped other community

² Eighteen full-time permanent jobs were created by three solar installation firms (2010 self-reported numbers).

³ The SAC grant has supported a half-time employee for two years. Additional City staff provided technical and management assistance. Portland has also provided sub-recipient grant funding to eight communities in Oregon totaling \$47,000 with the intent of replicating the successes of Solarize Portland across the state.

organizations take Solarize Portland to their neighborhoods, eventually completing projects that encompassed every neighborhood in the City. Taken together, these follow-on projects produced another 400 Solarize installations in 2010, increasing total PV installations almost 400% over the previous year. In 2011, the number of Solarize campaigns and installations fell, but overall, PV installations in Portland remained high, with an increasing number of non-Solarize installations. The recent introduction of solar lease and Power Purchase Agreement (PPA) options has proven very attractive. As the Solarize campaigns wrap up, these financing options are creating new demand, building a strong, steady solar market in the Portland metropolitan area. (Examples of these third-party ownership models are discussed in General Lessons and Considerations: Financing.) Although Solarize installations trended down in 2011 due to fewer campaigns and the introduction of the solar lease and PPA, independent installations have ramped up considerably following the market kick-start provided by Solarize.

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 model tackles three major market barriers: **cost**, **complexity**, and **customer inertia**.

High Upfront Cost

Residential solar installations have high upfront costs. Before the first Solarize campaign launched, the upfront cost for a 3-kW system in the Portland market was approximately \$27,000. By presenting a full package of federal and state tax credits and utility cash incentives, the Solarize campaign showed that the final costs were much lower than the initial sticker price. Contractor savings on marketing and lead generation drove costs down by an additional 30 to 35%.⁴ A typical 3 kW installation in the first Solarize project cost only about \$2,000 after tax credits and incentives.

Complexity

For many, a solar purchase seems a daunting and 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 presenting 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 participants didn't feel that they were making the decision on their own.

⁴ Estimate based on conversations with contractors in the Portland area in 2010.

This chart shows the 2011 pricing for a typical Solarize Portland project.

3 kW PV System	Cost	Notes
Total System Cost Before Incentives	\$18,000	\$6.00/watt ⁵
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	

Essential Elements of the Solarize Model

In Portland, each successive Solarize campaign looked slightly different, reflecting the different priorities and goals of each neighborhood, 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 fliers, 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 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 contractor to save on marketing costs because the company does not need to spend as much time generating leads. With neighborhood volunteers generating hot leads, the contractor can focus on site assessments and installations.

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

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

⁵ Avg. U.S. residential price: \$6.24 from U.S. Solar Market Insight Reports, Q32011 Full Report, SEIA/GTM Research, p. 28.

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 those selected for the project. The limited-time offer may help mitigate this contractor concern. In fact, a successful Solarize campaign can also increase business for non-Solarize installers. Installation numbers from Energy Trust demonstrate that Portland actually experienced an increase in non-Solarize installations during the Solarize campaigns.

Community Feedback Spurs Innovation and Improvement

The first neighborhood collective purchasing effort in Southeast Portland was an unprecedented success, resulting in 130 new residential PV systems in six months. Although the community response was overwhelmingly positive, there were some lessons

“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

learned. A formal program evaluation commissioned by Energy Trust showed that project organizers were unprepared for the volume of customer interest. The neighborhood coalition office struggled to process customer information manually. In addition, organizers held 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 all 300 sign-ups at once. Customer follow-up time suffered, and the contractor faced boom and bust cycles. The number one suggestion for future programs, expressed by 42% of respondents, was that contractor follow-up could be faster. Project organizers took several steps to improve contractor response times, including:

- **Developing an electronic process to automate data collection and reporting.** This allowed the project organizers and the contractors to quickly see the status of every enrollee, track follow-up time, and improve customer service.
- **Processing leads on a rolling basis.** Rather than wait for the final enrollment numbers, organizers began site assessments, sales, and installations for subsequent projects before the end of enrollment. Not only did this build enthusiasm for the project by showing immediate results, but it also helped the contractor spread the work over a longer period, providing stability.

SOLARIZE 1.0

The Basic Program

A basic neighborhood collective purchase program is designed to lead the customer through a simple process, from awareness to installation, over the course of six months. The process includes:

- **Awareness:** The grassroots campaign is advertised in fliers, emails, neighborhood newsletters, blogs, local events, and by word of mouth. Earned media from TV, radio, and newspapers can also boost awareness.
- **Education:** Workshops and Q&A sessions are offered throughout the community to allow all interested neighbors a chance to ask questions in a supportive environment and to detail the steps for participation.
- **Enrollment:** Residents are enrolled in the program through an online registration page. A short questionnaire at this time can help enrollees self-screen for solar suitability.
- **Site Assessment:** The installation contractor provides site assessments and bids to all enrollees.
- **Decision:** The customer decides whether to accept the contractor's bid at the Solarize program price. If using descending price tiers, the contractor may ask the customer to accept the current price tier, with the guarantee of a discount on their final invoice if volume targets are met. The intent is to offer few variables, so the customer's decision can be a simple "yes" or "no."
- **Installation:** The contractor installs the system and helps the customer through the paperwork for the cash incentives and any state and federal tax credits.

The Partners

A successful Solarize campaign requires the coordinated efforts of many community players. Sample campaign partners may include:

- **Trusted Nonprofit:** A community-based organization with an established history can provide credibility and institutional support. For example, in Portland, staff members from the Neighborhood Coalition offices devoted a portion of their time to manage the campaigns. They played a crucial role in managing volunteers and reaching out to involve other supporting partners.
- **Technical Advisor:** Every campaign needs a technical advisor to help evaluate the potential solar contractors and ensure quality control. In Portland, 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 before issuing cash incentives.
- **Project Organizer:** An organization with institutional access can serve as the project organizer, helping to coordinate the outreach and education, contractor follow-up, and overall project timeline. In Portland, the City played this role. In addition, the City provided technical support on the RFP and created a streamlined online process for solar permitting, with a one-day turnaround on prescriptive path systems, while the City's Bureau of Development Services inspected all systems.

- **Solar Industry Organization:** A local chapter of the American Solar Energy Society (ASES), the Solar Energy Industries Association (SEIA), or a nonprofit solar industry organization can be a valuable partner. In Portland, the ASES chapter, Solar Oregon, 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. Other campaigns have coordinated with a local SEIA chapter to ensure that contractors know of the opportunity and have a place to discuss issues of market fairness.

CASE STUDIES

Every successful Solarize effort is tailored to the unique features of the local market and reflects its particular community values. Indeed, allowing for this expression of values is what makes the Solarize model so attractive and empowering for participants. The following case studies offer an overview of local variations and lessons learned. These include prominent examples of everything from grassroots community-led campaigns to innovative commercially-led campaigns.

Solarize Portland: Building a Local Solar Economy

Campaigns: Six campaigns, in Southeast (2), Northeast, Southwest, North, Northwest

Installations: 560 homes

Total Installed Capacity: 1.7 MW

The Solarize Portland campaigns of 2009 through 2011 revolutionized the market for solar, driving down market prices by more than 30% across the board and generating over 50 permanent green jobs for site assessors, engineers, project managers, journeyman electricians and roofers. In 2011, the market was revolutionized once more with the entry of the solar lease and prepaid PPA options, which have subsequently been used in well over half of new PV installations. As the City looks beyond 2011, the local Solarize campaigns are winding down, but independent solar installations are increasing and the City continues to support replication efforts across the State of Oregon.

The Portland campaigns supported enduring and sustainable market growth in several ways:

1. Encouraging local contractors to respond to the RFP through a partnership or awarding the contract to two companies to split the jobs.
2. Limiting the duration of campaigns, so that the market would not be tapped out, but rather, primed for further activity.
3. Providing technical assistance to ensure that the selected contractors provided maximum benefit to the local community through local hiring, sourcing, and job training.

In addition, the citizen volunteers who were empowered to select solar installers on behalf of their neighbors chose to “share the wealth”: the Portland campaigns ultimately tapped three different solar contractors and numerous local subcontractors.

Lessons and Considerations:

- *Contractor Memorandum of Understanding (MOU) promotes local hiring:* Northeast Coalition of Neighborhoods 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 the 18 hires from these programs in the Northeast neighborhood.
- *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.

- *Using local manufacturers:* Project organizers in Southwest Portland wanted to “buy local.”⁶ The contractor suggested using panels and inverters made in Oregon. While customers were offered an option to purchase out-of-state components (because the locally manufactured products were more expensive), almost all chose the locally manufactured products, magnifying the economic impact of the program in Oregon.
- *Rising solar awareness fuels broad growth:* Although some contractors were concerned that they would suffer loss of market share when they were not selected as “Solarize” installers, the data from Portland show that non-Solarize installations also increased significantly during the Solarize campaigns. Not only did Solarize build awareness of solar energy as an option, but it also stoked demand and provided a publicly respected benchmark price, accelerating customer decision-making across the board.

For more information: Lee Rahr, City of Portland, lee.rahr@portlandoregon.gov

Solarize Washington: Simplifying Complex Pricing

Campaigns: 2 complete (Queen Anne, Magnolia), 2 in progress (Northeast Seattle, Stanwood/Camano)

Installations: 56

Total Installed Capacity: 237 kW

Seattle-based nonprofit Northwest Sustainable Energy for Economic Development (Northwest SEED) launched a Solarize program for Washington residents in early 2011. Northwest SEED works with membership-based community groups to organize Solarize campaigns neighborhood-by-neighborhood. The organization has completed two successful campaigns and began two more in 2012. Due to the structure of the Washington State Renewable Energy Production Incentive, solar systems manufactured in-state achieve a much quicker payback than solar systems manufactured out of state, despite their higher upfront cost. Selected installers offer both options to Solarize participants, adding complexity to the choice, but numbers indicate that contractors are framing the choice to match their preference at the point of sale. In addition, after the success of the first campaign, contractors are confident enough to offer a low flat price from the first sale, dispensing with participation-based pricing tiers.

As demand for Solarize campaigns has grown, Northwest SEED has begun to issue a Call for Partners to competitively select neighborhoods as hosts for upcoming Solarize campaigns. In addition, several local utilities have seen the success of Solarize Washington campaigns and are now offering support to expand the program.

Lessons and Considerations:

- *Nonprofit-led campaigns:* As a nonprofit organization, Northwest SEED faced funding challenges in moving Solarize Washington forward. Initially the organization relied heavily on foundation grants to support the program. As grant funding wanes, Northwest SEED is partnering with local utilities to provide ongoing support to Solarize campaigns. Learning from other Solarize efforts around the nation, Northwest SEED may incorporate a lead-generation fee to help create a more predictable, stable funding source for future campaigns.

⁶ Although Portland defined “local” as “Made in Oregon,” other campaigns may define “local” as “made in the region” or “made in the USA.” Regardless of the definition, the desire to “buy local” can influence customer choices and boost the “local” economy.

- *Contractor-led projects:* Following the lead of Solarize Washington, several similar “Solarize” efforts have sprung up around the state. In large part, these efforts are led by local installers and thus do not utilize the grassroots organizing central to a traditional Solarize program. Some of these campaigns have been held in towns not already hosting a Solarize campaign, while others advertise “rock bottom prices” to compete with ongoing efforts in Solarize communities. Although these campaigns deviate from the established Solarize model, they do demonstrate the market-expanding effect that Solarize programs can have on the local solar industry.

For more information: Alexandra Sawyer, Northwest SEED, alex@nwseed.org, (206) 457-5403

Solarize Massachusetts: Spurring Competitive Installations

Campaigns: 4 (Harvard, Winchester, Hatfield, Scituate)

Installations: 162

Total Installed Capacity: 829 kW

Massachusetts Clean Energy Center (MassCEC) launched the Solarize Massachusetts (Solarize Mass) program in 2011 in an effort to expand the state’s solar PV market beyond traditional early adopters. Working with the Massachusetts Department of Energy Resources, MassCEC identified four “Green Communities” to pilot the Solarize Mass program. To help spur grassroots marketing and activism around the program, MassCEC provided each community with an outreach toolkit – complete with a banner, yard signs, bumper stickers, templates, and other marketing materials – and framed the program as a competition to achieve widespread solar adoption. Though not the largest community in terms of population, the town of Harvard ultimately succeeded in installing the most systems and Solarizing an impressive 4% of total residences. Participants were able to choose between a direct ownership and a leasing ownership model, both with four tiers of pricing based on the number of people who contract to install solar. Although uptake of owned vs. leased solar installations varied by town, offering both options ultimately made the solar market more accessible for all.

Lessons and Considerations:

- *Each community is different:* MassCEC had a unique opportunity to learn from pilot projects that took place simultaneously in four distinct communities. Although each town selected for participation had been pre-designated as a “Green Community,” each was unique in size and demographics. MassCEC provided the towns with the same outreach toolkit and found that the efficacy of the outreach tools varied significantly from town to town. While the Solarize model can be streamlined and standardized to a certain extent, it is ultimately a dynamic program that must be customized to fit the character of the community it is serving.
- *Steep pricing tiers are motivational:* Solarize Massachusetts featured a tiered pricing structure for each of its four pilot campaigns. Communities selected different installers, so pricing tiers differed between communities. In Harvard, the installer offered aggressive pricing tiers with sizable savings from tier to tier. This translated into momentum for community members to get their neighbors to participate—more participation meant substantial price savings for all. MassCEC learned that communities want early wins and demonstrable opportunities to save and showed aggressive price reductions based on group pricing are one way to accomplish this.

For more information: Elizabeth Kennedy, MassCEC, ekennedy@masscec.com, (617) 315-9321

Vermont Solar Communities (Solar PV): Creating a For-Profit Spinoff

Campaigns: 10 (Waterbury 2, Williston 2, Charlotte 2, Hinesburg 2, Shelburne 2)

Installations: 60 solar PV

Total Installed Capacity: 300 kW

Vermont Public Interest Research Group (VPIRG) created VPIRG Energy to orchestrate solar group purchasing. Beginning in 2010, VPIRG Energy launched its Solar Communities program in three rounds—the first round offering only solar PV and subsequent rounds offering either solar PV or solar hot water. As an established membership-based organization, VPIRG had a pool of members from which to draw participants, so the Solar Communities effort required less organizing by local community groups than a traditional Solarize campaign might. Local community members with solar installations were particularly effective in organizing house parties to publicize the Solar Communities program and increase awareness about solar. VPIRG Energy recouped its operational and program costs through a \$0.25 per watt lead-generation fee paid from the installer to VPIRG Energy at the time of system installation. The co-directors of VPIRG Energy concluded their campaigns and launched a new residential solar enterprise in 2012. SunCommon is a for-profit company that offers homeowners a solar lease for no money down.

Lessons and Considerations:

- *Sticking with one installer:* Although VPIRG Energy performed a competitive selection process for the first iteration of Solar Communities, it opted to use the same installer again for subsequent iterations of the program instead of issuing an RFP. This alienated some smaller local contractors, who felt that they were blocked from participating in the expanding solar markets in the four pilot communities. Concerned installers asserted themselves as solar designers, not simply “wrench turners,” and wanted the opportunity to be included to the fullest extent possible.
- *Using a lead-generation fee:* To cover costs associated with program administration, lead generation, and marketing, VPIRG Energy collected a \$0.25 per watt fee (approximately 5% of the installed price) from the contractor upon close of sale. After refining the sales process to ensure cash flow, the fee was high enough to help VPIRG recoup costs while low enough to preserve the program price advantage.⁷

Vermont Solar Communities (Solar Hot Water)

Campaigns: 2 (Montpelier, Addison County)

Installations: 175 to date

Following the first round of its Solar Communities program, VPIRG Energy expanded beyond PV to pilot two solar hot water campaigns. These programs followed many aspects of the Solarize model and used a local company for manufacture and installation of solar hot water systems. Solar Communities that offered solar hot water were ultimately more successful than those that offered solar PV in terms of final participation numbers. This could be attributed to several factors, including lower upfront cost, the opportunity to purchase locally manufactured systems, and an impending incentive drawback that spurred action.

For more information: Colleen Thomas, Colleen@vpirg.org, (802) 223-8421

⁷ Presumably, as costs for solar PV continue to fall, customer acquisition costs and lead generation fees will fall.

One Block Off the Grid

Campaigns: 20 communities in 11 states

Installations: 1,500

Total Installed Capacity: 8 MW

One Block Off the Grid (1BOG) is a San Francisco-based for-profit company that aims to figuratively take city blocks “off the grid” through solar installations en masse. 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. The group recently launched several new Web tools with the intention of making solar simple and accessible. 1BOG’s US Solar Markets Map (www.1bog.org/nation) showcases solar PV demand by county and assigns state solar policy “grades,” while its solar estimating tool (www.1bog.org/solar-estimate) allows customers to use mapping technology to see what a solar system might mean for their home.

Lessons and Considerations:

- *Using a per-watt fee:* 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 5 kilowatt system, about 5% of the overall system cost. The customer never “sees” this fee, because it is built into the flat-rate price offered by the contractor.
- *Remote solar site assessment:* 1BOG recently developed a program to design solar systems remotely through Web-based mapping technology. Using this technology, the organization is able to offer similar services as one might receive in a traditional site evaluation, but cut down on time by performing the evaluation over the phone. Using this technology, 1BOG allows customers to sign contracts remotely, thus creating efficiencies in the solar installation timeline.

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

Reduce then Produce: Home Performance Before Solar

Campaigns: 1 (San Diego)

Installations: 7 (in addition to 11 home-performance upgrades)

The San Diego-based California Center for Sustainable Energy (CCSE) administers the California Solar Initiative rebates in the San Diego area and works with home performance contractors under the Energy Upgrade California program. In summer 2011, CCSE launched “Reduce then Produce,” a pilot program to integrate the two efforts. Homeowners were required to get a Home Energy Rating System (HERS) rating of 100 or lower, or get a home assessment and conduct an upgrade before going solar. Rebates were available for both the HERS rating and the energy upgrades. GroupEnergy (see GroupEnergy: Workplace Campaigns for Employers and Employees) guided the RFP for solar PV, selecting two installers. CCSE invited a pool of 30 qualified home-performance contractors to join the program, and 13 ultimately signed on. Although participation in the pilot was light, program managers are eager to refine the program design and try again.

Lessons and Considerations:

- *Home Performance Contractors Want Solar Business:* It is relatively common, at least in strong solar markets like San Diego, to find home-performance contractors who offer holistic solutions including solar PV. Because the campaign used pre-selected solar contractors, the home-performance contractors did not embrace the program as strongly as they might have. Using a single contractor for both the home performance and the solar installation might increase contractor enthusiasm and sales.
- *Homeowners Want Recognition of Their Home-Performance Efforts:* By requiring homeowners to prove home performance (through a rating or upgrade implementation) before going solar, the program engendered resistance in homeowners who felt that they had already improved home performance. Program managers suggest that a more appealing approach is “Reduce AND Produce,” encouraging homeowners to do both, but allowing homeowners to self-certify that they have improved home performance. Especially in the relatively mild climate of San Diego, home-performance improvements may not return enough savings to risk losing the solar opportunity.

For more information: Siobhan Foley, California Center for Sustainable Energy,
Siobhan.foley@energycenter.org

GroupEnergy: Workplace Campaigns for Employers and Employees

Campaigns: Multiple corporate and government clients

Installations: NA

Total Installed Capacity: NA

Founded in July 2011, GroupEnergy delivers collaborative procurement programs to make residential and commercial clean energy solutions simple, social, and cost effective. GroupEnergy designs and administers procurement programs to pool the buying power of an organization’s workforce, securing lower purchase pricing and attractive terms for residential solar and energy efficiency improvements. This new employee engagement tool streamlines the process of researching and choosing the right vendors to help participants lower their utility bills and generate renewable energy. Employers see increased employee engagement in their corporate social responsibility and sustainability initiatives, while helping their community achieve its greenhouse gas reduction goals.

Each GroupEnergy campaign includes a competitive RFP process to evaluate and select vendors. As of early 2012, multiple campaigns had completed vendor evaluation and launched enrollment. GroupEnergy can work either directly with a large employer, or deliver partnership programs through an umbrella nonprofit or government organization. Current GroupEnergy clients include Adobe's Green Team, Bank of America, the Bay Area Climate Collaborative SunShares program, Genentech, and ICLEI - Local Governments for Sustainability USA. Under ICLEI, GroupEnergy is administering “Energy Benefits,” a new clean energy procurement program offered to member communities as a tool for achieving climate action goals. Energy Benefits offers residential solar and energy efficiency solutions, as well as commercial facility solar aggregation on behalf of employer organizations. With its nationwide reach, GroupEnergy is reducing soft costs, securing favorable pricing and leveraging the workplace to bring solar to new markets.

For More Information: Jessie Denver, GroupEnergy, info@mygroupenergy.com

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

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

as well as 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 and Assign a Project Manager

A successful campaign collaborates with a trusted local organization that has a history of helping people. In Portland, the Neighborhood Coalition offices served this role. In Washington, it was Northwest SEED, and in Vermont, it was VPIRG that was the trusted organization. Local organizations provide “third-party validation,” which instills trust in the program. Regardless of the organization, each campaign had a dedicated project manager to orchestrate the effort.

Plan for Success

The first Solarize Portland 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 it 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 customer relationship management systems to handle 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 homes' suitability for solar and consider energy efficiency options. Although attractive in principle, in practice, 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 (possibly because 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.

Pricing Considerations

To what extent is the success of Solarize due to low prices? Campaign results suggest that prices and incentives vary widely from market to market, and 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

In general, most people don't 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 a consistent price is set 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 and Massachusetts effectively 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 the final price is determined, so the contractor cannot quote a final price to early enrollees. Contractors might quote the highest price and collect payment in several 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, contractors might pledge to donate a system to a local organization if the installations reach a certain goal. Others may offer a rebate at the end of the program to all participants based on the total solar capacity installed.

Another argument for fixed pricing is that the contractor's ability to offer a lower price does not depend as much on the savings on volume purchases of equipment as it does on 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.

Financing

By offering some form of program financing, Solarize campaigns are able to tap a larger market for PV. Options vary from state to state, but some combination of the following should be considered.

Municipal Loans

The City of Pendleton, Oregon, offered zero-interest loans of \$9,000 to Solarize participants. Funds were borrowed from an existing wastewater treatment facility rate stabilization fund, with loan repayment structured over four years: 50% paid back the first year and the remainder paid back over three years. The loans were secured by a lien against the property through a Local Improvement District. The City used property tax revenue to make up the lost interest on the rate stabilization fund, so that when the loans are fully repaid, the fund will be exactly where it would have been without the program. These funds bridged the gap between the customers' payments to the contractor and their receipt of state and federal tax incentives. Ultimately, 63% of residential participants took advantage of the loan. Sixty-four homeowners and several small businesses used \$775,000 in loans. One year later, none of the loans are in default, and the City has recovered 50% of what it loaned out and is on track for 100% recovery of the loan fund. The loans have given such a boost to solar in the area that Solarize Pendleton's selected installer, Livelight Energy, has opened a permanent office in the rural area.

For more information: City of Pendleton, <http://solarizependleton.com/main/replication/>

Bank or Credit Union Loans

As the residential solar market continues to expand, lenders are beginning to realize the value of tapping this market. For example, Portland-based Umpqua Bank offers "Greenstreet" lending, a menu including a home equity line of credit, home equity loan, or unsecured loan to homeowners who are improving energy efficiency or going solar. The rates are competitive, and the loans have the added advantage of no fees and a lender that understands the value of connecting with green neighborhood initiatives. Credit Unions may also offer special loans for members or employees who are going solar, as the San Jose Credit Union did for its employees in 2010.

Solar Leases or PPAs

In certain markets (depending on eligibility for state and utility incentives and the ability to legally offer third-party financing solutions), companies may offer customers the option to lease panels rather than make

Third-party prepaid and lease solar PV options have provided more choice for homeowners, with lower costs. Nine out of 10 homeowners choose these programs over standard purchase options.

a direct purchase. In Portland, when state tax rules changed to allow homeowners to take the state tax credit regardless of ownership, two large solar companies, SunRun and SolarCity, introduced financing alternatives to direct ownership. SunRun partners offer a "Prepaid PPA" in which the customer pays \$6,000 up front for a 3.24-kW system and recoups the payment over the next four years as a state tax credit. Customers receive 20 years of electricity from the panels on their roof, with maintenance and warranties covered by their installer. Solar City offers a 15-year solar lease, with no upfront payment, for as little as \$20 a month.

Utility Loans

Until recently, there have been few utilities offering loans for going solar, and no overlap between solar loans and Solarize campaigns. Now, in Washington, Snohomish County Public Utility District No. 1 offers its Solar Express loan and rebate program in conjunction with a Solarize campaign. Under Washington law, Snohomish can claim double credit toward meeting the requirements of the state Renewable Portfolio Standard because the kilowatts installed are distributed renewable generation.

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, 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 staff or grants should consider other options for funding.

Collect a Per-Watt Fee

Project organizers could consider building a small per-watt fee into the contractor's scope of work, which is then passed on to the customer. The contractor can still offer a competitive price, because it is saving money on marketing, while the program establishes a source of funding for everything from staff time to outreach materials. Organizers might still need seed funding to launch the project until the installations and fees begin to flow.

Create a Buyer's Co-Op

Salem Creative Network adopted a co-op model to fund its Solarize efforts, 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 was intended to cover program management, database administration, and outreach. The co-op fees supported the campaign organizing staff for about a month. It may be more palatable to customers to have the co-op fee rolled into the contractor fee, so that they only write one check.

Leverage 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 contractor provided yard signs and marketing fliers, rented a booth at the farmer's market, and covered other incidental marketing costs. In Seattle, installers have provided financial assistance with everything from door hangers to bus and radio advertisements.

Secure Local Utility Program Funds

Electric utilities may be interested in supporting the labor costs and/or the rebates for a Solarize campaign as a way of delivering a popular customer service. The campaigns provide outreach and education about energy and build a constituency that interacts more closely with the utility. In addition, utilities may be able to claim Renewable Energy Credits (RECs) from programs that they sponsor. For example, in Washington, utilities that incentivize solar PV can double count that production toward meeting their Renewable Portfolio Standard.

PLANNING A 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)

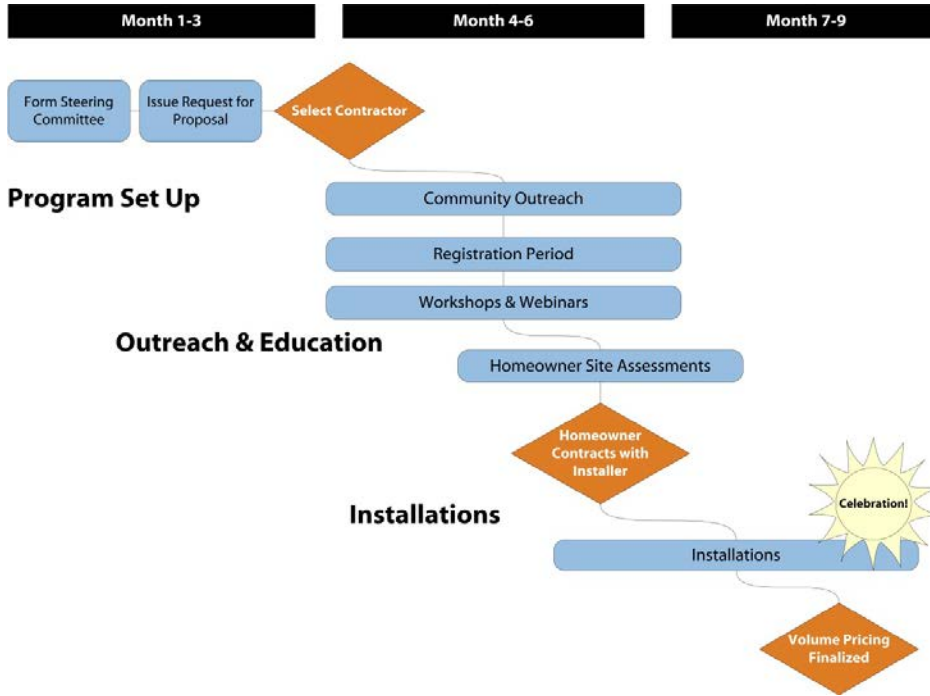
A successful campaign begins with strong planning and partnerships. The institutional project organizer should enlist key allies and support starting with a primary project manager (one very dedicated individual who will oversee all the moving parts). Usually, the initial campaign organizing involves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

- Primary project manager (institutional project lead)
- Community organizer or volunteer coordinator (may be a neighborhood volunteer)
- 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:

- American Solar Energy Society chapter
- Local nonprofit
- 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 Manager	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 fliers; lead workshops	Build website; distribute fliers, outreach materials; schedule workshops; identify venues	Teach nuts and 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	

	Project Manager	Volunteers	Contractor	Utility/Municipality
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 essential 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 (CRM) 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, and 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)

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 and should 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 (e.g., city or neighborhood coalition).

The neighborhood recruitment meeting should be advertised in neighborhood papers, discussed personally with neighborhood association chairs/community groups, and talked about widely. These volunteers will be the core group to initiate the Solarize effort.

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

Writing the RFP and creating the RFP scoring rubric is a chance for community members

*"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*

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 (three to five) for each desired category, so that score variations are significant.

The RFP should be issued widely. Contractors should have several weeks to respond, and all questions and answers should be posted to a public website, where all 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 contractors.

After contractor selection is announced, the committee may receive inquiries from contractors who were not selected. If they have followed the RFP evaluation criteria, the response is simple: “The committee scored the applicants and chose the one or two that scored the highest on the rubric.” Committee members should keep conversations positive and not try to justify why the committee chose one contractor over another.

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

Once the contractor is selected, outreach becomes a focus. The outreach committee creates or adapts materials – fliers, buttons, stickers, yard signs, and a website to help spread the word. Elements of the outreach campaign can 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 flier help lend legitimacy and spread the word. Fliers, posters, door hangers, and other print materials should be distributed widely.

Blogs and Emails

Electronic media provide an affordable and convenient way to increase the outreach of the campaign. The outreach committee should submit information to neighborhood blogs, write letters in their neighborhood newsletters, and send 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 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 collective purchasing, solar PV technology, financing and incentives, and how to participate.

Technical Q&A Sessions

If participants want additional, in-depth information, organizers may consider holding technical Q&A sessions. These informal, open-format sessions allow potential participants to get their questions answered in a friendly and educational environment. Sessions could focus 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 online, 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, and a project organizer could enter this customer data into the Web interface. The online 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 website through various avenues that suit their own comfort level: hosting coffees, going door to door, sending emails, posting fliers 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 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 participants enroll will help even out the contractor workload and improve the follow-up time. The contractor may use mapping software to screen out any obviously ineligible participants (e.g., those 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.

Step 7: Installations (Months 5 – 9)

The contractor is responsible for installations, but the project manager should monitor 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 customers are contacted and systems installed. 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 installation 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 typical in 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 homeowners enroll.

Step 8: Celebrate and Reflect (Month 9)

It is 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.

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

Sample Budget

Although every program will vary by location and population size, this sample budget provides a starting point for project planners.

Labor Hours	Project Organizer	Volunteers	Contractor	Utility	Total
Project Management	250	250			
RFP Committee	40	80			
Outreach Committee	70	50			
Workshop Design and 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 (fliers, yard signs, etc.)	\$1,000		\$1,000		
Advertising	\$150				
Database Development	\$2,000				

Labor Hours	Project Organizer	Volunteers	Contractor	Utility	Total
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 based.

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

Collective purchasing programs from across the United States

- GroupEnergy launched multiple collective purchasing programs for the workplace in early 2012. www.mygroupenergy.com
- “Lighten Our Load” was developed for Columbia Sportswear by Energy Trust of Oregon in 2008. www.energytrust.org
- MadiSUN Group Solar Program serves residential and commercial customers in Madison, Wisconsin. <http://www.cityofmadison.com/sustainability/city/madisun/>
- Make Mine Solar is a collective hot water purchasing program, based in Minneapolis, Minnesota. www.mnrenewables.org/MakeMineSolar
- One Block Off the Grid is active in 20 cities nationwide, supporting volume purchasing for residential customers. www.1bog.org/
- Reduce then Produce was an integrated home performance and solar program based in San Diego, from the California Center for Sustainable Energy.
- San Jose Employee Solar Group Buy was offered to City employees and retirees in 2010. The program became the model for the SunShares Program of the Bay Area Climate Collaborative. <http://baclimate.org/impact/sunshares.html>
- Solar Beaverton offers PV, hot water, and even EV charging stations in a group purchase format. <http://www.beavertonoregon.gov/index.aspx?NID=412>
- Solarize Eugene: The Resource Innovation Group won a utility grant for Solarize Eugene 2012, addressing PV and hot water. <http://solarenergydesign.com/solar-electric-systems/solarize-eugene/>
- Solarize Pendleton: The City of Pendleton, Oregon, offered zero-interest loans to finance solar installations and created program replication materials <http://solarizependleton.com/main/replication/>
- Solarize Portland: With over six campaigns and 560 installations, Portland leads the way and helps other cities run Solarize campaigns. <http://www.portlandonline.com/bps/index.cfm?c=51902>
- Solarize Salem: The Salem Creative Network organized a co-op to help fund its PV and hot water campaigns. <http://solarizesalem.org/>
- Solarize Santa Barbara: More than 49 neighbors went solar through a program from Community Environmental Council. <http://www.cecsb.org/solarize-santa-barbara>
- Solarize Washington: A series of residential PV campaigns from Northwest SEED began in 2011. www.solarizewa.org
- Solarize Massachusetts: Massachusetts Clean Energy Center (MassCEC) in partnership with Green Communities Division of the Massachusetts Dept of Energy Resources ran campaigns in four cities. <http://www.masscec.com/index.cfm/cdid/12093/pid/11159>
- VPIRG Energy ran successful “Solar Communities” programs for PV and hot water across Vermont. The co-directors of VPIRG Energy have subsequently launched SunCommon. <http://suncommon.com/>

Publications

Solar Powering Your Community: A Guide for Local Governments. U.S. Department of Energy, 2011. The second edition of this guide includes case studies and lessons learned from Solar America Cities. 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.solarizewa.org/files/cadmus-report-eto-solar-programs

Smart Solar Marketing Strategies. L. Rosoff and M. Sinclair, Clean Energy Group 2009. The report offers valuable lessons in marketing solar. www.statesadvancingsolar.org/resource-center/smart-solar-marketing-strategies

Peer Effects in the Diffusion of Solar Photovoltaic Panels. Bryan Bollinger, NYU Stern School of Business and Kenneth Gillingham, Yale School of Forestry & Environmental Studies, December 2011. This paper analyzes the spread of solar PV in communities. http://people.stern.nyu.edu/bbollinger/index_files/BollingerGillingham_PeerEffectsSolar.pdf

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