



SOLAR ENERGY INTERNATIONAL

Educate. Engage. Empower.

2015

Solarize North Fork Valley



Photo: Ben Lehman

Peter Mueller

Kristen O'Brien

Gerald Espinosa

Solar Energy International

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OVERVIEW

Solarize North Fork Valley (NFV) was a program hosted by Solar Energy International (SEI). SEI received two AmeriCorps VISTA positions from the [Corporation for National Community Service](#) to design and implement this round of Solarize. The initiative focused on increasing the number of photovoltaic (PV) installations in the North Fork Valley on the Western Slope of Colorado, with the larger vision of encouraging economic revitalization around a clean energy economy.

The Solarize model capitalizes on the power of a community-wide effort to motivate residents by offering savings through a limited-time opportunity and removing common market barriers. The time-limited offer provides a simple process and package solutions for homeowners who would like to go solar but were not able to afford it in the past or were intimidated by the process.

Solarize NFV intended to add a goal of 100 kilowatts (kW) of new solar PV to the North Fork valley within Delta Montrose Electric Association's (DMEA) territory.

Solarize NFV began in December of 2014 implementing a phased approach to the program design, implementation, installation and reporting. The final phase of installation and reporting came to an end in November, 2015.

During the planning phase, a locally-based solar installation company was chosen to complete the installations. This local company chose to partner with a neighboring installation company to improve purchase power and handle overflow of projects.

Program launch and the educational phase began on May 1, 2015 with a celebration at Solar Energy International's campus. Outreach continued in the three following months with public events, booths, presentations, solar open houses and social networking.

Program sign-up allowed community members a non-obligatory look at the question: Is solar right for me? The program's ultimate goal was to further educate the community at large about the various benefits of "going solar." Once a participant signed up they were guided to fill out as much of a [Remote Site Assessment](#) form as possible. This information was used by

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the initiative's co-manager to coach the participant on the potential size and cost for their system. This information was then handed to the installer to complete a site visit, system design and ultimately a contract. The customer tracking was all handled over Google Drive Sheets; all project-managing stakeholders could access at any time.

Installations began July of 2015 and a few installs are intended to be complete after the publication of this report.

The program contracted 22 new projects amounting to 120 kW of solar added as grid-tied generation to the local community electrical co-op: DMEA. This accounts for over \$400,000 of capital generated locally in the solar business.

The North Fork Valley saw quantifiable economic growth as a result of Solarize NFV. Three full-time installation positions and one design position were created within the selected installer's company. The visibility of solar grew by leaps and strides as did the local solar-movement inertia. Generally speaking, the local installer has contracted more solar projects compared to years past outside of the Solarize initiative due to the recent heightened community visibility of PV.

Interest in future Solarize campaigns is evident from phone calls, conversations, and sign-ups for the current campaign. Solar Energy International is exploring other solar-related campaigns, including community solar gardens, utility-scale solar and solar for low-income residents.

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RECOGNITION

Solarize North Fork Valley would like to thank the following volunteers and organizations for their contributions to this successful campaign. It would not have been possible without you:

Solar Contractors

Brad Burritt- Empowered Energy Systems, Jeff Tobe- Empowered Energy Systems; Steve Haines- Sunsense Solar

Solar Open-House Hosts

Patrick McPherson, Cedar Keshet, Elaine & Jim Brett, John & Chris Gavan

Presenters

Jim Heneghan - DMEA, Phil Zimmer- DMEA, Kris Sutton - SEI,

Presentation Venue Hosts

The Hive Co-Working Space, Paonia Public Library, Hotchkiss Public Library, Crawford Town Hall

Project Consultants

Kris Sutton, Greg Petersen, Teresa Shishim

Media Coverage

Print: Delta County Independent, Marchant Herald, Delta County Shopper

Radio: KVNF Community Public radio

Television: KKCO 11 News, KJCT8

Other Contributions

Christy Eller, Chris Turek, Sam Brown & Tara Miller, Mountain West Strategies

THE SOLARIZE MODEL



The Solarize Model was first used by Portland, Oregon to overcome financial and logistical issues with installing solar and then replicated by many other cities around the US. The Department of Energy published [The Solarize Guidebook](#) to make the model readily available for other communities.

Using community volunteers, active local government and a local non-profit as the Project Manager, the Solarize process capitalizes on the purchasing power of a community and motivates the residents by offering significant savings through a limited-time opportunity that also removes other common market barriers.

This limited time offer provided a simple process and package solutions for homeowners and business owners who would like to go solar, but weren't able to afford it in the past or have been intimidated by the process. Through increased awareness and education, a greater number of new PV installations can be implemented and the market primed for future solar growth.

INITIATIVE PHASED APPROACH

A key part of the Solarize model is to section development, implementation and installation in to distinct phases. The 3- phases all have a defined timeline prompting forward momentum of the initiative.

- Phase 1: Planning and Development (approx. 4 months)
SEI's management team develops the structure of Solarize North Fork Valley. Solarize volunteer, Greg Peterson, served on the Request for Proposals committee.
- Phase 2: Community Education and Sign-up (3 months)
Solarize NFV launches and hosts many community educational events in the three towns comprising the North Fork Valley. During this time participants receive a free Remote Site Assessment, Site-visit and sign a contract.
- Phase 3: Installation (until complete)
The selected installer, Empowered Energy Systems installs all the systems contracted during the initiative.

PARAMETERS

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Participating Area

The North Fork Valley: Any residence or small business in Paonia (81428), Hotchkiss (81419) and Crawford (81415).

Goal

- 100kW of new solar

Timeline

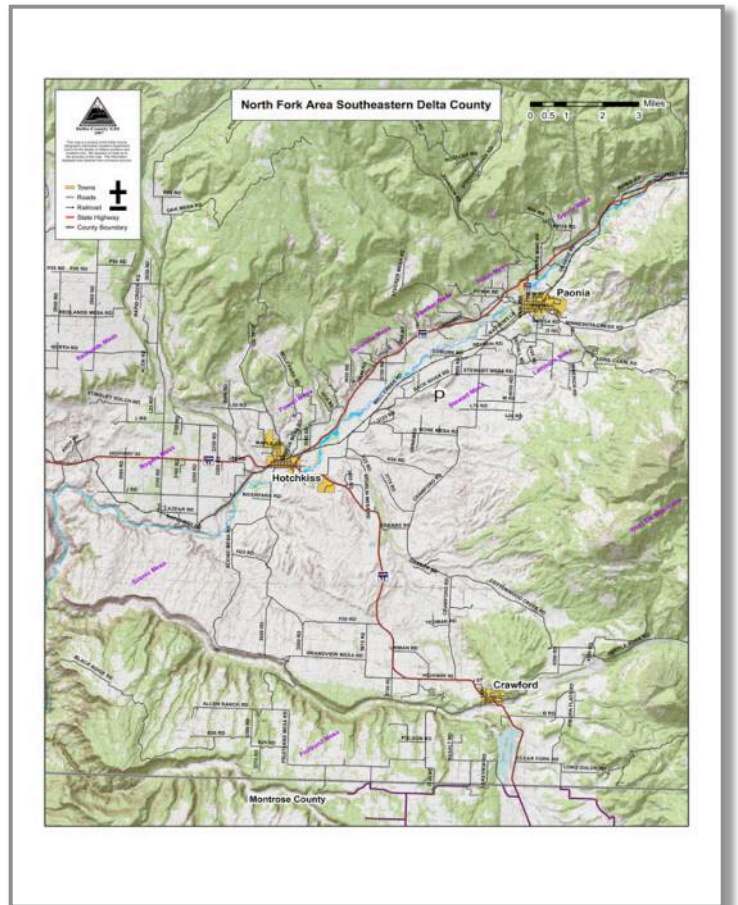
- Phase 1: Planning-
Jan. 2015 - Apr. 2015
- Phase 2: Community
Education/Sign Up - May 2015
- July 2015
- Phase 3: Installation- July 2015
- November 2015

Outcomes

- Increased community
education and awareness
- Lower per watt installed cost
- Boost local market for PV
installations
- Alleviate barriers and stress

Barriers

- Financing
- Small market
- Reaching wide-variety of rural people (marketing)
- No local or state rebate programs



SOLAR CONTRACTORS

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Selection

A competitive request for proposal (RFP) was sent out to all ten known solar installation companies within a 100-mile radius of the North Fork Valley. Of those, only one RFP was returned by date due. This application was a partnership between locally-based Empowered Energy Systems (Hotchkiss, CO) and nearby Sunsense Solar (Carbondale, CO). The partnership created a standard list of system products and cost-adders to a project. In addition, a tiered pricing scheme was proposed with diminishing costs as number of participants increased. Contractor carries 2 million dollar liability insurance policy.

SYSTEM BASE PRICE

	Tier 1	Tier 2	Tier 3
Bracket (kW)	0-50kW	50-100kW	Above 100kW
Price (\$/W)	\$3.25	\$3.20	\$3.10

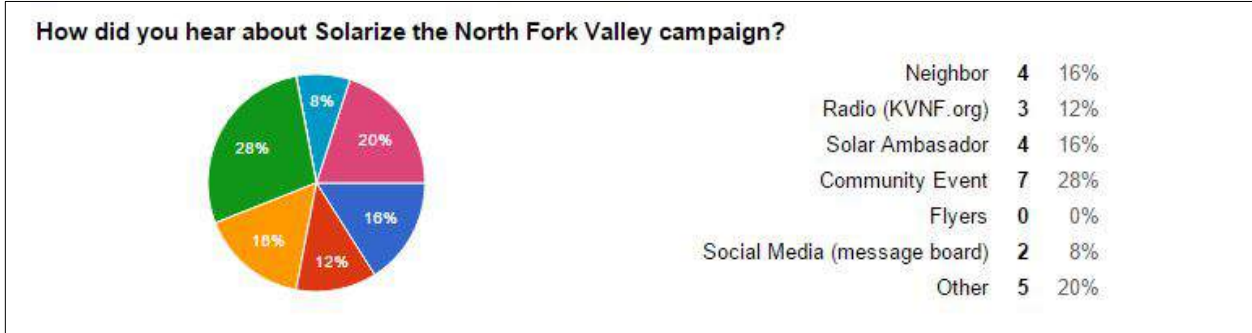
*See [Appendix A](#) for tables of Standard Equipment, Adjusted Price Factors and Cost Adders

MANAGEMENT TASKS AND ACCOMPLISHMENTS

SEI oversaw program development, RFP committee, outreach and marketing, event organization, customer tracking, customer vetting, remote-site assessments and reporting. SEI’s two AmeriCorps VISTA volunteers worked full-time on the initiative for over six months.

Marketing

Education and outreach is the foundation of any successful Solarize effort. Marketing consisted of various mediums, and at program close it is useful for us to reflect on what avenue was the most impactful outreach strategy, particularly for future efforts.



Community Events and Direct Communication (Neighbor, Solar Ambassador and Other) proved to be the most effective marketing of Solarize North Fork.*

**Other: many used "other" as hearing about Solarize directly from an initiative organizer*

CAMPAIGN FINANCES

The costs incurred by the program were shared between Solar Energy International and Empowered Energy Systems. The whole initiative was completed for about \$1,000 due to the generosity of local establishments offering their hospitality and marketing at lowered costs or even free.

[*Table 1 Solarize NFV Finances](#)

RESULTS AND COMMUNITY IMPACT

Final results of Solarize NFV resulted in 22 signed contracts.

Power Produced

- 22 contracts equated to 120kW of solar installed

[*Map 1 for a visual of area installs](#)

Economic Growth

Using the average conversion for western Colorado 1kW will produce 1,600 kWh annually: 120 kW of solar in western Colorado will produce an average of 192,000 kWh of energy each year. At (DMEA) current per kWh rate of \$0.103: \$19,776 of clean energy is produced each year by these installations.



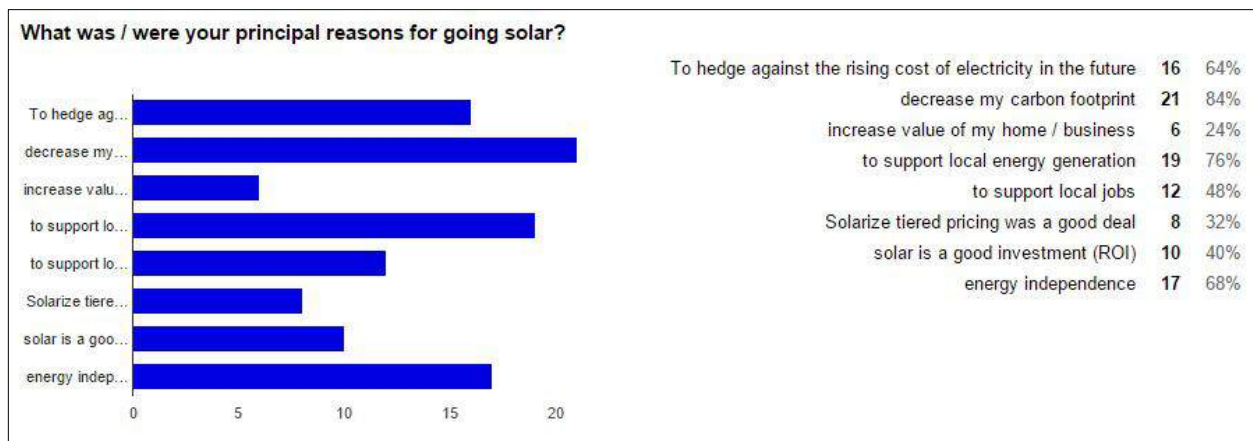
Jobs Created

- 1 full-time AmeriCorps VISTA position lasting 1 year
- 1 full-time AmeriCorps VISTA position 6 months dedicated to Solarize
- 3 installer positions at Empowered Energy Systems
- 1 short-term system designer position at Empowered Energy Systems

FEEDBACK

Solarize NFV sent out a survey in October 2015 to all 65 Solarize NFV participants, whether they went solar or not, to capture any feedback or unresolved issues. The survey was launched midway through installations and was open for a total of two weeks, starting the beginning of October, receiving a total of 25 responses. Of these 25 surveys returned, 13 were from participants that stopped at various steps of the program prior to signing contracts and 12 were from the 22 contracted clients. Certain questions were only open to contracted clients, as they were specific to their contracts and installation experiences. Below are some of highlights of feedback we received:

[*See APPENDIX B for full survey results](#)



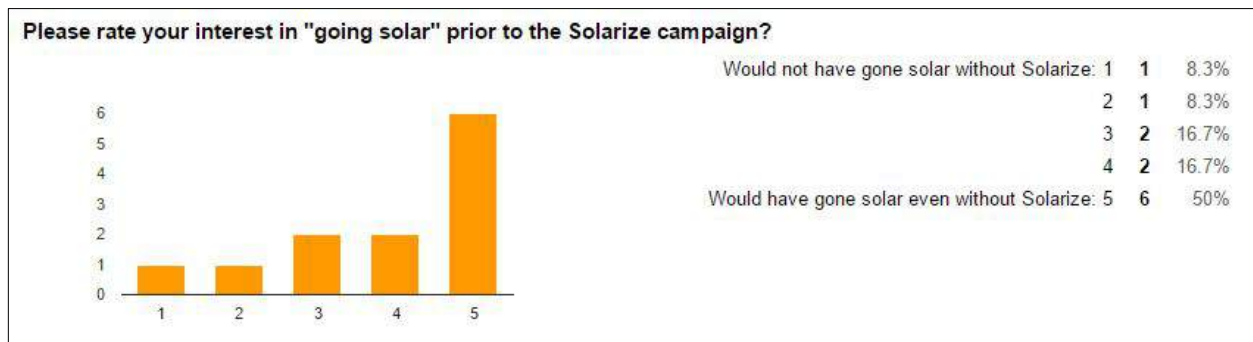
Although the tiered pricing structure appears not to have been the highest-ranking motive to participate in the Solarize program, the program’s overall ease, accessibility and information prompted many to go solar.

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When later asked, “What was the single greatest factor that encouraged you to go solar?” several spoke to the general helpfulness of the Solarize model’s process.

“You provided the information on why go solar, had the application with all required info [...] This made me take the time to seriously look at my solar application”

“There was no single factor. It was a combination of saving money on electricity while reducing my carbon footprint. The tax credit helped make the payback period reasonable as well”



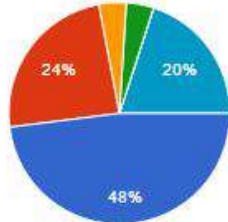
The early adopters self-describe as likely to have gone solar even without Solarize. It is likely some simply needed the program’s accessibility, educational component and community buzz to act.

Challenges- Public Feedback

- Financing- although the tiered-pricing structure lowered the cost, the upfront cost of a system was still too high for some participants. No low-interest loan was locally available.
- Marketing- some residents felt they had not heard about the program in time to participate.



If you did not participate in Solarize this round, what was the main reason?



I WENT SOLAR!	12	48%
Capital	6	24%
Renter	1	4%
Poor roof condition / shading or orientation	1	4%
Leasing business	0	0%
Other	5	20%

None of the 12 contracted participants indicated they needed outside financing. One did state that although they did not finance the system, he likely would not have gone solar without tiered pricing. Future rounds of Solarize will benefit from succinct financial offerings to increase the accessibility and adoption of solar.

Challenges- Contractor Feedback

A management debrief resulted in the following feedback:

- Outreach was perceived to be Paonia-centric; utilized modes of marketing were not as effective outside of Paonia
- Request for Proposal was too detailed which made it difficult to prepare a program-long comprehensive viable pricing structure

Challenges- Program Management Feedback

- Casting a wide-net for marketing and communication among varied media to reach as many people as possible
- The first round of Solarize had a very low budget. The program did not raise any money
- Creating and cheerleading an active group of volunteer “Solar Ambassadors” among a small population

Recommendations- Public Feedback

- Longer campaign timeline in order to spread the word
- Low-interest financing options offered locally to help with the up-front system cost

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Recommendations- Contractor Feedback

- Definitive end-strategy: specifically, a contract end date before program end date. The process from initial remote site assessment to prepared and signed contract can easily take a couple weeks; If the program ends July 31st it is not reasonable for someone to sign up for a remote site assessment on July 25th.
- Be very explicit that a preliminary price quoted during the Remote Site Assessment is not final pricing
- Greater outreach in neighboring towns; reach out to Town Chambers of Commerce

Recommendations- Program Management Feedback

- Designing a complete calendar of educational events prior to program launch would help advertise a stronger 3-month campaign
- Work with installers to plan program-end deadlines: sign-up deadline, contract deadline, program deadline.
- Creating hype: greater visibility and publicity contracted kW status
- Collect small “referral fee” from contracted participants to fund outreach/marketing



As survey feedback indicates, future educational outreach on energy efficiency (EE) and Financing is in demand. More traditional offerings like green-branded home equity loans and lines of credit through local banks are likely future options.



CLIENT SATISFACTION

Overall, there was a sense of satisfaction among the North Fork Valley community with the promotion, implementation and completion of the initiative.

Many spoke to the success of educational outreach...

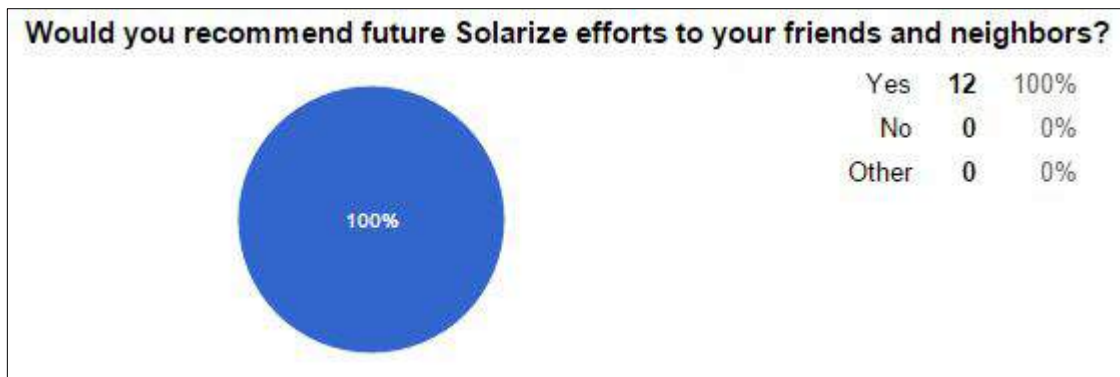
“Solarize provided me the information that I needed to understand and decide to go solar [...] The process and support provided me with the information and knowledge so that I could confidently move forward with the PV”

The sentiment of feeling informed was echoed by others who spoke of the program’s ease. Many of the event attendees came out feeling confident and empowered to explore how solar could work for them. This included those who have yet to go solar:

“We are now informed enough to make a decision in the future [...] Thanks again.”

A reoccurring observation was the professionalism of the selected installers and crew:

“We couldn't be happier with the professionalism of the solar crew who installed our system. They were extremely courteous, polite & pleasant people to get to know”





FUTURE SOLAR INITIATIVES

- Pursuing Colorado Solar Energy Industries Association (COSEIA) “Solar Friendly Communities” distinction
- COSEIA Solar-thermal project partnership
- Community Solar Garden
- SOLARIZE ROUND II
 - Greater focus on Financing
 - Greater focus on EE
- “Solarize” Paonia High School



Energy Efficiency is such an important part of reducing the size of a PV system. The lighter the loads the system has to power the smaller the system can be, therefore, costing the consumer less.



CLOSING

While our rural community transitions from a coal producing region, and the success of the solar industry on a national level has become ever apparent to us at SEI, we recognize there is a vital need to bring the benefits of solar to the community we call home. Leveraging our expertise as renewable energy educators, we launched and successfully completed a Solarize community outreach that resulted in 120 kW of PV accounting for \$400,000 in local investments in clean energy catalyzing increased work for local trade and a greater demand for clean renewable power.

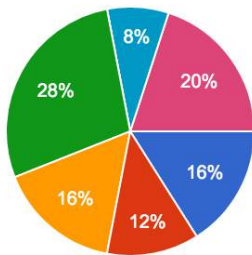
As our valley seeks to grow local energy production, motivated out of desire for self-sufficiency and economic development, it is crucial that solar continues to expand ensuring our community has access to well-paying jobs, and sustainable growth. We will continue to explore community solar gardens and new financial mechanisms in the next round of Solarize. It is crucial that we stay true to the economic motivations of bringing the Solarize model to the North Fork Valley: building up local demand for sustainable energy sources and thus creating a need for skilled workers. We will continue to envision employing solar as a tool for economic revitalization. It all starts with education right here in the valley we call home.

“Even though we did not take advantage this time around, I am so happy you started this initiative in the valley. It is a great start to helping so many homeowners and businesses alike. For decades we as a country, have needed to make solar more affordable”



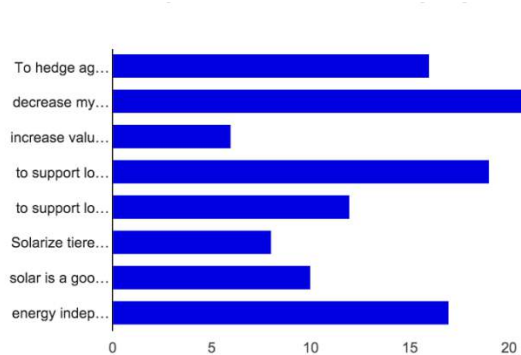
APPENDIX A: Complete Survey Results

1. How did you hear about Solarize the North Fork Valley campaign?



Neighbor	4	16%
Radio (KVNF.org)	3	12%
Solar Ambassador	4	16%
Community Event	7	28%
Flyers	0	0%
Social Media (message board)	2	8%
Other	5	20%

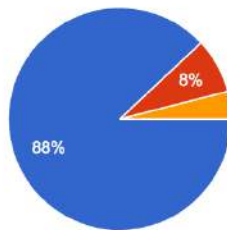
2. What was / were your principal reasons for going solar?



To hedge against the rising cost of electricity in the future	16	64%
decrease my carbon footprint	21	84%
increase value of my home / business	6	24%
to support local energy generation	19	76%
to support local jobs	12	48%
Solarize tiered pricing was a good deal	8	32%
solar is a good investment (ROI)	10	40%
energy independence	17	68%

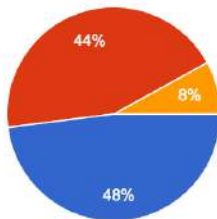
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3. Regardless if you participated in solar or not this round, would you be interested in exploring energy efficiency programs in future Solarize rounds? Energy efficiency is a crucial step to improving your home and saving you money. While solar and EE go hand in hand, energy efficiency improvements are typically less capital intensive and thus accessible to more people.



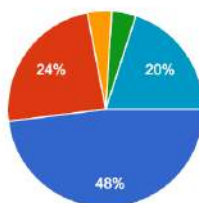
Yes	22	88%
No	2	8%
Other	1	4%

4. Would you be interested in exploring green loans and community financial offerings to help finance future EE improvement and/or solar electric system? Similar to typical home improvement loans, green loans help more people finance EE and solar improvements. If offered by a community bank, it means more solar, and more money staying in the community.



Yes	12	48%
No	11	44%
Other	2	8%

5. If you did not participate in Solarize this round, what was the main reason?



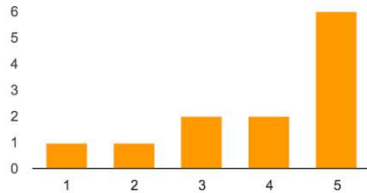
I WENT SOLAR!	12	48%
Capital	6	24%
Renter	1	4%
Poor roof condition / shading or orientation	1	4%
Leasing business	0	0%
Other	5	20%

II. SOLAR PIONEERS (Only open to those that indicated in the question above that they went solar.)

6. Please rate your interest in "going solar" prior to the Solarize campaign?



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Would not have gone solar without Solarize:	1	1	8.3%
	2	1	8.3%
	3	2	16.7%
	4	2	16.7%
Would have gone solar even without Solarize:	5	6	50%

7. If you could pinpoint one factor or message that convinced you to go solar, what would it be?

- There was no single factor. It was a combination of saving money on electricity while reducing my carbon footprint. The tax credit helped make the payback period reasonable as well.
- You provided the information on why go solar, had the application with all required info needed to decide/determine the size and local for a solar system. This made me take the time to seriously look at my solar application. You also had the contact for the solar installers.
- it was a lot more convenient to just utilize the Solarize system. And cheaper I think!
- Eventually solar energy will be the major energy source on our planet. Thus, we have set examples.
- rebate
- Reducing reliance on fossil fuels.
- 30% tax credit and improved efficiency of solar panels
- lessen my carbon footprint
- Savings by going solar.
- Expiration of Fed tax rebate
- Already had 2 PV systems.
- The Federal Tax Credit of 30% was a good initiative to act now because the Feds don't give us those kinds of deals everyday!

8. Did you pursue any financing options to install your solar system? If so can you specify? Capital is one of the biggest barriers for some to participate in solar. As we explore future Solarize expansion we are curious, what worked for you?

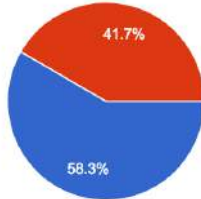
- no
- NO
- Self financed.
- No
- Fortunately, I did not require financing,
- A good deal came along at a time when I had the means.
- no did not finance

9. We are working to recruit "Solar Ambassadors" that can share their experiences in future solarize efforts, would you consider volunteering a little of your time if we were to contact you in the future?

#9 produced six candidates who are willing to be "Solar Ambassadors" in the future

10. Did you attend any of the community educational events?

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Yes 7 58.3%
No 5 41.7%

11. Input or feedback on community education events? Were they helpful? Areas that are still unclear? Things you would like to see next time.

- did not attend
- Very helpful! Convinced us to go solar now after all the years of trying to decide whether or not it was feasible to go solar back then & it is somewhat affordable compared to 25+ years ago.
- yes, they were helpful
- Potential solar energy generation in this area seasonally was helpful to evaluate the worth of installing solar panels.
- n/a
- yes
- cannot respond
- useful
- Yes
- No comment.
- They worked for me.

12. Was the program and next steps to go solar adequately explained? If no, what would you have wished explained further?

- don't know
- n/a
- yes
- No comment at this time.
- Yes, but Brad pretty much led us through the program. We contacted him first about going solar, then he directed us through the program. We were not aware of it until we talked to him, but later heard spots on KVNF, so we would have eventually been aware of it anyway.
- Yes
- Yes, it was adequately explained.

13. Would you recommend future Solarize efforts to your friends and neighbors?



Yes 12 100%
No 0 0%
Other 0 0%



14. This is an anonymous survey, however sharing your personal experience is important to us. Is there anything you wish to share with us to publicize? Regarding what this community program and going solar has meant for you? If you choose to respond, you can include your name or leave it anonymous.

- It would have been nice if a local community person could have helped us fill out the home assessment -survey. The amount of information it asked for, particularly roof angle, was intimidating.
- I feel our community is a perfect place for Solarize. Many progressive families are moving to the North -Fork valley while we enjoy so much sun!
- Don't have anything but a signed contract at this point.
- Not for now.
- We couldn't be happier with the professionalism of the solar crew who installed our system. They were extremely courteous, polite & pleasant people to get to know. Thank you Brad & Jeff for all your hard work! not to forget to mention the other guys who helped with our install, they were awesome as well!
- Excellent support from SEI personnel. It did appear that Empower Systems was "overwhelmed" with applications and work this summer, as my proposal was not provided until after the program's official end date, though that was extended. Even though I decided not to go forward this summer due to the costs associated with a ground mounted system, Empower Systems never got in touch with me regarding the proposal once delivered to discuss the costs and perhaps delve into other possible alternatives.
- This is a very exciting opportunity to boost community participation in energy efficiency and sustainable living, which in turn creates a better future for us all.
- The amount of information we received on the guided tour was really good, Gave us a good starting point to find out more information about going solar at our house.
- This was an easy process and the response from the community, combined with lead time needed to order ground mount, caused a short delay in getting the installation completed. Once installed, with 2 weeks of experience, it seems to work well good.
- installation went smoothly and was carried out in a very professional manner
- It helped me get going on it that there was a program with a signup deadline and that the program offered savings.
- I learned alot, and appreciated the attention to my specific needs
- Even though we did not take advantage this time around, I am SO happy you started this initiative in the valley. It is a great start to helping so many homeowners and businesses alike. For decades we as a country, have needed to make solar more affordable.
- The Solarize effort provided me the information that I needed to understand and decide to go solar. All the people working the program, SEI and the energy professionals, were very helpful in all conversations that I had with them. The process and support provided me with the information and knowledge so that I could confidently move forward with the PV project for my home.

15. Any further feedback you can give us on the first round of Solarize? As we explore future outreach efforts to spur clean energy and encourage local jobs, your feedback is greatly appreciated! Remember, you are the early adopters, the solar pioneers! What can we do better next time? This can be directed at SEI, installers, events, you name it! Any feedback is helpful. Also please identify if you went solar in your response.

- I went solar. I think that your process is great. I'm not sure what you could have done better. Your event speakers were great. The installers were professional and easy to work with on the project.
- Please offer the tiered opportunity to solarize again, and gather the testimonies of those who went solar for the first round, to encourage others to join up. The word will spread, and the enthusiasm will build! You made the whole process seem easier and doable by hosting the community events and supporting everyone through each step of the process.
- no further feedback
- Our contractor was great. Very easy to work with.
- So far so good, but nothing on the ground yet.
- The information on the financial benefit/increased energy generation from a single axis rotation versus stationary installation should have been vetted more thoroughly by me before settling on the fixed panel installation.
- Several people I told that I signed up for the program hadn't heard about it. My hope is that the success of this program will get the news around the grapevine and that the next round will be even more successful. -Good programs to finance solar will enable more people to get on board.
- I am very happy that you are considering some type of "green bank" as solar is still out of reach for many. -I would also recommend courting solar panel manufacturers to build here and somehow mass produce for the public to bring costs down.
- None to offer



- Nothing. I loved the event and just wished I had the money to do it.
- need more one on one
- n/a
- My gut feel is installation capacity may need to be increased in the North Fork Valley to meet the demand of an effectively-run and incentivized Solarize campaign that is well-subscribed. I did not end up going solar this summer but will most likely do so within the next year or two.
- I really wanted to do the program, but \$17,000 is absolutely impossible to come up with. Loans are really hard these days, and rates are high for small amounts not tied to my mortgage. If I could get a easily get a loan that would be about the same as my electricity bill - perfect! I would be able to do it.
- Just FYI ... I wasn't able to hit the SUBMIT button after doing this survey on my iPhone ...
- We were too late for program deadline, but we chose to go solar with Empower group. This was due to our needing to figure out the financials of our project, not anything SEI or Empower could do on this!
- I can not think of anything else to say about "Solarize" They are genuine professionals in every regard to solar & just keep up the great work! Yes, we went solar...grid tied, 6.24KW
- Everyone did a fantastic job, the timing just was not right for my situation.
- I would be interested in a farm/rural business round to coordinate funding with REAP grants.
- Financing options would have been nice.
- The promotion of this program was great and reached many. It was easy to apply and get information
- I looked your plans over but the cost was too high for us. We use passive solar where we can and would move up to solar power but will not go into debt to do that.
- Maybe later.
- obviously the future for tax credits (after they expire) will need to be addressed. it may be a good idea to address the efforts (if any) being undertaken to extend the credits beyond 2016.
- I liked that you had a table at a community event for the 4th of July where we were invited to find out more. We did not go solar, but we did have someone from DMEA come to our house who talked about being more energy effeciant and we watched the shade on our roof for several days and realized it doesn't get as much sun as we thought. We are now informed enough to make a decision in the future when we have a garage built that we may possibly be able to use for solar panels. Thanks again



APPENDIX B: Remote Site Assessment Form

Remote Solar Site Assessment Form

*Please fill in as much information as possible and return to SEI - 39845 Mathews Lane Paonia, CO 81428, or scan and send via email to solarize@solarenergy.org

GENERAL

Name : _____
 Site Address : _____
 Mailing Address : _____
 Phone Number : _____
 Email Address : _____
 Are you the property owner? : Yes No
 If no, please explain :

ELECTRICAL

1. Type of Site (Check One): Commercial Residential
2. DMEA Rate Class (Check One): Residential Small Commercial Large Commercial
 Other (please specify): _____
3. Annual kWh Usage(Call DMEA for monthly usage) :

Month	Usage (kWh)



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FINAL REPORT

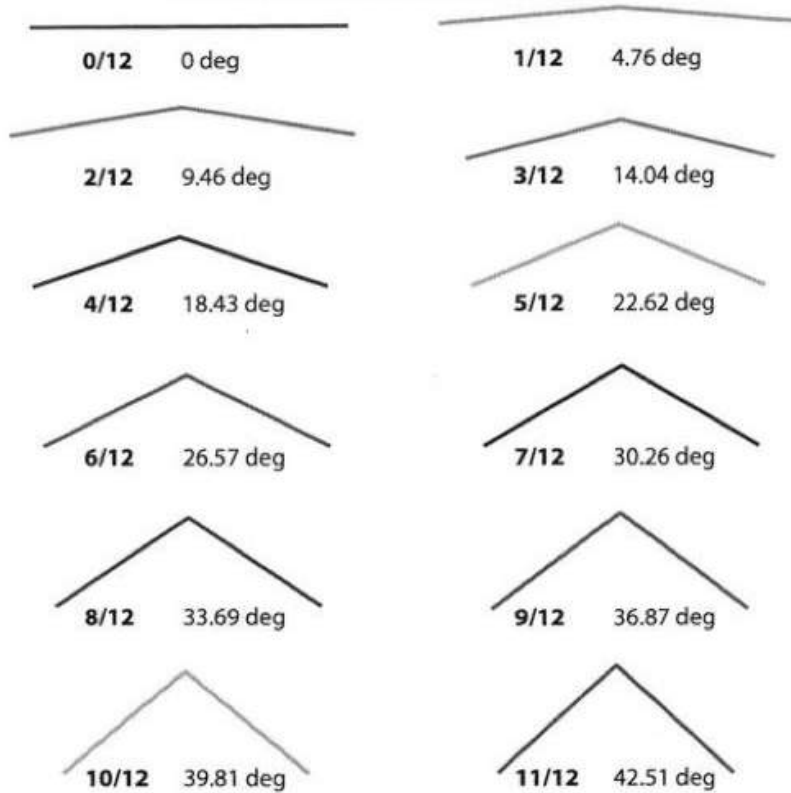
TOTAL Annual kWh usage:	

- 4. Was last year’s electrical usage typical? : Yes No
- 5. Where do you see your usage going in the near future? Up Down Stay the same
- 6. Have you had an energy audit? : Yes No If no, would you? : Yes No
- 7. What is your main service panel size? : 100A 200A 400A 600A
Other (please specify): _____
- 8. What brand is your main service panel? _____
- 9. What is your main breaker size? : _____
***If possible, please include a photo of your main panel**

BUILDING

- 10. Is the array going on: New Building Existing Building Ground Mounted
- 11. If on the roof, what structure would the solar array going on? :
House Roof Barn or Outbuilding Commercial Roof
Other (please specify): _____
- 12. What is the approximate age of the roof? : _____
- 13. Do you have an open sunny area free from obstructions from 9am – 3pm? : Yes No
- 14. What is the approximate area that gets sunshine on your roof (in square feet)? : _____
- 15. What is the orientation of your sunny roof area? : South East West
- 16. What type of roof will the system be going on? :
Metal – Pro Panel Metal – Standing Seam Composition Shingle Wood Shake
Flat Membrane Tile Other (please specify): _____
- 17. How tall is the building the system will be installed on (in feet)? : _____
- 18. What is the approximate distance of the roof from the main service panel (in feet)? : _____
- 19. How do you heat the building? : Natural Gas Electric Solar Hot Water Wood Stove
Pellet Stove Coal Furnace Other (please specify): _____
- 20. Roof Angle Approximately (specify roof pitch i.e. “4/12”) : _____

FINAL REPORT



***If possible, please include a photo of your roof**

BUDGET

21. What would your payment type be? : Cash Re-finance Home Home Equity
Other (please specify): _____
22. You can choose to offset a portion or all of your electrical usage with PV.
System size can be limited by: utility limits (25kW residential, 50kW small commercial), available square footage, &/or cost. Based on your annual kWh usage (from question 3), use the chart below to determine approximate system cost, and enter value here : _____

PV System Size	Estimated annual production for ideal PV system	Square Footage of System	Retail installed system cost starting at	Cost after 30% tax credit
2 kW	2,800 kWh	200 sq ft	\$8,800	\$6,160
4 kW	5,600 kWh	400 sq ft	\$13,520	\$9,464
8 kW	11,200 kWh	800 sq ft	\$24,000	\$16,800
12 kW	16,800 kWh	1200 sq ft	\$36,000	\$25,200

Standard system installation includes Kyocera modules and SMA inverter on single story home. Ideal systems have no shading with true south orientation and favorable roof pitch of approximately 30°. We believe each PV system is unique and deserves a custom quote to provide the best pricing available.

FINAL REPORT

Factors that increase the system cost:

- 1) Roof factors: Multiple story roof / Steep roof / Tile roof / Shake or Slate roof / Roof tilt rack / Flat roof
- 2) Ground mounted systems
- 3) Electrical considerations: Long wire runs / Interior conduit runs / Service upgrade / Line side connection
- 4) Rapid shutdown code enforcement after Aug 1st
- 5) Data acquisition system
- 6) Production meter
- 7) Systems under 3kW
- 8) US module option
- 9) Sunpower high efficiency PV module option
- 10) SolarEdge Inverter and power optimizer option
- 11) Inverter warranty extension
- 12) Emergency power supply for SMA inverter
- 13) Town Building Permits (Paonia/Hotchkiss)
- 14) Structural analysis and reinforcement
- 15) Roof replacement
- 16) Tree removal
- 17) Utility meter upgrade – service shutdown
- 18) Tax rate on materials – 2% for county and 4% for within town limits

Factors that decrease system cost:

- 1) Systems over 8kW
- 2) Systems over 20kW

23. Based on this price, are you still interested in a solar PV system? : Yes No
24. When would you like to install? : Now 1-3 months 3-6 months 6 months – 1 year

Map 1: Visual of Area Solar Electric System Installs

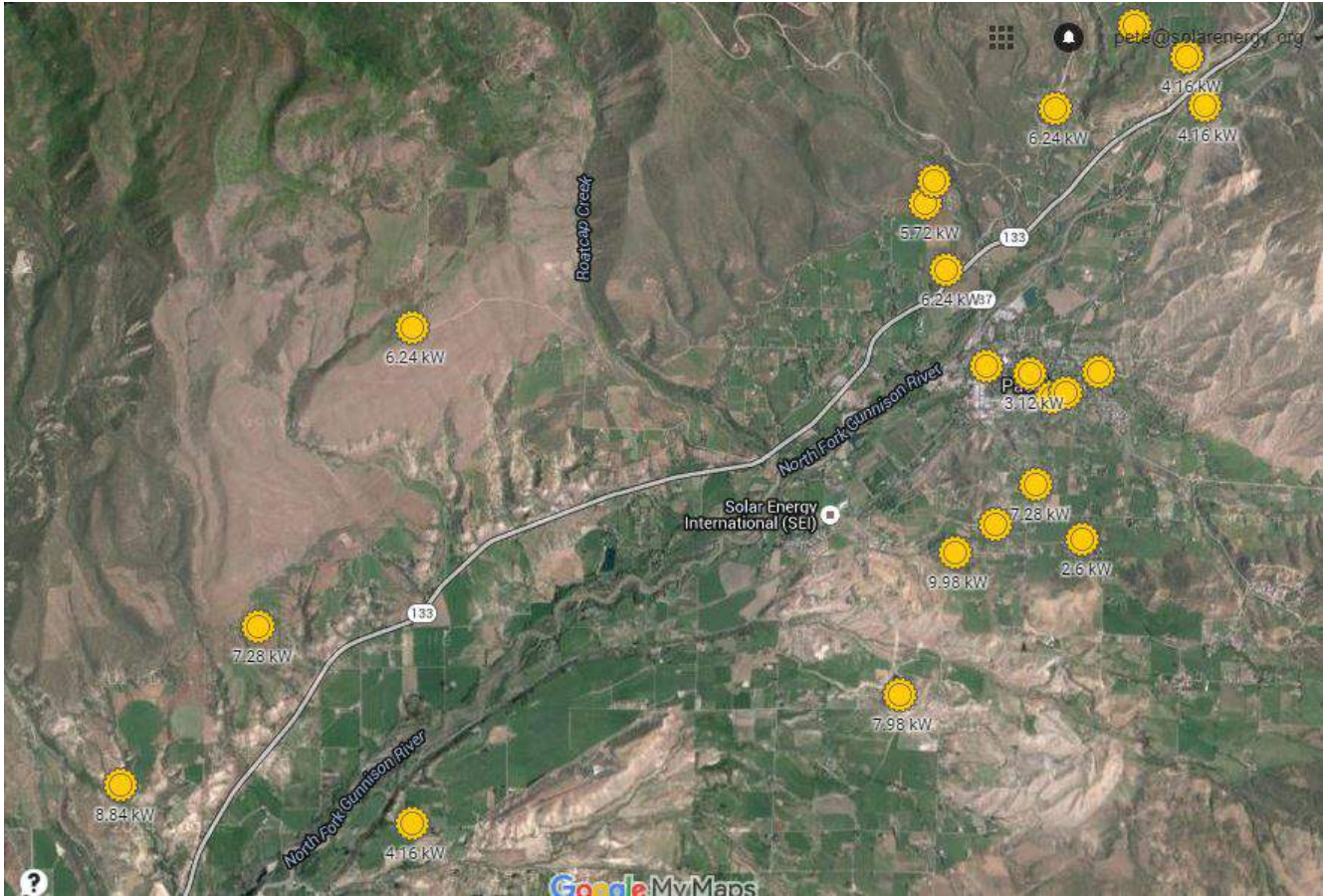




TABLE 1: Educational Campaign Events and Attendance

John Perlin	25
DCED Board Meeting	15
Hive Panel Meeting	75
RFP Committee	1
Rotary Presentation	22
Remax	8
John Perlin	15
Western CO Congress	18
Mayor's Day	15
April Fuels Day	20
Solar in the Streets	30
Solar Fair	100
Western CO Climate Challenge	31
Hotchkiss Launch	8
Paonia Chamber	7
Crawford Launch	0
PV 101	15
Gears & Beers	14
Reduce then Produce (Paonia)	20
Pioneer Days	30
Reduce then Produce (Hotchkiss)	2
PV 101	8
Solarize Stride	18
Cherry Days	
Solar Home Tours	16
Reduce then Produce (Crawford)	1
Community Pint Night	25