



U COMMUNITY SOLAR
THE UNIVERSITY OF UTAH®

Creating an impactful University/community solar program

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BACKSTORY



Student Initiative: Wind Energy Fee

- In 2003, students passed a \$1/semester fee to purchase renewables (~\$70K annually)
 - “...designed to promote renewable energy usage by the University while raising awareness among students, faculty, and staff.”
- Intent to expand renewable energy for economical and environmental reasons.
- Preference to drive green energy in the local market.
- *Became known as the “Wind Fee”.*

BACKSTORY



Renewable Energy Purchases

- Students graduated - no advocate on campus
- FM assigned to purchase RECs thru RFP
 - ~86 million kWh annually
 - Top 10 College & University EPA GPP for many years
 - Attempted to use RFP to “buy local”
- Great results, but original intent unmet

BACKSTORY

Why not invest on-campus?



Low electrical rates ($< \$0.04/\text{kWh}$)



Roofing standards increase cost (no ballasted systems)



Tax credits not available (directly)



First costs (bonding near capacity)

COMMUNITY SOLAR BACKGROUND



Community Solar?

- Local programs sparked interest:
 - 2012 Salt Lake Co (260kW)
 - 2013 Summit Co (325kW)
- How to fund program administrative partner (UCE)?
 - Student fee possible IF REC component could be incorporated



COMMUNITY SOLAR BACKGROUND



Typical barriers to residential solar

Homeowners

- Inertia: takes time and energy!
- Solar is an unfamiliar technology, and it's hard to know how to choose a contractor, panel types, inverter, etc..
- Up-front costs: Higher unit costs – no volume discount & design/permitting have higher impact.

Contractors

- Soft costs - marketing:
 - Many hours to reach customers & secure contract
- Customer Education
- Lack of trust (skepticism re: "extras")

COMMUNITY SOLAR BACKGROUND



Community Solar benefits

- Realize cost savings through discounted pricing;
- Simplified and streamlined process helps individuals overcome hurdles of going solar;
- Education:
 - Workshops & website provide program information;
 - Program website and process pre-screens potential clients;
- Trust in the University = strengthened affiliation.



COMMUNITY SOLAR BACKGROUND



Community Solar benefits

- Workshops and Website education (mycommunitysolar.org)

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Google Weather History for Salt L... Office of Budget & Institu... Hourly Weather Forecast f... Welcome! LinkedIn Enphase Energy - Enlighte... Office of Sustainability - ... Log In (5)

U COMMUNITY SOLAR THE UNIVERSITY OF UTAH

Home • What is UCS? • Get Started • Solar 101 • Calendar • Solar & EVs

Take the First Step

Are you interested in powering your home with inexhaustible, stable and secure solar energy? Have you been waiting for the right time or the right price? Now is your time to shine!

[Learn More ...](#)

Did You Know?

Past Community Solar projects in Utah have helped many homeowners power their community with clean, solar energy. Collectively they will produce enough solar electricity to avoid over 1.2 million pounds of carbon dioxide.

RSVP for a Workshop

Attend a U Community Solar Workshop to learn more about the benefits of solar and how the program works. You can [view a list of workshops and RSVP here!](#)

Learn More

Find out answers to your questions about U Community Solar.

[Frequently Asked Questions >](#)

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PROGRAM SET-UP

Tasks – important program issues

- Administrative support: purchasing, legal & risk;
- Secure funding for program;
- Meet with local contractors to learn common issues;
- Formulate program goals: total capacity, exposure, program audience;
- Create marketing goals and develop plan;
- Formalize team roles;
- Understand REC registration;
- Convene steering and selection (RFP) committee;
 - Members: Sustainability, Purchasing, Facilities, Communications
 - Contractor selection criteria

PROGRAM SET-UP

Considerations for “Installer” RFP

- Issues will depend on specific circumstances:
 - Number of installers needed
 - Geographic area(s)?
 - Firm price vs. tiered pricing
 - Standardized RFP responses
 - Equipment (monitoring system, panel type)
 - Standardize pricing if multiple installers
 - Site visit fee? (\$35)



PROGRAM SUMMARY



Considerations for “Installer” RFP - pricing

Required in BAFO

- Panel & inverter specs (U.S., black, warranty, wattage)
- Monitoring
- Roof type(s): steep, flat, tile, shingles, etc.
- Ground-mounted
- Long wire runs
- Separate arrays
- EV charger install
- Permit & connection fees where possible

Not resolved

- Historic District concerns?
- Structural work?
- New electrical panel?
- Trenching
- No storage options were provided through the program
- Proposals evaluated based on “average home”

PROGRAM SET-UP



Legal issues

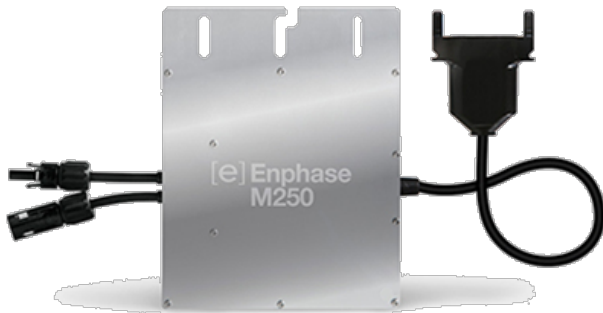
- Purchasing and procurement guidelines and rules.
- Program participants—who is eligible?
 - *“Faculty, staff, students, alumni and campus guests (those with a cultural, educational, or athletic connection to the University).”*
- Risk management.
- REC contract—voluntary contribution.



PROGRAM SET-UP

REC registration

- Western Renewable Energy Generation Information System (WREGIS) tracks renewable energy generation by using verifiable data and creating renewable energy certificates (REC).
- Enphase system – required for REC reporting
- REC “contract” between homeowner and University



PROGRAM DETAILS



Marketing the program

- Coordinate with University Marketing
- Launch: media event and press release
- Schedule workshops throughout program
- Marketing partnership with suppliers
- *"Limited-time offer"*
- Mass emails: f/s/s, parents, alumni, hospital, athletics, community counsels, city sustainability depts., non-profits
- Traditional & Social media
- Solar open house
- Tabling at campus events
- Refer a friend or neighbor prizes





PROGRAM SUMMARY

Marketing "Discount" pricing

"U Community Solar is offering a substantial discount on a typical solar installation (based on the national average price for solar.)" **NOT "____%" discount.**

Average Utah home's energy usage	System Size (kW)	2014		2016	
		System Cost*	per watt	System Cost*	per watt
50%	3	\$10,005	\$3.34	\$8,495	\$2.83
75%	4.6	\$14,957	\$3.25	\$12,767	\$2.78
100%	6.1	\$19,700	\$3.23	\$16,772	\$2.75

*Cost before tax incentives

*These prices are for a standard 3 kilowatt or 5 kilowatt PV system. Some homes may require additional customization that is subject to additional installation costs. These prices do not include permitting fees.

Program impacted the local market

PROGRAM SUMMARY: Round 1



Total numbers

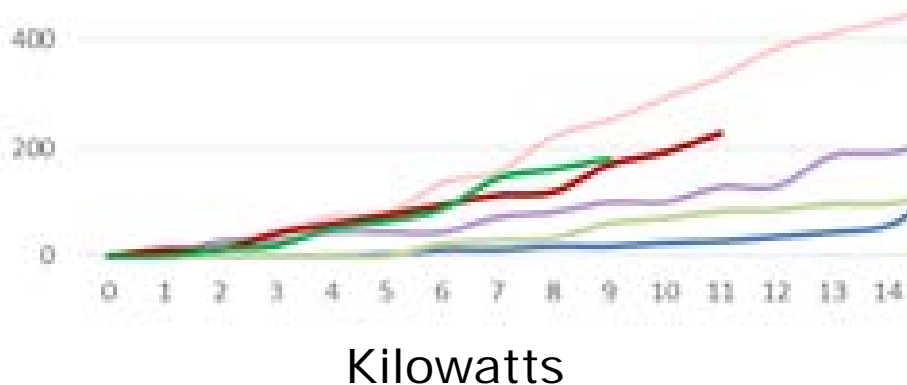
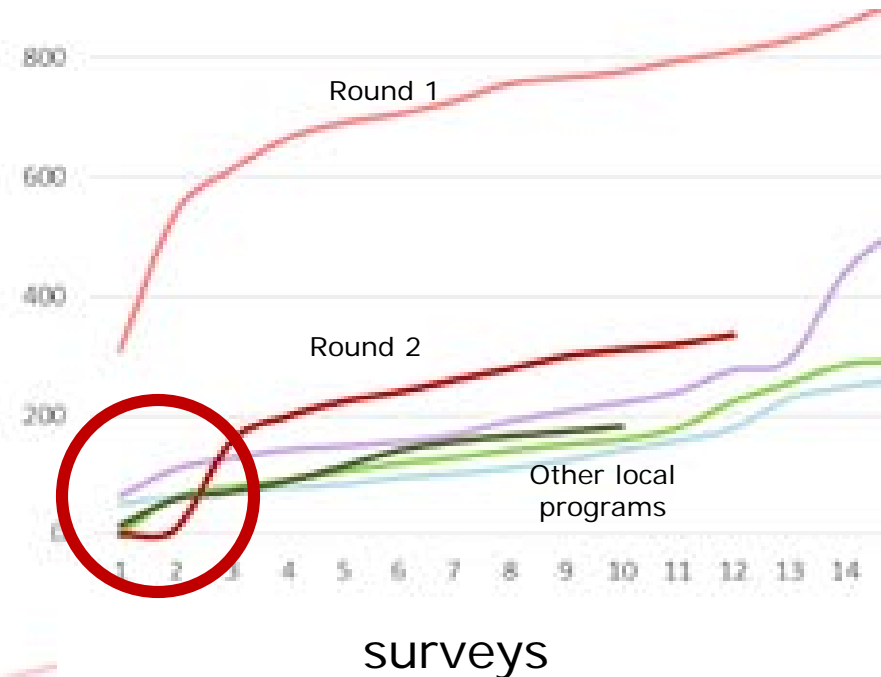
- 1,698 Solar Surveys
 - 705 Site Visits
 - 382 Contracts Signed
 - 1,797 Kilowatts Contracted
 - 369 Installations Complete
-
- 5% ineligible (ownership)
 - 41% opted out prior to preliminary proposal (trees, age of roof, roof configuration, other installer)
 - 54% installed PV system after personalized contract



PROGRAM SUMMARY: Round 2

Progress to date (11 weeks – slow start)

- 311 Solar Surveys
- 27 Site Visits
- 39 Contracts Signed
- 163 Kilowatts Contracted



Kilowatts

PROGRAM SUMMARY



Progress to date

Progress: REC Equivalencies

REC production	Price per mWh
Open market REC purchase	\$0.97/mWh (2013)
U Community Solar	~\$1.50/mWh

- o 1.3 MW of solar will produce 44,134,101kWh of electricity over a 25-year period=\$1.69/mWh



SURVEY INFORMATION

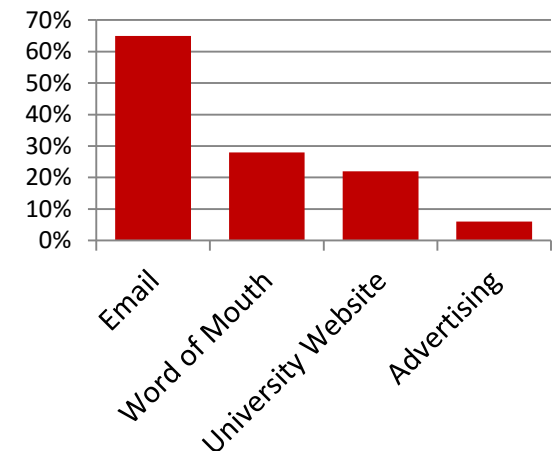
Survey description

- Online survey emailed to 1,058 of 1,698 participants
- ~28% response rate
- 2-track survey

How did you learn about the program?

- Email (65%)
- Word of mouth or coworker (28%)
- University website (22%)
- Minimal advertising impact (6%)

Source of information



Social media questions next round

SURVEY INFORMATION

Why install solar? 1-5

- Reduce environmental impact (4.45)
- Improve air quality (4.32)
- Discounted price (4.28)
- Trusted installer (4.07)
- Return on investment – least important (3.71)

Why not install solar? 1-5

- No budget (3.18)
- Need to replace roof (1.85)
- Lack of confidence in installer (1.84)
- Moving / renovations (1.7-ish)
- Didn't understand program (1.45)



SURVEY INFORMATION

REC feedback (2/3rds thru program)

- Contributed RECs to University? 89%
- Motivations
 - Contribute to success of program (4.3)
 - Help U of U sustainability goals (4.1)
 - Don't have value (3.2)

Used as a weapon against program by some competitors

LESSONS-LEARNED & RECOMMENDATIONS



Predictors of enrollment

Important factors

- **Quality of service**
- Communication

Not a factor

- Previous consultation with contractor
- Age (except for 20's)
- **"Professionalism"**



LESSONS-LEARNED & RECOMMENDATIONS



General comments

- Be careful re: claims of discount
 - We noticed market-shifts in response to our program
 - Some suspected inflated prices prior to offered discount
- Encourage alternative bids – stay neutral
- Confirm Installer capacity (“Quality of Service”)



SUMMARY



- Important factor is renewables:
 - *“If you need help, we’re here. If you are uncertain, keep looking. Find a good fit and install solar if possible.”*
- Our original goal: “...promote renewable energy usage by the University while raising awareness among students, faculty, and staff.”
- Non-profit partner: Utah Clean Energy

