SOLAR URBANA-CHAMPAIGN
ADVANCING THE LOCAL SOLAR ENERGY MARKET

Scott R. Tess
Environmental Sustainability Manager
City of Urbana, IL
srtess@urbanaillinois.us

Emma Gilmore
Project Developer
StraightUp Solar
emma@straightupsolar.com
COMMUNITY SOLAR BULK PURCHASE IN RELATION TO OTHER MODELS

Community Solar

- Group Purchase/Bulk Purchase ("Solarize")
- Crowdfunding Solar Project
- Municipal or Co-op Utility Solar Array

Shared Solar

- Common: Participants buy or lease a portion of a single large solar array
  - Buy Kilowatt-Hours or Modules
  - Lease Modules
  - Buy Production from Designated Portion of Array
Background of the Program
  - City of Urbana’s Sustainability Motivation & Goals

Program Design

Outcomes

Lessons Learned
CITY OF URBANA’S MOTIVATIONS

- Action 4: Propose strategies to improve the local onsite renewable energy market
  - Services that map rooftop solar energy capacity can reduce uncertainty for potential buyers.
  - Permitting practices should be tuned to minimize barriers to onsite renewable energy.
  - Group purchasing of rooftop solar can reduce the soft costs of solar installations. Chicago is implementing a group purchase presently.
  - Policies that ensure new buildings are ‘solar ready’ can ease the installation of solar panels at a later date.
WHY SOLAR?

U.S. energy consumption by energy source, 2014

Total = 98.3 quadrillion Btu

- Petroleum: 35%
- Natural gas: 28%
- Coal: 18%
- Nuclear electric power: 8%
- Renewable energy: 10%
- Hydroelectric: 9%
- Biomass waste: 6%
- Wind: 18%
- Solar: 4%
- Geothermal: 2%

Source: U.S. Energy Information Administration, Monthly Energy Review, Table 1.3 and 10.1 (March 2015), preliminary data.

Figure 1.1 Annual U.S. Solar PV Installations, 2000-2015

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StraightUp Solar

Grow Solar
WHY SOLAR?

LET'S GET TO WORK ON SOLAR SOFT COSTS

The rising non-hardware "soft costs" of solar energy remain the biggest barrier to more solar deployment in the U.S.

HARDWARE COSTS

Since the beginning of 2010, the average cost of solar panels has dropped more than 60 percent.

SOFT COSTS

Soft costs aren't decreasing as quickly as hardware costs. They now comprise up to 64 percent of the total price of residential solar energy systems.
BACKGROUND

- 3 Projects
  - Review of Planning/Zoning/Permitting
  - Solar installation on a City facility
  - ‘Solarize’ bulk purchase/group buy of solar installations

- To lower 4 barriers to adoption of solar energy
  - Convenience barrier
  - Demonstration/Social Norm barrier
  - Information/Uncertainty barrier
  - Cost barrier
REVIEW OF PLANNING/ZONING/PERMITTING

City of Urbana, IL Solar Roadmap

Roadmap Goals and Progress

The ASTI team has worked in coordination with the City to develop a customized, interactive solar roadmap containing guidance on how to transform the local solar market. Each recommendation in the roadmap is supported with relevant reports, case studies, examples, and templates to support local and regional implementation efforts.

These roadmap goals are derived from attributes of successful solar communities nationwide, along with input from industry experts. Each goal represents a step toward making solar easier and more cost effective for all residents within the community. Your specific roadmap has been customized using the attributes that are relevant at the city level in the local solar market.
REVIEW OF PLANNING/ZONING/PERMITTING

- **Permitting Process**: Current Progress: 8 of 14 goals achieved (57%)
- **Planning & Zoning**: Current Progress: 5 of 6 goals achieved (83%)
- **Financing Options**: Current Progress: 0 of 2 goals achieved (0%)
- **Solar Market Development**: Current Progress: 5 of 5 goals achieved (100%)
[P5] Post Permit and Inspection Process Information and Fee Schedules Online (76)

Initial Status: A lot of permitting information is available online.

Guidance: The City website has a great Permits and Zoning section with all application forms available online in an organized fashion, along with a nice FAQs section and contact information for building officials and inspectors. There is nothing specific to solar currently. If any solar-specific procedures are implemented, consider adding the relevant info to this section of the website in an easily accessible location.

Goal Achieved!

[P6] Streamline Permit Processing Time and Allow Expedited Process for Qualifying Projects (71)

Initial Status: Permit review takes multiple weeks for most projects.

Guidance: Permit review time depends on workload and seasonal factors. Will most projects will have to wait in the queue, consider an expedited or over-the-counter permit approval process for qualifying PV projects using a standard application form (see goal P1).

Take Action
To: Scott Tess

From: Brian Ross, Great Plains Institute

Date: August 28, 2015

Re: Review of City of Urbana’s development regulations and permitting process for consistency with solar-best practices

Background

The City of Urbana created its current zoning ordinance in 1993, and has modified and updated the ordinance a number of times. The City’s Comprehensive Plan was adopted in 2005. In 2012, Urbana developed a Climate Action Plan, and has maintained and staffed an active sustainability program.

Urbana is participating as a Beta community in the Grow Solar Partnership, a three-state initiative funded by the U.S. DOE under the SunShot Rooftop Solar Challenge program to reduce local barriers to solar development. As a Beta community, the City is working to identify opportunities to create “solar-ready” regulations and programs. The solar energy market has changed significantly in Illinois in the last two years and is now entering a new phase of investment with the participation of the Illinois Power Authority in encouraging solar investment.
REVIEW OF PLANNING/ZONING/PERMITTING
REVIEW OF PLANNING/ZONING/PERMITTING
SOLAR URBANA-CHAMPAIGN PROGRAM DESIGN

- Three Parties
  - Local partner
  - Trusted non-profit implementer
  - Competitively selected installer

- Pre-approved Upgrades & Financing

- Community - Led Outreach

- Strong Customer Education - Solar Power Hours

- Limited-time Offering

- Solar Renewable Energy Credits (SRECs)
SOLAR URBANA-CHAMPAIGN PROGRAM DESIGN

- No minimum threshold of participants needed
- Average solar cost in Illinois before program: $4.00/Watt
- Base system price $3.16/watt
  - 3 options of module manufacturers with differing costs
- Pre-approved list of project adders
- 1-3% price breaks with increasing participation
SOLAR URBANA-CHAMPAIGN
PROGRAM DESIGN

Dividend Solar Financing

StraightUp Solar Sales

New Prairie Construction Sales & Installation Support

StraightUp Solar Project Management

StraightUp Solar Design

StraightUp Solar Installation

Wilcox Electric Installation

Grow Solar
COMMUNITY OUTREACH

Power Hour at the Home of Local Solar Energy Champion

Leveraging Early Installations

Scott Willenbrock
Champaign, IL

System Details and Green Efforts:
My PV and many other aspects of my zero-net-energy house are described at:
http://physics.illinois.edu/outreach/zero-net-energy-house
More pictures may also be found there.

Personal Story:
My primary motivation is climate change. We owe it to our children to transition to a sustainable future.
STRONG CUSTOMER EDUCATION

- Solar Power Hours – Over 20 presentations within 6 months
OUTCOMES

- 400+ Leads, 110+ Site Assessments & Proposals
- 81 Projects Contracted = 605 kW
- Average system size: 7.48 kW
- Average Cost/Watt: $3.53
- Majority of the systems were sold in Urbana
LESSONS LEARNED

- Pent up demand can be unleashed by lowering these barriers
- Solar Power Hour attendees and others personally appealed to signed contracts
- Get help with the program design and bid documents
- A 3rd party program manager provides great value
- A vendor with strong administrative capacities is important
- State SREC incentives helps
LESSONS LEARNED

- Be prepared for the last-minute rush & exponential increase in contract signups
- Local partnerships are key
- State incentive is often a challenge, communicate early and often
- Financial education is deciding factor
Would you have gone solar without this program?

In order to go solar, we needed 2 ingredients: affordability and trust. This program created an environment for us to have those two needs met.

- David & Ellen Willcox
IN THEIR WORDS...

Why now?

As we were discussing whether to go ahead with this installation we realized this was just another in a series of decisions we've made to spend a bit more for a product that was environmentally friendly. The program made the cost of doing something we wanted to do, but couldn't justify, justifiable.

- Marian & Dave Stone
IN THEIR WORDS...

Were you motivated primarily by financial, environmental, or other reasons?

Mostly financial, we look at is an investment that will pay us back over time.

Why now?

We wanted to take advantage of the 30% federal tax credits before they expired, SRECs, and the potential to save even more with the Champaign-Urbana program.

- Gabriel Stillabower
THANK YOU!