

# THE COMMUNITY POWER PROJECT FLAGSTAFF PILOT

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The APS Community Power Project<sup>SM</sup> is a unique renewable energy demonstration project in Flagstaff, Arizona. APS is deploying solar panels on participating residential and commercial customer rooftops — at up-front costs to them — that, in essence, form an interconnected distributed energy plant. APS owns, maintains and receives energy from the panels. In return, customers receive a Community Power rate that locks in a portion of their electric bill for 20 years. With assistance from a \$3.3 million U.S. Department of Energy grant, APS and its partners are studying the effects of a high penetration of solar energy on a single distribution feeder. What we learn will optimize grid operations for a solar future.

## THE DETAILS

### Where is the Community Power Project located?

Community Power Project is located within the boundaries of APS's Sandvig 4 electrical distribution feeder in the Doney Park and Timberline neighborhoods of northeast Flagstaff.

### How does the project work?

Power generated from the rooftop solar panels is sent directly to the grid. The distributed system in essence becomes an interconnected solar power plant. Customers sign an easement to allow for the installation and maintenance of the DE systems, which is handled by third parties. Available residential system sizes range from 2-4kW and eligibility is based on several factors including average annual usage, home type, structural integrity and roof orientation. Customers are reimbursed for the power they generate through a Community Power rate that locks in a portion of their electric bill at a fixed rate for 20 years.

### How much energy will it generate?

APS expects to generate 1.5 megawatts. This breaks down to:

- 600 kW from area homes
- 400kW from a commercial installation
- 500 kW from a small, utility-scale renewable energy generation site, including 8kW of wind energy and energy storage.

In all, APS seeks to have 30% distributed energy penetration on the Sandvig 4 feeder.

### What are the key customer benefits?

Customers can go solar for no up-front costs and with no ongoing maintenance worries. The Community Power rate enables them to gain control over their energy costs. APS also plans to give solar water heaters to 50 limited income customers in the area.



## Getting the Word Out: CUSTOMER ACQUISITION

APS has launched a multi-faceted marketing campaign to create awareness of Community Power and recruit 200 residential participants.

### Direct mail & e-mails

Initial contact personalized letter or e-mail; follow-up post cards

### Public relations

Significant media coverage

### Community events

County fair, neighborhood celebration, participant open houses

### Localized tactics

Yard signs, door hangers

### Third party outreach

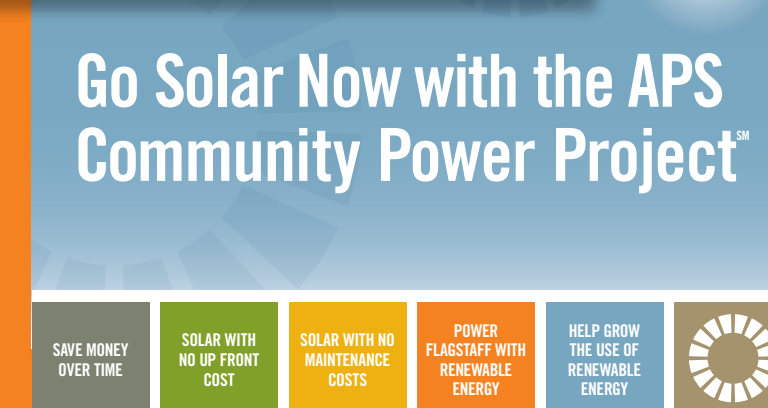
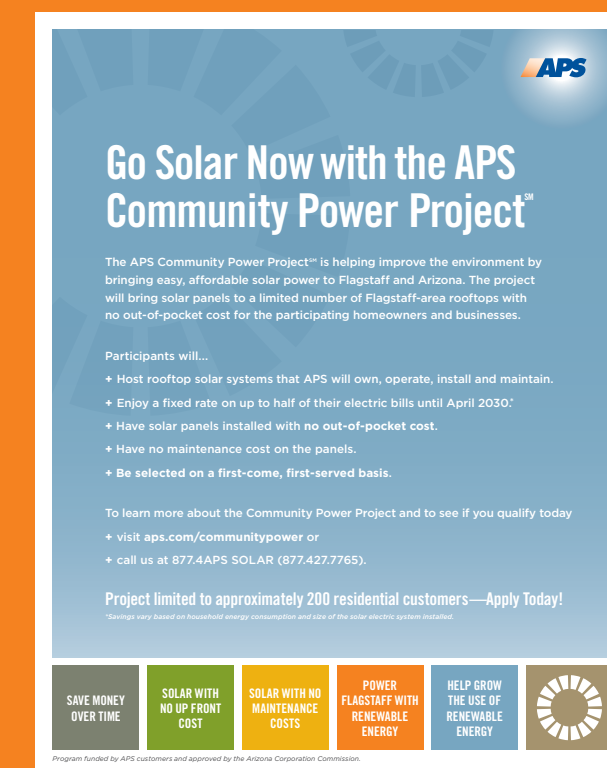
Partnership with a non-profit organization to help customers assess solar options

### Website

Project information and application at [aps.com/communitypower](http://aps.com/communitypower)

### Sales Channel

Specially trained group of APS reps who focus on Renewable Energy



## BY THE NUMBERS

- Amount of Community Power Project generation: **1.5 MW**
- Typical residential system sizes: **2, 3 and 4 kW**
- Eligible customers on feeder: **2,300**
- Number of desired residential/commercial participants: **200**
- Amount of DOE grant to study high penetration of distributed energy on the grid: **\$3.3 million**
- Length of DOE study: **45 months**
- Number of solar water heaters for limited income customers: **50**
- Arizona Renewable Energy Standard: **15%** renewable energy generation by 2025
- Distributed Energy portion of RES: **30%**
- Anticipated APS 15-20 year load growth: **4,100 MW**
- Amount of load growth to be served by renewable energy: **1,600 MW**

## TIMELINE

- May 2009** Announcement
- April 2010** Arizona Corporation Commission approval
- July 2010** First customer application received
- October 2010** First residential system installed
- March 2011** First anticipated commercial installation
- July 2011** Anticipated completion of Doney Park Renewable Energy site
- December 2011** Target completion of last installation



## WHAT WE WILL LEARN

APS and its partners received a \$3.3 million U.S. Department of Energy grant to study the effects of a high penetration of distributed energy on the electric grid. The 45-month study, which began in April 2010, focuses on both technical and non-technical elements. Study partners include GE, Arizona State University, National Renewable Energy Laboratory and ViaSol Energy Solutions LLC.

Complementing the high penetration DE study is APS's smart grid technology initiative. APS is in the process of installing automated switches and remote monitoring equipment that help improve responsiveness and reliability of the electric distribution system.