Utility Partner: Holy Cross Energy

September 15, 2014

An electric cooperative on Colorado's Western Slope was the first utility in the U.S. to give community-owned solar a chance in 2010. Four years and 2.6 megawatts (MW) later, it was a decision that helped revolutionize the way individuals and businesses go solar nationwide.

A member-owned cooperative, Holy Cross Energy (HCE) provides electricity to more than 55,000 ratepayers throughout Eagle, Pitkin and Garfield counties. In 2010, CEC developed a 78 kilowatt solar array for HCE—the first community solar array where customers own their panels and receive the same benefits as if they bought a rooftop system.

The Mid Valley Solar Array sold out of all 338 photovoltaic (PV) solar panels before construction began. "We've always had a very high customer interest in local power as well as renewables, and solar specifically has been very popular here," said HCE Special Projects Supervisor Chris Hildred.

Achieving Company Goals, Satisfying Consumer Demand

A decade ago, HCE set an internal company goal to supply 20% of its power from renewable energy resources by 2015. After the utility learned about CEC's idea for clean, distributed energy, HCE recognized the value of member-owned solar. "This was a pretty easy step in adding some local renewables to help move us toward that goal in a relatively large chunk," said Hildred, who has been involved in the utility/solar company partnership since the beginning.

Aside from meeting company goals, HCE knew that offering solar panel ownership to its members—especially those who wanted to go solar but weren't able to install a home system—would help satisfy the consumer demand for more renewables. "The distributed solar interest has always been very high," Hildred said. In fact, he reveals that HCE has more than 2 megawatts of distributed solar on its electricity system. "We're only a 270 megawatt utility, so that's quite a bit," Hildred added.

As more residents become interested in distributed generation and rooftop solar systems, utilities are now seeing community solar as an alternative to self-generation. In other words, they are seeing community-owned solar as a way to prevent their customers from going off-grid by offering them an ownership solution that keeps them aligned with the utility. By leveraging CEC's program, HCE can offer a cutting edge renewable energy solution and embrace the solar movement under terms that work for HCE.

After the first successful project with CEC, the utility co-op decided to move forward with a second, much larger community solar facility. Located below the regional airport runway in the city of Rifle, an 858 kW community solar array was constructed. Featuring 3,575 solar electric panels, the Garfield County Airport Solar Array went online the summer of 2011, offering HCE members an average lifetime savings of $8,636 per panel.

Project Details	*Mid Valley Solar Array*	*Garfield County Airport Solar Array*	*Sunnyside Ranch Solar Array*
Project size (in kilowatts)	77.7 kW	858 kW	1,700 kW
Panel Size	230 watts	240 watts	305 watts / 235 watts
Number of Panels	338 panels	3,575 panels	5,574 panels
Total Land Project Comprises	½ acre	5 acres	11.5 acres
Average Payback (over array's lifetime)	18% annually	22.8% annually	23.6% annually
Per-Panel Lifetime Savings	$7,291	$8,636	$10,488
Lifetime Cost of Power	$0.043 / kWh	$0.032 / kWh	$0.041 / kWh
Date of Interconnection	August 2010	June 2011	Expected Jan. 2015

Community Solar Project #3

Whatever their motivation to go solar, members of HCE's utility territory now have more options when it comes to their energy. Satisfying its customer demand is the greatest benefit HCE has attained from participating in CEC's community-owned solar arrays. But the utility has experienced other benefits as well, from the ease of program participation to the all-inclusive facility maintenance that CEC provides. "The relatively-low administrative impact on our staff compared to a similar amount of net-metered solar, and certainly the diminished distribution impacts of concentrated versus distributed solar have also been beneficial," Hildred said. The benefits HCE has experienced from participating in community-owned solar have been so appealing that the utility has partnered with CEC for a third solar project.

At 1.7 megawatts (MW), the new solar array serving HCE members will be constructed on a landfill at Sunnyside Ranch in Carbondale. The facility's 5,574 solar panels should offset 5.8 million pounds of carbon dioxide emissions—the equivalent of removing 6.5 million vehicles from the road. The Sunnyside Ranch Solar Array is scheduled to be online by early 2015. HCE expects to reach its 20% renewable goal by the end of this year, so the board set a new goal: 30% renewables by 2020. The new community solar project will therefore help the electric cooperative meet its new clean energy goal.

Third-Party Ownership is 'Much, Much Easier'

As long as HCE members continue demanding renewable energy solutions, the utility will continue looking for ways to add green power to its portfolio—which may include additional solar projects with CEC in the coming years. **"**Our other power supply contracts favor power purchases over utility ownership. And third-party ownership is much, much easier for us," Hildred said, compared to the utility building a large-scale solar array on its own.

In fact, building a shared solar project without the support of community solar experts is the most expensive way to develop large-scale solar, due to the savings afforded by economies of scale. In its September 2014 report, *Tracking the Sun VII*, the U.S. Department of Energy reported that the cost to construct a 1 MW solar PV project is 27% lower than solar systems ranging from 100 to 250 kW and 35% cheaper than arrays measuring 2 kW or under.

With many HCE members favoring solar energy, "this is a relatively easy way to do it from a distribution standpoint," Hildred said. Not only does CEC organize project construction and facilitate the automatic on-bill credits, the community solar developer also provides maintenance and production monitoring throughout the solar array's lifetime. CEC's goal is to simplify the solar process to such a degree that its utility partners do not need additional resources or staff time to offer solar energy to its ratepayers. "From an engineering standpoint and from a PR and administrative standpoint, it's a lot easier as well," Hildred said.