DEEP DIVE

Pay As You Save: Co-ops are reaching new customers with a novel way to pay for efficiency

Opt-in tariffs are an increasingly popular way for cooperatives to finance efficiency upgrades. Why aren't big utilities following their lead?

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How to bring more residential customers into the energy efficiency fold is a problem utilities and regulators have long sought to address, as traditional methods have left large customer segments underserved.

Renters have little incentive to make efficiency investments in properties they don't own, and lower-income customers often lack the credit qualifications to get financing needed to execute projects that could deliver significant savings. While utilities have made strides in reaching commercial accounts and residential customers focused on clean energy, the inability to reach into other classes mean millions of homes are more inefficient than they could be — raising utility costs for the entire rate base.

Within the last decade — and increasingly in recent years — smaller rural cooperatives have begun experimenting with a model that abandons debt financing in exchange for a voluntary on-bill tariff. Known as Pay As You Save (PAYS), the investment strategy gets around a customer's inability or unwillingness to take on debt by tying the payback to the meter.

For a variety of reasons, most of the activity surrounding the PAYS model has thus-far been centered on smaller, rural cooperatives. Their members often fit the profile of those underserved by traditional efficiency programs, and the lack of a traditional return on equity for the projects is a more natural fit the cooperative model.

"The Pay as You Save system has been active in the power sector for nine years now, but the leaders who have been demonstrating its efficacy have been in a part of the power sector that’s little tended and not particularly well known," said Holmes Hummel, founder of Clean Energy Works, which advocates for the use of PAYS.

But recently, there has been a rise in confidence that the programs not only effectively fund efficiency projects but also lead to much higher numbers of involvement, higher customer satisfaction and savings.

"Electric cooperatives have been by far the leaders in this innovation and the reason for that is the alignment they have between shareholder interests and customer interests," said Hummel. "Electric co-ops are, frankly, more nimble. They’re relatively efficient organizations."

The ability to scale-up energy efficiency projects is key to creating more efficient utility systems overall. But because of the unique nature of a home retrofit, and the difficulties in funding it, finding a replicable model for renters and low-income customers has been difficult. The beauty of PAYS is it scales up the investment.

"This is a repeatable transaction map," Hummel said. And as opposed to a loan or lien program, the PAYS model doubles the addressable market and increases the size of projects customers are willing to take on.

Typically, the process kicks off with an energy audit. A customer chooses upgrades, and the utility pays a contractor to execute the improvements. The utility recovers the expense through the voluntary tariff, while the energy savings offset the tariff for the customer. No up-front cost to the consumer, and the utility can be assured of recovery while seeing its load decline.

So why haven't investor-owned utilities embraced the same system? According to James Barrett, chief economist at the American Council for an Energy Efficient Economy, moving the program into the larger IOU space is a part of a longer-term plan by those who support it.

"The PAYS model is being rolled out to rural co-ops first, with the intention and hope that it will ultimately be picked up by IOUs as well," he said.

Along with business models and incentive structures that better-align with the program, Barett said in an email that it may also be easier to prove the efficacy of the model - both from an efficiency and repayment standpoint— at the co-op level.

"Having proof over a number of years will probably be critical in convincing IOUs that the model is viable," he said. And one reason they're going to be cautious is "IOUs might have to put up their own capital."

Federal funds available

Curtis Wynn, president and CEO of Roanoke Electric Cooperative, said his member-owned organization is doing 200 home upgrades per year using the PAYS model, and anticipates an initial run of five years — ultimately, about 7% of the homes in the territory.

Roanoke offers an "Upgrade to $ave" program that uses the PAYS model and is financed through the U.S. Department of Agriculture' Rural Utility Service, which helps provide infrastructure to rural communities.

"We were better prepared than most electric cooperatives," he said of the ease with which Roanoke began using the program. They were already utilizing a 501c3 organization structure to run a debt-based efficiency program. And Energy Efficiency Institute, based out of Vermont, helped get the co-op set up with template forms for PAYS.

"They were very helpful. They had developed a proprietary system we could just plug and play. Had we needed to create that from scratch, it would have been almost unsurmountable," Wynn said.

"We'd never tried a tariff approach before," Wynn said. "We had tried on-bill financing, but members would have had to take out a loan or promissory note. Most of our members in this region do not have the credit ability to go out and taken on another note."

And the co-op has been working to grow a relatively small but reliable set of contractors, allowing the program to work as a job creation vehicle as well. Wynn said Roanoke has been trying to develop deeper relationships with fewer contractors, as opposed to simply increasing the number used.

"We've been pretty fortunate with contractors," he said. "We're still trying to grow the list but we have a good set."

'These are not make-believe numbers'

Ouachita Electric Cooperative in Arkansas began using the PAYS model about six months ago, switching away from a debt-financing model. The results were impressive: In the first quarter of using the program, participation doubled with no additional marketing. Renters — that hard-to-reach segment — accounted for a third of participants. And the average scale of the utility's investments doubled compared to the on-bill program, ultimately returning savings of more than 30%.

CEO Mark Cayce said his utility has so far executed about 200 home efficiency projects, and expects to reach 500 by the end of the year. Ouachita is a small cooperative, which means he wants to reach every member within the next five years.

Ouachita has about 9,400 meters but probably just 5,000 full-time residential customers, said Cayce. “If we can hit numbers like 10% a year, in the first year, it has a major impact on our members.”

The service territory is in southern Arkansas, which means a higher percentage of older homes. So the efficiency savings he has seen so far are — fair warning — a bit shocking.

Ouachita is getting 2 to 3 kW per home off its peak demand, Cayce said. Some homes are becoming more efficient to the tune of 40% to 50% bill reductions, and even higher is possible.

“These are not make-believe numbers,” he said. Ouachita has had smart meters since 2004, and Cayce says its verification program is as good as anyone’s.

The co-op buys its power from Arkansas Electric, paying just below $10/MW of peak coincident demand. Off-peak is 90% of that. “About 52% of our total cost of power is demand,” said Cayce.

“As a utility manager, one of the things we’re looking at is load control. That’s not a new idea, but just using energy efficiency kind of is. Being able to show that on meter data brings it home for people," he said.

And it’s not just load control, but at peak time, that makes the savings so impressive.

“People really don’t like giving up control of their air conditioner in Arkansas,” said Cayce. “Even if you’re not controlling it, they think you are. By going at it as an efficiency effort, using the PAYS tariff, we’re able to improve people’s homes."

A more sophisticated proposition for IOUs

The results from Arkansas are "about as pure a test as you could produce," said Hummel, allowing for a simple comparison of customer interest in debt-financing versus PAYS. So if the results are so stark, how long will it take IOUs to pick up the model?

"It's a more sophisticated evaluation for IOUs," said Hummel, adding that "they're ahead of their counterparts with things like demand response, storage, transactive loads, all of the things on the customer side of the meter."

"I think getting IOUs to pick up the program is the brass ring, but you have to start somewhere," said Barrett. "And the co-op space is just an easier place to get the ball rolling."

"In my experience, by nature utilities are extremely conservative — and have been for over 100 years," said Cayce. "Adopting a new procedure is slow progress."

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