

CASE STUDY: OECC's HELP PAYS® PROGRAM

SNAPSHOT

In April of 2016, [Ouachita Electric Cooperative Corporation](#) (OECC) and its program operator, EEtility, launched HELP PAYS®, an opt-in, tariffed on-bill investment program utilizing the Pay as You Save® system.^{1,2} In the PAYS® model, the utility invests directly in energy efficiency upgrades on behalf of the customer. The utility's costs are recovered over time through a small monthly charge, or tariff, on the customer's utility bill, which is set to be less than the value of the energy savings experienced by the customer. The utility is therefore guaranteed repayment if the customer pays their bill. For renter households, even if the customer who originally signed up for the program is replaced by another tenant, the new tenant retains a portion of the value of the energy savings as a net reduction in utility costs. HELP PAYS®, therefore, opens participation to customers in multifamily rental housing, who would be ineligible for traditional home energy loans. HELP PAYS® has tripled customer participation in OECC's energy efficiency initiative.

Key Information:

- **Technology:** Energy efficiency upgrades: heat pumps, LED lighting, air sealing; attic insulation, duct sealing, etc.
- **Financing Mechanism:** On-bill tariff
- **Ownership:** Household (owner-occupied and rental units)
- **Funding Source:** National Rural Utilities Cooperative Finance Corporation
- **Location:** South-Central Arkansas

STAGE 1- PROCESS

Program Genesis

OECC General Manager Mark Cayce views energy efficiency measures as crucial tools to provide savings for OECC member-owners unable to afford their monthly energy bills. **80 percent of OECC's member-owners are households of low- to moderate- income** and are therefore especially vulnerable to high energy costs.³ Furthermore, widespread energy efficiency upgrades can decrease OECC's peak energy use and the demand charges it pays to its power supplier, with savings passed down to all the co-op's member-owners.⁴

OECC partnered with the National Rural Utilities Cooperative Finance Corporation (CFC) to create the **Home Energy Loan Program (HELP) loan program** in 2014. The HELP loan program allowed homeowners to repay loans for cost-effective energy efficiency projects through **monthly on-bill charges**.

However, the HELP program was limited in the size and scope of the loans they could provide, and OECC quickly found that these **smaller loans were insufficient** to fund larger whole-home retrofits and heating and cooling installations with the potential to create significant energy savings and climate control for member's households. Furthermore, **renters were unable to participate** in the loan program.

Cayce learned of the **Pay As You Save (PAYS) model** for financing energy upgrades at a conference shortly after starting the HELP loan. He recognized that PAYS could be a low-risk pathway to **offer larger energy upgrades** to OECC member-owners and decided to investigate the model.

OECC has a range of program partners from which they received support, including: [Energy Efficiency Institute, Inc.](#), the developers of the PAYS model; [Clean Energy Works](#), a consultancy; and an energy efficiency program implementer from the Clinton Foundation. OECC worked with these program partners to determine how they might transition to a PAYS model, and also reached out to the [National Rural Utilities Cooperative Finance Corporation](#), a frequent lender for rural electric cooperatives, to provide the capital for a potential PAYS program. After securing financial backing and the support of their board, OECC launched the HELP PAYS® on-bill tariff program in April of 2016.⁵ Customers in five counties in South-Central Arkansas are currently eligible to participate in the program.



Figure 1: The HELP PAYS® program logo

What is tariff-based financing?

On-bill tariff programs tie the cost of an upgrade to a **specific location—or housing unit**—rather than a specific customer, eliminating the need for participants to meet credit or property ownership requirements. The utility pays the upfront costs of the energy upgrades and charges a monthly on-bill tariff to the utility meter on that property. If a customer moves, the payment obligation and energy savings remain at the location—and therefore apply to any new tenants in that housing unit—until the utility cost recovery is complete. The utility is therefore **guaranteed repayment** if the customer using that meter pays their utility bill.

HELP PAYS® upgrades must meet strict cost-effectiveness requirements. For a PAYS project to be approved, the **estimated tariff charge must be no more than 80 percent of the expected annual energy savings averaged across each month**, providing the customer an average of approximately twenty percent observed savings. Additionally, payment duration may only be as long as 80 percent of the estimated life of the upgrades or the duration of the full parts and labor warranty. These requirements may limit the share of energy upgrade costs that are covered by PAYS. In these instances, customers can choose to provide an up-front copayment that meets the remainder of the project costs.

Key Actors and Partnerships

OECC staff strongly identify with the co-op's mission to support south-central Arkansas communities with access to affordable energy.⁶ OECC was already providing low-interest financing for its HELP loan program through the **CFC** when Cayce approached CFC about funding an on-bill tariff. OECC originally partnered with CFC because banks were reluctant to provide small loans for individual energy efficiency projects and required credit checks and higher interest rates that would discourage or disqualify many of OECC's majority low- and moderate-income member-owners.⁷ CFC views funding energy efficiency projects as necessary costs, akin to those associated with building and maintaining transmission lines, and was therefore open to financing tariffed energy efficiency improvements.⁸ Key program actors and partners are described in Table 1 below.

Table 1: Key Actors in the HELP PAYS® program

Key Actors	Who they are	Role in the program
<u>Ouachita Electric Cooperative Corporation (OECC)</u>	The implementing co-op	Administers and manages the HELP PAYS® program
<u>EEtility</u>	Started in 2014, EEtility is a registered Benefit Corporation that administers energy efficiency programs financed cooperative utility lenders. EEtility first coordinated energy audits, financing, and contracting on a utility scale with its HELP PAYS® program partnership with OECC.	Designed and implemented HELP PAYS® “since day one;” ⁹ serves as the operator and implementer of the program. Cayce learned of EEtility through its work with the Clinton Foundation to improve environmental and social outcomes in Arkansas. EEtility also currently works with four other Arkansas electric cooperatives to administer HELP loan programs. ¹⁰
<u>National Rural Utilities Cooperative Finance Corporation (CFC)</u>	Nonprofit finance cooperative with almost 1,000 member-owners around the country	Contributed a \$50,000 loan to fund the HELP PAYS® program and supplies capital for Ouachita County’s program.
<u>Energy Efficiency Institute, Inc.</u>	Experts on tariffed on-bill financing programs	Developers of the PAYS model, provided design and implementation assistance to project partners.
<u>Clean Energy Works</u>	Clean energy consultancy	Proponent and facilitator of the PAYS system; consults on inclusive, market-based financing solutions for clean energy
<u>Arkansas Public Utilities Commission</u>	Regulates the rates and services of utilities in Arkansas	Approved the on-bill tariff for OECC

Stage 1: Core Equity Components

Decision-making and Stakeholder Engagement: Stakeholder engagement is inherent to the structure of electric cooperatives. OECC’s member-owners, most of whom are households of low- and moderate-incomes, are entitled to attend OECC member meetings and to vote on board member appointments and provide feedback of co-op decisions.¹¹

STAGE 2- PROGRAM STRUCTURE

Program Function

User's Perspective:

- OECC member-owners interested in the program call OECC to sign up for a **free energy audit**.¹²
- OECC forwards all member-owners' intake forms to EEtility to begin the process of administering a free energy audit. EEtility **finds certified auditors and qualified contractors** to carry out the audit. The contractors will also complete the efficiency upgrades, provided they are deemed to be cost-efficient and the applicant has a strong utility bill repayment history.
- A customer **can join the program after reviewing and agreeing to the costs and savings estimates**.
- In 2016, PAYS participants most frequently installed LED lighting (84 percent), air sealing (78 percent), attic insulation (79 percent), HVAC upgrades such as air-source heat pumps (77 percent), and duct sealing (88 percent).

Administrator's Perspective:

- **OECC receives member requests for free energy assessments by phone.** OECC staff report the request to EEtility, which arranges for a contractor to conduct an energy audit.
- EEtility uses the contractor's report to determine if the needed upgrade fits the program's percent cost to savings requirement. EEtility accepted 202 of the 223 applicants in 2016.¹³ The organization uses **turnkey energy efficiency solutions and proprietary cost-effective analysis software to forecast savings**.
- OECC provides contractors with the initial payment for accepted projects through EEtility.
- **OECC takes charge of quality control and customer protection.** Energy efficiency projects must include R-38 insulation for homes and installed air conditioning units must be SEER 16 or higher.¹⁴
- **OECC conducts a "drive-by" visit before and visits each property after project completion** before paying contractors to ensure that each project meets the required standards. An auditor or contractor hired by EEtility also conducts pre- and post- blower-door and duct-blaster tests. If a technology fails to perform as a result of poor installation, the contractor is obligated to fix the problem at no charge to the program participant.

Rural Electric Cooperatives: Designed for Energy Innovation

OECC is one of hundreds of utility cooperatives established in the 1930s to address the challenges unique to rural power supply:

- Service models used by investor-owned utilities are impractical and unprofitable in low-density areas, resulting in high electricity costs for rural areas served by IOU's.
- Rural areas often lack the tax base and specialized knowledge needed to finance and execute household energy infrastructure improvements. As an example, OECC has difficulty finding qualified auditors to certify PAYS energy efficiency projects – the Cooperative must often bring in energy efficiency specialists from Little Rock.¹⁵

Rural electric cooperatives can work through these challenges because they have more flexibility for innovation and a greater potential for stakeholder engagement than non-cooperative utilities. While regulations vary across states, cooperative utilities often have less oversight from state regulators than investor-owned utilities, and member-owners generally have a larger say in approving utility programs.¹⁶

Funding and Financing Delivery

Funding sources and structure:

The HELP PAYS® on-bill tariff appears as a **program service charge on customers' monthly utility bill**, in addition to the usual charges that appear. The tariff is designed to reduce energy use related to heating, cooling, and lighting by funding the implementation of energy efficiency upgrades which can result in **customers saving at least 20 percent** on their energy bill even while they are paying off the energy upgrade. This means that the total cost of the project cannot exceed 80 percent of the estimated savings within 80 percent of the useful life of the upgrade.¹⁷ The PAYS tariff is **low-risk for utilities** because:

- It decreases the customer's energy bill, increasing the likelihood that the household will be able to pay it.
- In the rare case that a HELP PAYS® participant does not pay his or her energy bill, **the program has a loss reserve, funded by the Arkansas Energy Office**. In the event that a customer with a tariffed HELP PAYS® charge does not pay, the utility can extend the payment duration to recover missed payments. The utility also has recourse to disconnect the customer. However, as HELP PAYS® participants have lower energy bills than non-participants, participants are more likely to pay their energy bills than non-participants.
- Since the improvements stay with the building, **cost recovery for the upgrade continues with a new property owner or tenant** if the occupant that signed up for the program moves.

Ten to twelve percent of homes participating in the program installed recommended upgrades that exceeded the 80 percent cost threshold, necessitating an upfront copayment.¹⁸ **Some landlords in the HELP PAYS® program have shown willingness to cover co-pays for vacant units or where the recommended upgrades did not meet the 80% rule in order to cost-effectively improve whole-building performance.**¹⁹

Stage 2- Core Equity Components

Program Eligibility: Unlike many household-level clean energy programs, rental households are eligible to participate in the program.

Financing: On-bill tariffs assign cost recovery for utility investments on the customer's side of the meter to a location instead of an individual, eliminating the need for a bank or utility to place a lien on an individual's property and expanding energy efficiency access to renters and homeowners with lower credit scores.²⁰ Program participants can also use PAYS to finance some non-energy upgrades needed to complete energy-related upgrades, such as fiber installation.²¹

Workforce training: Prior to the HELP PAYS® program, south-central Arkansas lacked the skilled labor capacity to complete energy audits and had few job opportunities related to energy efficiency. The program brought one full-time auditor and installers to the region. OECC trained its own electric servicemen to do inspections on contractor work.²² Similar to other energy efficiency programs, HELP PAYS® requires a commitment of OECC and EUtility staff to quality control and consumer assurance throughout all aspects of the program.

STAGE 3- IMPLEMENTATION AND EVALUATION

Impact

After the program's launch, HELP PAYS® participants' average energy use decreased by approximately **30 to 35 percent** between April 1, 2016 and December 31, 2016 (approximately 25 percent after weatherization

normalization).²³ The participants included **118 single-family homes**, or 85 percent of all single-family applicants, and **82 units of multifamily housing** over three buildings, representing 100 percent of all multifamily applicants.²⁴

The vast majority of participants, like the vast majority of residents in OECC's service territory, are households of low- and moderate-income. In contrast, 70 HELP loan projects on single-family homes were completed within the same timeframe. The impact of the HELP PAYS® program compares favorably the HELP loan program based on several other metrics:

- The **size of the average investment** financed through the HELP PAYS® program (\$5,600) was double that of investments financed through the HELP loan program (\$2,280).
- The **average utility bill** for participating households decreased by \$100 annually, even taking into account the utility's cost recovery charges.
- The **percentage of participants who were renters** increased from 0 percent in the loan program to 30 percent in the tariff-based program.²⁵
- The **total investment** in efficiency improvements in the tariff-based program was greater than \$1.5 million, 30 percent of which went into multifamily housing, rather than \$0.5 million through the loan program, which did not serve multifamily housing.

Ten percent of all OECC member-owners have received energy efficiency audits since the HELP loan program launched in 2014.²⁶

Stage 3- Core Equity Component

OECC uses on-bill tariffs to make energy efficiency accessible to both homeowners and renters, regardless of credit score. OECC further increases economic equity in its service territory by maintaining high stakeholder engagement and creating jobs and energy savings.

Outreach and Communications: OECC personnel and program participants themselves primarily conduct outreach for PAYS by word of mouth. Many OECC member-owners, including OECC staff, are long-time area residents and are well-known to one another. Formal stakeholder engagement processes would not only be burdensome, due to the wide geographic distribution of OECC member-owners, but are also less critical due to the close-knit relationship between OECC's members. However, OECC included newer, transitory, and marginalized OECC member-owners in its outreach by advertising the program in the co-op magazine, which is sent to all OECC member-owners. OECC also placed marketing materials on their website.

Community Context

The Cooperative's 9,419 member-owners, 5,000 of whom are permanent residents, are spread out across four counties in rural Southwest Arkansas.²⁷ **Approximately 30 percent of member-owners live in mobile homes, and a third are renters.**²⁸ The median household income in the area is just over \$25,000.²⁹ On average, the housing stock is more than **40 years old** and frequently has inadequate insulation, leaving many residents vulnerable to the region's hot, humid summers and cold winters.³⁰ Additionally, a large amount of homes rely on electric resistance heat, which leads to high utility bills.

Lessons Learned

The HELP PAYS® program has successfully brought energy efficiency upgrades to much of south-central Arkansas. Given that the tariff is tied to a location, OECC is still determining how best to serve mobile home residents—representing about 30 percent of their customers-. OECC will also not invest in homes with severe structural deficiencies. Despite these constraints, the program continues to grow.³¹ This year, OECC installed NEST thermostats with every AC or HVAC unit installed to collect data on program participants' savings and help OECC to identify further energy savings opportunities.³² Municipalities and cooperatives looking to replicate the HELP PAYS® program should keep in mind key success factors:

Determine Program Eligibility

- The tariff structure allows for a much broader base of participants—including renters. No income qualification or credit score is necessary to participate; instead the utility uses a customer's bill repayment history.

Recruit Key Program Partners

- The program includes a close partnership between OECC and EEtility, an experienced energy efficiency program implementer, and between OECC and CFC, a lender that understands the program and shares the coop's efficiency goals.

Establish Consumer Protection Measures

- OECC's emphasizes quality control and consumer protection in its program structure, with program contractors providing both pre- and post-installation on-site inspections.

Recruit Program Participants

- OECC uses existing social networks to market the program and obtain member buy-in.

¹ Pay as You Save® and PAYS® are trademarks of the Energy Efficiency Institute of Vermont.

² “Opening Opportunities with Inclusive Financing for Energy Efficiency: Report on the first year of the HELP PAYS® at Ouachita Electric,” Ouachita Electric Cooperative Corporation, June 2017, accessed on April 20, 2018, at: https://www.oecc.com/pdfs/HELP_PAYS_Report_2016-Ouachita_Electric_20170612V1.pdf. (Hereinafter referred to as “OECC, 2017”).

³ Cayce, Mark, Interview, April 30, 2018.

⁴ When OECC buys energy from a power producer, it has to pay to “reserve” enough of the power producer’s generating capacity to meet OECC’s peak energy demand. This payment is called a demand charge. Definition from “Understanding Electric Demand,” National Grid, December 2005, accessed on May 23, 2018 at https://www9.nationalgridus.com/niagaramohawk/non_html/eff_elec-demand.pdf.

⁵ Cayce, Mark, Interview, April 30, 2018.

⁶ Cayce, Mark, Interview, April 30, 2018.

⁷ Cayce, Mark, Interview, April 30, 2018.

⁸ Cayce, Mark, Interview, April 30, 2018.

⁹ Cayce, Mark, Interview, April 30, 2018.

¹⁰ Cayce, Mark, Interview, April 30, 2018.

¹¹ “Bylaws of Ouachita Electric Cooperative Corporation,” Ouachita Electric Cooperative Corporation, March 26, 2012, accessed on May 14, 2018 at http://www.oecc.com/pdfs/oecc_bylaws_3_26_12.pdf.

¹² “HELP PAYS® – Pay -as -you -save Energy Efficiency Program,” Ouachita Electric Cooperative Corporation, 2018, accessed on May 23, 2018 at <https://www.oecc.com/help>.

¹³ OECC, 2017.

¹⁴ According to U.S. Energy Star program guidelines, the Seasonal Energy Efficiency Ratio is the amount of heat energy annually removed by a cooling system divided by the total electrical energy annually consumed by the cooling system: https://www.energystar.gov/sites/default/files/ENERGYpercent20STARpercent20CAC-ASHPpercent20V5.0_1.pdf.

¹⁵ Walton, 2017

¹⁶ Cayce, Mark, Interview, April 30, 2018.

¹⁷ OECC, 2017.

¹⁸ OECC, 2017.

¹⁹ Cayce, Mark, Interview, April 30, 2018.

²⁰ OECC, 2017.

²¹ Cayce, Mark, Interview, April 30, 2018.

²² Cayce, Mark, Interview, April 30, 2018.

²³ Harvell, 2017.

²⁴ OECC, 2017.

²⁵ OECC, 2017.

²⁶ Cayce, Mark, Interview, April 30, 2018.

²⁷ Clean Energy Works, 2016

²⁸ Walton, Robert, “Pay-as-you-save: Arkansas cooperative harnesses innovative financing to fund efficiency,” Utility Dive, August 9, 2017, accessed on April 23, 2018, at: <https://www.utilitydive.com/news/pay-as-you-save-arkansas-cooperative-harnesses-innovative-financing-to-fun/448874/>. (Hereinafter referred to as “Walton, 2017”).

²⁹ Harvell, Elizabeth, “How an Arkansas Electric Co-Op Tripled Efficiency Program Participation,” University of North Carolina Environmental Finance Center, August 15, 2017, accessed on April 23, 2017 at: <http://efc.web.unc.edu/2017/08/> Hereinafter referred to as “Harvell, 2017”).

³⁰ Walton, 2017.

³¹ Walton, 2017.

³² Cayce, Mark, Interview, April 30, 2018.