

Pembroke-Hopkins Park Energy Efficiency Pilot (PEEP)

Program Profile

Energy Efficiency in Rural America

Launched in 2021, the [Pembroke-Hopkins Park Energy Efficiency Pilot](#) (PEEP) was developed to encourage Pembroke Township and the Village of Hopkins Park (PHP), Illinois to transition from fossil fuels to cost-effective and reliable clean energy sources. This program provides low-income and rural homeowners with energy efficiency upgrades—such as attic insulation, window replacements, and heat pumps—and replaces old appliances with modern, energy-efficient versions. With these improvements, community residents can reduce indoor air pollution and its harmful health impacts while lowering their energy costs. To qualify for PEEP, PHP residents must be considered low-income; program administrators use federal income data to make that determination.

PEEP is administered by the [Community Development Corporation of Pembroke and Hopkins Park](#) (CDC-PHP), and funded by RMI, the Midwest Building Decarbonization Coalition, and others. CDC-PHP is a community-based organization that supports sustainable development in PHP and aims to preserve the community's cultural, historical, and ecological legacy. With support from its partners, CDC-PHP was able to select and provide services to its first cohort of PEEP homes in 2021.

CDC-PHP used a survey detailing type of residence, energy use, and energy cost to select PEEP's pilot cohort. This survey helped PEEP program administrators choose a diverse group of 10 homes, with a variety of energy and efficiency needs, from the list of interested homeowners. These 10 homes each received an energy audit, which helped to identify needed upgrades. As the program did not have sufficient funding to provide energy upgrades to all 10 homes, program administrators selected four to receive energy efficiency services. These four homes received individualized services tailored to each home's specific needs, including new windows and energy-efficient kitchen appliances. After the upgrades were made, a post-audit was conducted on these four homes to measure energy use and cost reductions.

Fast Facts

Program scope: Home energy efficiency upgrades and replacement of appliances with efficient electric versions to reduce carbon emissions and energy costs.

Communities served: Low-income and rural residential homeowners in Pembroke Township and Hopkins Park, Illinois.

Funding: RMI and the Midwest Building Decarbonization Coalition provided initial funding, with additional support from the U.S. EPA.

Key partners: Government agencies, community-based organizations, non-profits.

Promising practices: SPARK model, door-to-door community engagement strategy, hybrid energy models.



Community History

PEEP was created in response to energy-related challenges faced by the [PHP community](#). Pembroke Township is a rural, historically Black community in Illinois with a population of less than 2,000 people. Located 60 miles south of Chicago, PHP was never connected to a natural gas line, which resulted in the community's ongoing dependence on wood and propane fuels.

Electricity is the main energy source for only 30% of homes in the community; the remaining 70% of the population uses bottled gas, wood stoves, or propane to meet their energy needs.¹ This reliance on expensive fossil fuel and wood has resulted in a high energy and air pollution burden. Despite the small percentage of homes that rely on electricity, the community's electric grid is already strained. As a result, the community has prioritized expanding the capacity of its electric grid. In 2022, the U.S. Department of Energy (DOE) selected PHP to participate in its [Communities Local Energy Action Program \(LEAP\)](#), which will provide PHP with technical assistance to develop an electric grid modernization report. Beyond electric grid capacity, the community faces additional challenges such as a high rate of respiratory health problems and poorly constructed, inefficient homes. Moreover, 90% of the community is believed to face economic hardships and meets PEEP's low-income eligibility requirement.²

Community Engagement

After a direct mail campaign failed to engage community members, PEEP shifted to a door-to-door engagement strategy that allowed them to personally interact with homeowners and businesses. Program administrators found it easier to build trust within the community through this face-to-face engagement.

The program also regularly hosts public events, which serve to inform and train the community and give residents an opportunity to ask questions. PEEP has evolved in different ways based on the questions asked and information gathered during these events. For example, program administrators have updated community resources and outreach strategies to include clean energy conversations on Zoom or Facebook Live, in-person events that organizers call "PEEP shows," and more. PEEP administrators have also found ways to encourage participation in community events, including raffling prizes at the end of events.

¹ Lee Ringo, Community Development Corporation of Pembroke and Hopkins Park, 2023. Personal Communication.

² Lee Ringo, 2023. Personal Communication.



Key Partners

The CDC-PHP built a diverse team of PEEP partners, including:

- [RMI](#)
- [Slipstream](#)
- [Midwest Building Decarbonization Coalition](#)
- [Fresh Energy](#)
- [ComEd](#)
- [United States Environmental Protection Agency \(U.S. EPA\)](#)
- [Mitsubishi](#)
- [AO Smith](#)

RMI and the Midwest Building Decarbonization Coalition initially approached CDC-PHP with the PEEP program proposal, and both organizations provided initial sources of funding. Other partners such as Fresh Energy and the [U.S. EPA](#) provided additional pots of funding after the pilot had launched, while other partners, including Mitsubishi, ComEd, and AO Smith, provided funding for specific services and products. Slipstream provided technical support, conducting post-upgrade energy audits. Besides the initial partners that approached CDC-PHP, other PEEP partnerships were developed through community recommendations and by leveraging partner relationships. For example, Slipstream helped bring ComEd onto the pilot project.

Funding Mechanism

PEEP launched with \$160,870 from the Midwest Building Decarbonization Coalition and \$55,000 from RMI; an additional \$50,000 was provided by Fresh Energy to complete the pilot.³ EPA funded an awareness campaign in the PHP community to teach residents about climate and energy-related topics. The program's utility and private-sector partners—including ComEd, Mitsubishi, and AO Smith—donated products and provided funding for heat pumps, heat pump installation, and electric water heaters.

This funding enabled the program to provide no-cost services to homeowners in the PHP community. After the initial energy audit, the four homes approved for retrofits each received \$35,000-\$38,000 worth of energy efficiency upgrades, ranging from attic insulation, air sealing,

³ Lee Ringo, 2023. Personal Communication.



and new hot water tanks and kitchen appliances, to new windows, skylights, and electric air source heat pumps, at no expense to homeowners.⁴

PEEP administrators are now looking beyond their network of partners to fund future rounds of the program. They anticipate a need of \$15 million to scale up and sustain the program for the next five years. The administrators plan to leverage funding opportunities from the Inflation Reduction Act and are using technical assistance from U.S. DOE's Communities LEAP program to expand the scope and funding of PEEP's second round.

Program Impact

The four homes in the PHP community that received energy upgrades through PEEP saw a 20% improvement in energy efficiency.⁵ Pre- and post-upgrade tests found that air leakage in the buildings had been reduced by up to 31%.⁶ The upgrades have also reduced energy costs for the four homeowners while reducing energy-related greenhouse gas emissions. The homeowners have saved an average of \$1,301 annually on their energy bills—an annual total of \$5,204 for the program as a whole. Cumulative carbon dioxide emissions reductions are 2,329 kilograms per home on average, equivalent to the emissions from driving the average gasoline-powered passenger car nearly 6,000 miles.⁷ Homeowners have also reported better indoor air quality, noting more restful sleep, and that their respiratory conditions have been alleviated.

“PEEP is fantastic. Because all of the things that I’m getting done around this house, I would never have been able to do it, on my own...so this is truly a blessing. Number one, I have new windows. You look out now and I can see the trees and the sky and all that clearly because before I had plastic over the windows because there was air coming through. I have a heating and air conditioning system in all of my rooms. So, I don’t have to burn my woodstove anymore, and I don’t have to use propane.”

– Azizah Ali, Pembroke resident

⁴ Johari Cole Kweli, Community Development Corporation of Pembroke and Hopkins Park, 2023. Personal Communication.

⁵ Lee Ringo, 2023. Personal Communication.

⁶ Changing the Narrative from Poverty to Power, Community Development Corporation of Pembroke and Hopkins Park, 2023.

⁷ Changing the Narrative from Poverty to Power, Community Development Corporation of Pembroke and Hopkins Park, 2023.



Program administrators aim to expand the impact of PEEP in its second round. PEEP 2.0 will widen in scope to include scaling up electrical grid capacity, increasing clean energy options, strengthening its engagement model and retrofit process and setting a goal of reaching 1,200 homes with its energy efficiency services.⁸ PEEP administrators aim to service 50–75 homes a year and want to increase the demand for electrification. The program also plans to enable equitable workforce development by creating training and employment opportunities.

“Since I don’t do this myself, to have someone come in and actually do it for me is a fantastic way of sharing life. Everything that I’ve seen done to this point, I’ve been very satisfied with.”

– **Jumana Malik, Pembroke resident**

Barriers and Challenges

According to PEEP administrators, community outreach posed an unanticipated challenge to the program. Ultimately, they had to shift away from their original mass mailing outreach strategy to a door-to-door marketing campaign to establish trust in the community. Since this shift, the program has become increasingly more creative in how it approaches engagement with the community and with other stakeholders. Lee Ringo, PEEP’s energy efficiency program manager, highlighted the success of the program’s community events, the PEEP podcast, and collaboration with other community-based organizations. Ringo has also joined regional organizations, such as the Midwest Decarbonization Coalition, to gain access to a broader network to collaborate with and exchange ideas, strategies, and engagement materials.

Program administrators found that PHP residents were more comfortable if PEEP allowed for hybrid energy models. During the PEEP pilot, a couple of participants felt more comfortable with electrification if they were still able to maintain propane tanks as an emergency backup energy source. While PEEP program administrators do not promote the use of fossil fuel energy sources, they will not disqualify homeowners who wish to keep propane tanks for backup purposes. Johari Cole Kweli, CDC-PHP president, explained, “[PEEP participants] needed to get to a point that regardless of their [energy] choice, they’re still not going to have an energy burden weighing them down.”

⁸ Lee Ringo, 2023. Personal Communication.



Recommendations from the Field

CDC-PHP has developed a model for climate and energy programs, called the SPARK model, as a framework for addressing the inequities rural communities and communities of color face when it comes to climate change solutions. SPARK stands for:

- Supportive Community Engagement
- Partnerships-Planning-Preparation
- Access to Funding and Resources
- Reliable Infrastructure
- Knowledgeable Workforce

CDC-PHP designed SPARK to be a replicable approach that can be used by other communities. It applied the SPARK model to the PEEP program and found that supportive community engagement is vital to developing trust within a community, addressing community needs and concerns, and rallying program support. More information about the SPARK model will be available soon on CDC-PHP's website.

For More Information

- [From Poverty to Power in Pembroke](#)
- [Community Development Corporation of Pembroke-Hopkins Park](#)