

Knoxville Smarter Cities Partnership: Home Energy Efficiency

Program Profile

Partners Deliver Energy Efficiency Upgrades

The [Knoxville Smarter Cities Partnership](#) is a coalition of more than 20 community organizations aiming to improve the quality, comfort, and affordability of low-income homes through energy efficiency measures. Launched in 2013 with a grant from the [IBM Smarter Cities Challenge](#), the Smarter Cities Partnership works to provide energy efficiency upgrades and education to low-income families. While the grant from the Smarter Cities Challenge has been exhausted, the Knoxville Smarter Cities Partnership: Home Energy Efficiency program (referred to here as SCP) continues to function and has secured over \$30 million in resources to support its mission.

The City of Knoxville, Tennessee leads SCP program implementation, but the program provides services beyond city limits, servicing Knox County and surrounding counties. Energy efficiency services are offered through programs run by the SCP's many partners, including [Knoxville Utilities Board](#) (KUB), [Tennessee Valley Authority](#) (TVA), and the [Knoxville-Knox County Community Action Committee](#) (CAC). KUB's [Round It Up](#) program automatically rounds up the energy bills of Knoxville-Knox County residents to the nearest dollar and sends that money to the CAC to weatherize homes. The [Savings in the House](#) program educates its participants on how to limit energy and water use. [TVA's Home Uplift](#) program provides weatherization improvements such as air and duct sealing/replacement, water heater and pipe insulation, window and door replacement, and more.

Programs under the SCP umbrella require participants to meet the [U.S. Department of Housing and Urban Development's definition of low income](#) (80% or below the median income of an area). Any additional eligibility requirements will range slightly from program to program.

Fast Facts

Program scope: Improve the quality, comfort, and affordability of low-income homes through energy efficiency services.

Communities served: Low- to moderate- income residents who make 80% or less of the area's average medium income.

Funding: Utility programs, COVID-19 pandemic credits, episodic contributions.

Key partners: Knoxville Utilities Board, Tennessee Valley Authority, Knoxville County Community Action Committee

Promising practices: Program partner task force, trust-building with local community-based organizations, braiding funding from multiple sources.



Community History

[Knoxville, Tennessee](#) is the state's third largest city. Located between the Cumberland Mountains and the Great Smoky Mountains, Knoxville is home to 190,740 people, with Knox County residents totaling 478,971.¹ Knoxville historically played a large role in several industries, including coal and marble, and in 1982 Knoxville hosted a World's Fair, with the theme "Energy Turns the World." However, today many households in the city and in the greater region struggle to pay their utility bills.

SCP program administrators hosted a series of community conversations, which revealed that many community members were struggling to pay their energy bills on time. SCP was created to address the need for affordable energy bills—initially in Knoxville, and then expanding beyond the city via partnerships to serve residents of the broader region. Knoxville's Sustainability Director, Brian Blackmon, emphasized that much of the city's workforce lives in surrounding counties but uses Knoxville services and contributes to its vitality.

Community Engagement

Since its inception, community needs have remained at SCP's core. In the design and planning stage, SCP program administrators conducted interviews with targeted service providers, such as public housing authorities, bill assistance programs, and environmental education programs. These interviews helped the coalition understand the energy-related challenges faced by communities in Knox County and surrounding counties. They also identified priorities for SCP, including decarbonization and community benefits, which helped to provide structure around its partnerships. As specific projects and programs began to develop, SCP used focus groups to better understand the needs and expectations of recipients.

SCP has also collaborated with community-based organizations and used door-to-door campaigns to build trust in the program and promote participation. Local nonprofits, which have strong community ties, have especially helped SCP recruit participants for specific programs. These nonprofits are considered trusted members of their communities and have often employed in-person outreach strategies to engage directly with individuals and households.

¹ City of Knoxville, 2023. [Demographics](#).



Key Partners

SCP was established with support from more than 20 community-based organizations (CBOs). These CBOs, listed below helped determine community needs, as well as shape SCP's home energy efficiency programs.

- Tennessee Valley Authority (TVA)
- Knox Housing Partnership Inc.
- Pellissippi State Community College
- Knoxville-Knox County Community Action Committee (CAC)
- Knoxville's Community Development Corporation
- United Way of Greater Knoxville
- Socially Equal Energy Efficiency Development (SEEED)
- Advantage Property Management of Knox, LLC
- Knoxville Utilities Board (KUB)
- University of Tennessee
- Shelton Group
- The Cornerstone Foundation
- Compassion Coalition
- US HUD
- Pathway Lending
- Knoxville Area Urban League
- The City of Knoxville Office of Sustainability
- The City of Knoxville Community Development
- The City of Knoxville Office of Neighborhoods

SCP's community-based partners provided advice and guidance when standing up the Knoxville Smarter Cities Partnership: Home Energy Efficiency program. The input provided by these partners helped to establish SCP's first energy efficiency programs, which were funded by the IBM Smarter Cities Grant. Since the IBM grant expired, several of these partners have continued to contribute to SCP, including Knoxville-Knox CAC and United Way. SCP has also gained new program partners, such as Alliance to Save Energy. Featured below are several SCP partners that have been particularly active in recent years.

- [Knoxville-Knox County Community Action Committee \(CAC\)](#) – CAC is a public agency that serves the Knoxville-Knox County community, through federal, state, and locally



funded programs. Its programs range from AmeriCorps and Head Start, to Home Repair and Weatherization, and Utility Assistance.

- [United Way](#) – One of the world’s largest privately funded charities, United Way helps communities navigate challenges by working with private, public, and nonprofit partners to boost education, economic mobility, and health resources.
- [Alliance to Save Energy](#) – Alliance to Save Energy is a nonprofit coalition of businesses, government, environmental, and consumer leaders who advocate for advancing energy efficiency policy at the federal level.
- [KUB](#) – KUB is an independent agency of the City of Knoxville that provides electric, fiber, natural gas, water, and wastewater services to residents of Knoxville and the surrounding counties. KUB has funded SCP programs such as Round It Up.
- [TVA](#) – TVA is a federal electric utility company that aims to provide clean, reliable, and affordable electricity to residents of the Tennessee Valley region. TVA has also funded SCP programs such as Smart Communities Extreme Energy Makeover and the Home Uplift program.

Funding Mechanism

Since 2014, SCP has secured over \$31 million in funding. Some of these funding sources have expired, such as the \$15 million grant provided by TVA, which funded the [Smart Communities Extreme Energy Makeover](#) project. This project funded energy efficiency and weatherization for homeowners and small business in the City of Knoxville. Although this project has ended, TVA currently provides \$3 million in funding to SCP through its [Home Uplift program](#), which offers energy efficiency and weatherization upgrades to low-income TVA customers, who often face high energy burdens.

SCP is also using approximately \$10 million from KUB’s voluntary [Round It Up](#) program. Since 2015, the Round It Up program has rounded client energy bills to the nearest dollar; the extra funding is then used to weatherize low-income homes. SCP has also secured over \$2 million in funding through grants, COVID-19 pandemic credits, and other episodic contributions.

The distribution of funding to recipients varies according to each SCP program. While SCP provides diverse services to residents across Knox County and surrounding counties, program administrators have ensured, through eligibility requirements, that their partners target support to low- and moderate-income households.



Program Impact

Through its programs, SCP has provided 2,600 households with direct Energy Conservation Measure (ECM) installations. Many of these households are located in Knox County and about half are within the City of Knoxville. The ECM installations have resulted in energy savings of 15 percent across those 2,600 homes. Additionally, SCP has held public energy efficiency workshops, which provided free energy efficiency education to over 2,000 individuals.²

The Smart Communities Extreme Energy Makeover project alone invested \$8.5 million into local and small businesses in Knoxville. Through this project 1,700 Knoxville residents participated in more than 150 “Savings in the House” workshops. Additionally, 1,278 low-income households received weatherization and energy efficiency upgrades, which have helped to save over 6 million kWh annually.³

SCP is also developing a new project that offers grant funding to local nonprofit partners to develop creative financing solutions for low- and moderate-income households to help pay their utility bills. While this project is still in its early stages, SCP and some of its local partners have committed to funding this new project through 2026.

Barriers and Challenges

Although SCP’s door-to-door campaigns have historically been successful, the COVID-19 pandemic halted this type of in-person community engagement. SCP program administrators noted that even as COVID-19 lockdown protocols lifted, many people remained hesitant to open their doors to talk with community activists. During the COVID-19 pandemic, SCP had to rely upon its community partners to promote the program through their trusted channels.

SCP has also had to navigate distrust faced by some of its program partners. Program administrators have found that communities in Knoxville and the surrounding region are more suspicious of programs implemented by utility companies. As Brian Blackmon noted, “nobody trusts the person who sends them the bill.”⁴ For this reason, SCP has had to carefully consider which organizations it partners with. SCP also hopes that, over time, the programs’

² Brian Blackmon, 2023. Personal communication.

³ City of Knoxville, 2023. [Knoxville Extreme Energy Makeover](#).

⁴ Brian Blackmon, 2023. Personal communication.



achievements will speak for themselves and begin to earn trust in the communities they serve, no matter their partners.

Recommendations from the Field

SCP recognizes stakeholder fatigue as something all community-serving programs should be wary of. Stakeholder fatigue occurs when stakeholders lose interest or experience burnout from repeated requests for engagement or engagement that does not produce tangible results. SCP program administrators recommend hosting highly focused public events with agendas and targeted questions to ensure conversations remain productive. In turn, productive conversations help programs respond effectively and quickly to feedback they receive from their communities.

Additionally, strong local partnerships have been vital to the success of SCP. According to program administrators, SCP has developed long-lasting partnerships with community organizations, which has made certain programs easier to implement as their community partners recruit participants and provide program feedback. SCP program administrators also stress the trust that comes from working with community-based organizations. SCP's community partners have been important promoters of the program, particularly throughout the COVID-19 pandemic. The program's partners also provide critical programmatic feedback; SCP recommends developing a partner task force to explore new program opportunities or updates.

Further, partnering with organizations that have similar goals can help maximize support to communities. For example, SCP's weatherization assistance provider also offers minor home repairs and lead abatement through city funding sources that are unrelated to SCP. This example highlights how homes that participate in SCP programs are automatically considered for additional home improvements available through its network of partners.

For More Information

- [Knoxville Smarter Cities Partnership: Home Energy Efficiency](#)
- [City of Knoxville, Tennessee](#)