Sacramento Home Energy Equity Pilot

City of Sacramento

TIMELINE:
January 2023 - August 2024

HOUSING TYPE:
Single Family Homes

EQUITY SEGMENT:
Income-Qualified Customers and Disadvantaged Communities

TECHNOLOGY:
Heat Pump Water Heaters, Heat Pump HVAC, and Home Weatherization

LOCATION:
Sacramento, California

Project Description

Electrification presents a critical opportunity for cost-effective investments that improve the efficiency, sustainability, and resilience of Sacramento's existing building stock. The city benefits from some of the lowest rates in California — about 47 percent lower than the neighboring electricity providers. With nearly 70 percent of the city's 181,000 households currently using gas for space and water heating and 90 percent having access to air conditioning, the prospective benefit from electrification is vast. Nevertheless, electrification cannot happen overnight. Structural challenges must be addressed to ensure an equitable transition toward decarbonizing Sacramento's homes.

The Sacramento Home Energy Equity Pilot aimed to create a scalable model for electrifying and repairing homes, to maximize household benefits and mitigate displacement risks for low-income residents. The project specifically focused on addressing barriers that prevent low-income households and residents in disadvantaged communities from adopting heat pumps, including a lack of awareness and trust in the technology, high upfront costs, and difficult rebate processes. By collaborating with the Sacramento Municipal Utility District (SMUD) to install heat pumps and weatherization upgrades in income-qualified homes, the City of Sacramento aimed to demonstrate a scalable model that could be replicated to increase heat pump adoption across similar communities.

Market Barrier

Limited awareness and confidence in heat pumps deters customers and contractors from exploring the technology as a viable option. High upfront costs further discourage interested homeowners from pursuing heat pump retrofits. Moreover, the significant costs related to major home upgrades, particularly in an aging housing stock, threaten the financial well-being of vulnerable households.

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This program is part of the TECH Quick Start Grants (QSG) program, designed to fund targeted, innovative projects that test approaches to overcoming market barriers to heat pump space and water heating adoption.

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Compounding these challenges is the process of securing multiple rebates, which often have complex eligibility requirements. Limited collaboration between SMUD, the City of Sacramento, and community partner groups hinders the development of partnerships that can effectively advance home electrification and heat pump adoption.

Theory of Change

By reducing energy bills for low-income homeowners through high-efficiency heat pump deployment, the project will increase awareness of and trust in heat pump technology among households facing significant barriers to heat pump adoption. The project will leverage existing programs and processes to identify a model for municipalities, utilities, and community organizations to foster partnerships and administer holistic electrification services in tandem. Through these investments, the project will demonstrate how housing stabilization and building decarbonization efforts can go together. Lessons learned from implementing this Quick Start Grant will directly inform the City's building decarbonization strategy and refine approaches for SMUD to electrify customer homes. Securing a sustainable source of funding is crucial to effectively scaling the partnership model exemplified in this project. Simplifying processes and aligning eligibility requirements is key to reasonably layering programs supportive of administering holistic electrification services.

Key Learnings

- Set clear expectations with customers upfront to ensure smooth project implementation. Participants must be fully informed and acknowledge requirements for participation, including the need to be available for contractor and inspector appointments (which may require taking time off work) and be prepared to provide documentation or respond to surveys.
- Future pilot and program teams should not assume that homeowners will eagerly adapt to program requirements simply because there is no cost for the upgrades.
- Be transparent about potential bill impacts of heat pump upgrades, but also emphasize that there may also be quality-of-life improvements. Set clear expectations regarding the potential for both increased and decreased energy usage, which the household's existing infrastructure may influence.
- Map out the participant journey during the initial program design to streamline documentation and data collection. This process may improve administrative efficiency and can also promote other services and partners to create a holistic home resiliency program.
- Design participant feedback mechanisms early in the planning phase to ensure seamless integration with project workflows and robust data collection.
- Programs seeking to measure bill and green house gas savings should require participants to submit utility data as part of the intake documentation.
- Leveraging existing outreach and communication channels from community partners is a way to streamline and appropriately scale participant recruitment built on pre-established trust.

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- Multilingual engagement requires more than just translated flyers: Access to ongoing translation support—both for in-person visits, and for phone and email customer inquiries—is key.
- Providing eligible households with all potential electrification upgrades at once (e.g., heat pump water heaters, efficient appliances, electric stoves, EV plugs, etc.) maximizes the impact of the program touchpoint.
- Offering basic education on heat pump functionality, coupled with hands-on learning opportunities, can significantly boost user confidence, satisfaction, and system performance.

Next Steps

Scaling Statewide

While this project is not anticipated to continue, it has provided a learning opportunity to understand the bill impacts and quality-of-life changes that result from the building electrification upgrades. It has prompted conversations between the City of Sacramento and project partners regarding how renters or residents of multifamily buildings could benefit from residential electrification.

SMUD has secured $3 million from the U.S. Department of Energy to fund a neighborhood-based approach to home electrification in the Meadowview neighborhood of Sacramento. The Meadowview electrification project will apply lessons from this Quick Start Grant project regarding the survey timing, questions, and deployment; recruitment through neighborhood partners; communication templates that describe how these upgrades will take place; and budget expectations for how many homes will receive multiple measures.

A key lesson learned from this pilot is that SMUD is a crucial partner for residential electrification work and their partnerships and programs should be scaled to further serve the Sacramento community. While the City of Sacramento can support outreach, reporting, and analysis, it can be challenging to fund electrification projects through the City because of the required administrative components, e.g., contracts and invoicing. Habitat can provide additional holistic home improvement, however, the need for a substantial amount of flexible funding for supplemental home repair can limit the scale of Habitat's involvement.

Recommendations

- Expand customer access to upfront rebates. Offering upfront funding support for homeowners can significantly improve accessibility.
- Provide a "concierge" service to assist with navigating rebates and mitigating accessibility barriers.
- Increase collaboration and programmatic alignment between housing, energy, and sustainability programs.

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