

State Strategies to Benefit Underserved Communities with Revenue from the Regional Greenhouse Gas Initiative

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ABSTRACT

This paper explores how states are using revenue from the Regional Greenhouse Gas Initiative (RGGI) to address energy efficiency program gaps for underserved communities. We define *historically underserved communities* to include low-income and rural populations as well as people of color and fossil fuel-producing communities. We group programs by strategies such as weatherization, electrification, green bank financing, workforce development, agricultural energy efficiency, and high-performing manufactured homes. These programs provide models governments can use to equitably decarbonize and mitigate the effects of climate change on historically underserved communities. States are streamlining customers' experience through these programs and helping customers use multiple funding sources to fill gaps in programs. This preliminary research found more RGGI-funded programs designed for low-income households than for rural or fossil fuel-producing communities.

Introduction

Energy efficiency programs reduce energy costs and protect health by improving indoor air quality and comfort, making them a powerful tool for mitigating longstanding inequities experienced by low-income and rural households, communities of color, and fossil fuel-producing communities.¹ These communities, defined as *historically underserved* in this paper, often face higher energy costs and disproportionately suffer from health harms linked to inadequate housing and environmental pollution (Hayes and Denson 2019). Historically underserved communities also often lack the same level of access to energy efficiency upgrades and efficient appliances as their counterparts (Drehobl, Ross, and Ayala 2020). While several states are directly limiting greenhouse gas (GHG) emissions through cap-and-trade policies, which benefit everyone, some are going further and using the proceeds from these policies to invest in decarbonizing underserved communities by increasing their energy efficiency.

In this paper we examine investments in energy efficiency for underserved communities under the Regional Greenhouse Gas Initiative (RGGI).² In 2019, RGGI states allocated 40% of auction proceeds, or \$87 million, to investments in energy efficiency (RGGI, Inc. 2021).

¹ We define *fossil fuel-producing communities* as workers who depend on coal, oil, or gas for their livelihoods.

² RGGI is a mandatory cap-and-trade program that caps and reduces emissions from the power sector in several states in the Northeast United States. In 2019, the following nine states participated in RGGI: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. In 2020, New Jersey resumed participation in RGGI, and Virginia joined the initiative for the first time. Pennsylvania joined RGGI in April 2022.

Investing these proceeds in historically underserved communities can help ensure equitable distribution of benefits and avoid placing disproportionate cost burdens on already disadvantaged communities (Nadel, Gaede, and Haley 2021).

We selected the strategies discussed below because they mitigate potential utility bill impacts from cap-and-trade policies and deliver energy efficiency upgrades to underserved communities. We identified the corresponding examples through conversations with state energy offices, utilities, and program administrators and through supplemental research. This paper focuses on energy efficiency programs funded by RGGI revenue and does not consider programs resulting from other decarbonization policies, such as economy-wide state GHG emissions-reduction goals. We offer case studies of previously implemented efficiency programs, but we do not evaluate outcomes from these programs or identify best practices. The programs and strategies we describe are illustrative examples by which states and program administrators can learn how to use cap-and-trade revenues to save energy for underserved communities.

Strategies

This paper describes six strategies by which states can invest cap-and-trade proceeds to benefit underserved communities:

- Weatherization and pre-weatherization services.
- Electrification projects.
- Green bank financing.
- Workforce development.
- Agricultural energy efficiency programs.
- High-performing manufactured homes.

Table 1 presents the cap-and-trade revenue investment strategies and describes corresponding examples, some of which we discuss in this paper. For programs not described in this paper, we include footnotes with sources for additional information. We include the definitions of “low-income” communities in the examples below because program administrators use different definitions for these communities.

Table 1. Select State Strategies for Equitably Investing Decarbonization Resources

Strategy	Example	Communities served	Administrator
Provide and expand weatherization and pre-weatherization services	Low-Income Weatherization Program ³	Low-income residents, multifamily customers, disadvantaged communities, farmworkers	California Department of Community Services and Development

³ To learn more about California’s Low-Income Weatherization Program, see CSD 2022.

Strategy	Example	Communities served	Administrator
	EmPower New York	Low-income residents not served by New York's Clean Energy Fund	New York State Energy Research and Development Authority
	Weatherization Deferral Program ⁴	Low-income residents	Virginia Department of Housing and Community Development
	Delaware Pre-Weatherization Program ⁵	Low-income residents	Delaware Sustainable Energy Utility (Energize Delaware)
Leverage emissions reduction efforts to reduce rural dependence on petroleum fuels	Heat Pump Deployment Programs	Low-income residents, commercial customers, industrial facilities, rural residents	Efficiency Maine Trust
	Home Performance with ENERGY STAR Program ⁶	Residential customers	Efficiency Vermont
Establish a green bank to attract private capital	Connecticut Green Bank's efforts	Low-income residents, distressed communities, multifamily customers	Connecticut Green Bank
Support energy efficiency workforce development programs for displaced fossil fuel workers and their communities	Green Jobs Green New York ⁷	Low- to moderate-income residents, disadvantaged communities, priority populations (veterans, former power plant workers)	New York State Energy Research and Development Authority
Target agricultural producers with energy efficiency	Farm Program	Farmers and agricultural producers	Delaware Sustainable Energy Utility (Energize Delaware)
	Rural Business Energy Efficiency Improvement Loan Fund ⁸	Agricultural and rural businesses	Maryland Agricultural and Resource-Based Industry Development Corporation
Reduce energy use in manufactured homes	ZeMod Program	Low-to-moderate income residents	Delaware Sustainable Energy Utility (Energize Delaware)

⁴ To learn more about the Weatherization Deferral Program in Virginia, see dhcd.virginia.gov/sites/default/files/Docx/hice/dhcd-weatherization-deferral-repair-program-guidelines.pdf.

⁵ To learn more about the Delaware Pre-Weatherization Program, see www.energizedelaware.org/wp-content/uploads/2021/03/DESEU-32810-FY21-Annual-Report_Full-Report_v4.pdf.

⁶ To learn more about the Home Performance with ENERGY STAR Program in Vermont, see: www.energizevermont.com/rebates/list/home-performance-with-energy-star.

⁷ To learn more about NYSERDA's Green Jobs Green New York program, see www.nyserdera.ny.gov/researchers-and-policymakers/green-jobs-green-new-york

⁸ To learn more, see MARBIDCO 2021

Inequities can occur in how states design cap-and-trade policies and invest revenues from them (NEEP 2021). This paper focuses on how states can center equity in the latter. To prioritize equity in the cap-and-trade policies themselves, states can conduct extensive community engagement throughout the policy design and implementation processes. States can build capacity among community members to participate in these processes by prioritizing them for roles on advisory committees or in helping implement and/or evaluate programs (NEEP 2021).

Strategy: Provide and expand weatherization and pre-weatherization services

The buildings in which people live and work can impact their health. States can invest in pre-weatherization measures that make more homes eligible for weatherization and ratepayer-funded energy efficiency programs. Low-quality homes are often constructed with hazardous materials such as lead and result in adverse health conditions for residents (RMI 2021).

Historically underserved communities are disproportionately burdened by high energy costs and low-quality housing. For example, Black and low-income families live in homes with deficient conditions at disproportionately high rates and are more exposed to air pollution (Hayes and Denson 2019). As a result of inadequate and inefficient housing, among other factors, rural households across the United States face a median energy burden⁹ of 4.4%, compared to 3.1% for metropolitan households in the region (Ross, Drehtobl, and Stickles 2018).

While many energy efficiency programs for low-income and other households include weatherization measures, households with preexisting health and safety hazards are ineligible. Weatherization programs include measures to add insulation and seal air leakage through cracks and openings, which reduces air penetration and prevents ambient air pollution in homes (DOE n.d.). Weatherizing homes can mitigate indoor asthma triggers by protecting inhabitants from outdoor triggers and regulating indoor humidity and temperature (Hayes and Denson 2019). The U.S. Department of Energy's Weatherization Assistance Program (WAP) provides funding to make homes more efficient, but households are often deferred from the program due to health and safety hazards that make weatherization difficult or unsafe, such as severe moisture problems or structural damage (NASCS n.d.). Preexisting conditions often need to be remediated prior to weatherization, so some state WAP implementers leverage other sources of funding to deliver these necessary pre-weatherization services.¹⁰ In fiscal year 2021, Virginia allocated \$15.2 million in RGGI revenues to its Weatherization Deferral Repair program to repair homes deferred from WAP (Virginia 2021). Similarly, the Delaware Sustainable Energy Utility invests RGGI revenues in the Delaware Pre-Weatherization Program to address structural problems like leaky roofs, broken windows and doors, and crawl space moisture (DESEU 2020).

Example: NYSERDA's EmPower New York Program

EmPower New York provides no-cost energy efficiency services to low-income customers statewide.¹¹ The program uses RGGI funds to target households in municipal electric territories that are not covered under New York's Clean Energy Fund (NYSERDA 2019).

⁹ The term energy burden refers to the share of household income that is spent on energy bills.

¹⁰ We were unable to identify state-by-state WAP deferral rates as part of this research. ACEEE's forthcoming *Healthy, Green, Affordable Housing Scorecard* includes a compilation of state deferral tracking requirements.

¹¹ NYSERDA defines eligibility as 60% of the state median income (NYSERDA 2021b).

Homeowners and renters of one- to four-family homes and tenants of multifamily buildings are eligible for home energy assessments, energy education, and measures such as insulation and air sealing, efficient lighting, replacement of inefficient appliances, and water-saving showerheads (NYSERDA 2020a). CLEAResult manages program contractors, whose projects are inspected by third-party quality assurance contractors such as IBTS and Honeywell (NYSERDA 2021a).

NYSERDA uses a combined application for WAP and EmPower New York, which reduces administrative costs for customers and implementers. Projects cost an average of \$4,000 and are capped at \$7,500 to be cost effective. Since 2014, EmPower New York has served more than 140,000 households (Nowak, Kushler, and Witte 2019). Through December 2018, more than 7,000 households were funded by RGGI proceeds (NYSERDA 2019). NYSERDA found that close coordination with utilities, human service organizations, and communities is essential for raising awareness. Ensuring flexibility in delivery is key, and programs can incorporate additional services to mitigate energy burdens across the state (Nowak, Kushler, and Witte 2019). Table 2 below includes program impacts for 2017.

Table 2. 2017 Program performance for EmPower New York

Program spending	\$31.4 million
Number of households	8,352
Annual electric energy savings (MWh gross)	4,493
Annual gas energy savings, all fuels (therms gross)	1,498,780
Lifetime electric energy savings (MWh gross)	125,280
Lifetime gas energy savings, all fuels (therms gross)	37,469,500

Source: Nowak, Kushler, and Witte 2019

Strategy: Leverage emissions-reduction efforts to reduce rural dependence on petroleum fuels

States are using energy efficiency and beneficial electrification as tools for meeting their GHG reduction targets (Gold, Molina, and Gilleo 2018). Beneficial electrification policies and programs, which save money for customers and reduce environmental impacts, can help reduce rural communities' dependence on propane heating, which fluctuates in price and requires large, upfront payments to refill tanks. Of the U.S. households using propane heating, 83% are in rural areas that lack a natural gas distribution infrastructure (EIA 2011). Average U.S. residential propane prices went up 30% between 2020 and 2021 (EIA 2021). Petroleum fuels used for heating can account for 16–27% more CO₂ per million BTU than natural gas (EIA 2016). However, because states do not typically regulate these fuels, there is a lack of policies driving efficiency programs to reduce dependence on petroleum fuels. As a result, many states are missing out on an opportunity to reduce energy costs and emissions for households that are heated with petroleum fuels. Utilities and efficiency program providers can also use weatherization programs to reduce residents' reliance on delivered fuels.

Example: Efficiency Maine Trust's Heat Pump Deployment Programs

Efficiency Maine Trust is an independent program administrator in Maine that works to improve energy efficiency and reduce GHG emissions statewide. In 2019, Maine passed

legislation to reduce dependence on fuel oil for heating, with a goal to install 100,000 high-performance air-source heat pumps in residential and non-residential spaces by 2025 (Maine Legislature 2019). Efficiency Maine uses revenue from RGGI to fund rebates and discounts for high-efficiency ductless heat pumps through programs such as the Home Energy Savings Program (HESP), Low-Income Initiatives, and the Commercial and Industrial Prescriptive Program. Residential customers are eligible for rebates up to \$1,500, low-income customers can receive up to \$2,500, and commercial customers are eligible for up to \$1,250 in rebates for units with multiple zones (Nadel 2020).¹² Beyond providing higher incentive amounts for low-income customers, Efficiency Maine expanded eligibility requirements in fiscal year 2020 (July 2019 – June 2020) to further encourage high-performance heat pumps adoption (Efficiency Maine 2020). Between January 2019 and September 2020, Efficiency Maine deployed more than 15,500 heat pumps through the HESP, which resulted in savings of more than 5,100 MWh (Shoemaker and Singletary 2021). The program has achieved a higher per capita penetration of heat pumps in many rural counties in the state (I. Burnes, director of strategic initiatives, Efficiency Maine, pers. comm., April 29, 2021). RGGI funds accounted for almost 40% of HESP’s budget (RGGI, Inc. 2020).

Strategy: Establish a green bank to attract private capital

Many communities lack access to capital and financing and thus have not been able to adopt energy efficiency measures. Poor financing capabilities in low- to moderate-income (LMI) communities and communities of color have also led to a disproportionately low level of clean energy and energy efficiency infrastructure for these customers (AGBC 2021). To help fill these gaps, state energy offices can use state taxpayer, federal, and ratepayer dollars to capitalize new green banks and leverage private capital for rural energy efficiency projects. States and localities often use green banks to connect these sources of capital with clean energy projects in need of funding.¹³ In 2020, state green banks mobilized more than \$1.6 billion of investment using only \$440 million of green bank funds (AGBC 2021). Some states launch green banks with specific policy goals to reach underserved customers like multifamily and low-income households (Gilleo, Stickles, and Kramer 2016). Several green banks have also applied for U.S. Department of Agriculture (USDA) Rural Energy Savings Program funding, which they would use to help rural households and small businesses save energy by investing in energy efficiency and on-site renewable energy (e.g., solar and battery storage). This includes the Hawaii Green Infrastructure Authority, Connecticut Green Bank (CTGB), and Montgomery County Green Bank. If approved, the \$20 million loan to the Hawaii Green Infrastructure Authority would finance battery storage and solar for LMI households and others as part of its Green Energy Money Saver program.

Example: The Connecticut Green Bank (CTGB)

The CTGB is a quasi-public agency that leverages limited public capital to mobilize private investments for clean energy and energy efficiency programs for all sectors in

¹² Eligibility requires that participants participate in LIHEAP or meet an assessed property value less than certain thresholds developed by Efficiency Maine (Efficiency Maine 2020).

¹³ U.S. green banks go by several names, such as the Rhode Island Infrastructure Bank, Inclusive Prosperity Capital, and Michigan Saves (AGBC and CGC 2019).

Connecticut. CTGB was initially capitalized through the state's Clean Energy Fund, the American Recovery and Reinvestment Act grant, and RGGI proceeds. In fiscal year 2021, CTGB received \$6.5 million from RGGI proceeds to finance projects for the state (Connecticut Green Bank 2021). Under its mission to serve low-income and multifamily markets, CTGB continues to offer solar and energy efficiency programs for LMI customers (Gilleo, Stickles, and Kramer 2016). From 2015 to 2021, CTGB ran the Solar for All program in partnership with a solar and energy efficiency provider, PosiGen, to deliver services to LMI homeowners. CTGB and PosiGen conducted targeted marketing for the program in underserved communities and offered an enhanced solar incentive for LMI communities (Connecticut Green Bank 2022). To receive financing, homeowners did not need a credit score or a specific debt-to-income ratio and instead needed to prove that they had paid utility bills over the past year. CTGB also ensured that there were no upfront costs or hidden fees for the customer. The bank has reached "parity," which means that households receiving solar loans are representative of the demographics of the state. CTGB has gone beyond parity for solar lending to communities of color, which means that the demand for solar energy is higher in communities of color compared than white residents (AGBC 2020). CTGB also targets 25 distressed communities in the state, encompassing around 30% of Connecticut's population (Gilleo, Stickles, and Kramer 2016).¹⁴ The green bank's Mapping Analysis of Your Area (MAYA) tool allows users to map local impacts such as the CTGB's investment impact, energy impact, and avoided emissions (MAYA 2021).

Strategy: Support energy efficiency workforce development programs for displaced fossil fuel workers and their communities

In 2021 the energy efficiency sector employed more than 2.1 million workers and employment grew by almost 3% since 2020 (NASEO and EFI 2022). Although these jobs can provide economic stability for workers and their communities, not everyone is reaping the benefits they offer. The energy efficiency workforce has a smaller proportion of Hispanic and Black people than the national workforce. It also employs more men than women (NASEO and EFI 2022). Additionally, rural communities that have historically produced coal and natural gas can be often overlooked by energy efficiency policies and programs because it can be challenging for contractors delivering energy efficiency programs to reach these communities (Shoemaker, Gilleo, and Ferguson 2018).

States can use cap-and-trade revenues to support energy efficiency workforce development programs, taking intentional steps to ensure that environmental justice communities and workers impacted by the energy transition are able to access these jobs when feasible. States can identify and support existing state- and locally driven programs that cater to local workers' needs. To support environmental justice communities and workers displaced by the energy transition, state workforce agencies could evaluate skills across industries, not just positions (JTF n.d.). For example, Ohio University researchers assessed the skills of displaced coal economy

¹⁴ The Connecticut Department of Economic and Community Development defines distressed communities using scoring criteria like per capita income, percentage of population living in poverty, and unemployment rate. The 25 towns with the highest total scores are designated distressed communities. For more details, see www.ctgreenbank.com/wp-content/uploads/2016/07/Connecticut-Green-Bank-2015-CAFR.pdf.

workers, their alignment with skills required for emerging occupations (including jobs in construction), and the wage differentials between disappearing and emerging jobs. They found that most transitions to new occupations will require retraining and would come with a decrease in median hourly wage (Jolley et al. 2019). The median hourly wage loss for blue-collar workers transitioning into emerging occupations requiring similar skills would be \$3, but transitioning white-collar workers would see a median hourly wage increase of \$1 (Jolley et al. 2019).¹⁵

While not all individuals from environmental justice or fossil fuel-producing communities will find local job opportunities in energy efficiency, states can take steps to ensure that these workers are paid fairly. For example, it will be important for states to pay attention to wage levels in training and contracting. The average hourly wage for energy efficiency jobs is \$25.90, which is more than \$2 greater than the national average hourly wage (Muro et al. 2019). To create high-quality jobs in the growing clean energy economy, states can enact prevailing wage laws for workers on taxpayer-funded projects delivered by private companies and expand access to state-regulated apprenticeship programs, among other strategies (Madland 2020). States can also help displaced workers start their own businesses, as shown in the examples below.

Example: NYSERDA’s Green Jobs Green New York (GJGNY) Program

Established under the 2009 Green Jobs – Green New York Act (GJGNY), the GJGNY program uses RGGI revenues to provide energy assessments, installation of energy efficiency measures, low-interest financing, and clean energy jobs training to New Yorkers. New York initially capitalized the GJGNY program with \$112 million of RGGI proceeds. Recently, GJGNY has increasingly focused on spending RGGI funds on loans for LMI consumers and others without access to traditional financing (NYSERDA 2019). GJGNY also funds workforce development and training to provide on-the-job clean energy training for workers. Since the program’s inception in 2010, more than 4,000 workers have undertaken energy efficiency and renewable energy training. A 2016 impact and evaluation report of the GJGNY program found that almost 30% of all direct jobs between 2014 and 2015 were in disadvantaged communities (Vaidya and O’Donnell 2016). The On-the-Job Training for Energy Efficiency and Clean Technology program makes more than \$500,000 available to eligible employers who can use funds to pay new hires and employees who face additional challenges to employment (NYSERDA 2020b). Due to the COVID-19 pandemic, NYSERDA has modified the program to increase incentives for businesses that hire workers from priority populations such as unemployed power plant workers, veterans, previously incarcerated individuals, Native Americans, individuals with disabilities, and individuals with low income (Shoemaker, Ayala, and York 2020).

¹⁵ Ohio University recommends that displaced workers identify the emerging occupation they want to pursue. They can use the U.S. Department of Labor’s CareerOnestop’s “Compare Occupations Toolkit.” Displaced workers can enter their current occupation, next occupation, and state or county to compare salaries, skills and knowledge overlap and gaps, training level, licenses, and certifications across occupations. They can also use the tool to identify local training programs for their occupation of interest. See Ohio University’s webinar (45:05) for a demonstration of this tool: www.ohio.edu/voinovich-school/videos/closing-skills-gap.

Strategy: Target agricultural producers with energy efficiency

In 2019, the agricultural sector accounted for 10% of GHG emissions in the United States (EPA 2022). Energy efficiency can reduce operating costs for farmers and offset emissions from this sector. States can use RGGI revenues to support efficiency programs for agricultural producers and help increase agricultural producers' awareness of the USDA's Rural Energy for America Program (REAP), through which they can access grants and low-interest loans for energy efficiency and renewable energy projects (Rogers and Berg 2018). States can also help generate awareness of technical assistance provided by local agriculture extension offices and land-grant universities, which provide research-based education to farmers and rural residents on agriculture, the environment, and food systems (USDA n.d).

Example: Energize Delaware's Farm Program

The Energize Delaware Farm Program uses RGGI dollars to help farmers and agricultural producers secure loans up to \$400,000 and grants up to \$100,000 to install energy efficiency measures such as efficient HVAC and lighting, poultry house insulation, variable speed drives, irrigation pump replacement, motor controls, and fuel switching (Energize Delaware 2021). In addition, the Farm Program offers energy audits, cash incentives, project installation assistance, renewable energy assessments, and helps farms access state and federal funding sources such as the USDA's REAP. Eligible participants work with EnSave, an energy services company that partners with Energize Delaware, to develop a customized energy efficiency plan. See Table 3 for energy and economic impacts of the program (DESEU 2020).

Table 3. 2020 Savings from Energize Delaware's Farm Program

Program Metrics	2020
Participating Farms in 2020	26
Incentives Awarded in 2020	\$76,621
Annual Energy Savings (MMBtu) in 2020	1,802.38
Annual Cost Savings in 2020	\$29,513
GHG Emissions Avoided (Metric Tons)	41.54
FY21 Program Budget	\$463,500

Source: DESEU 2020.

Strategy: Reduce energy use in manufactured homes

Occupants of manufactured homes in rural areas have energy burdens of 5.8%, compared to 4.4% for the median rural home nationally (Ross, Dreihobl, and Stickles 2018). Most manufactured housing occupants qualify as low-income individuals, and they spend 70% more per square foot on energy (DOE 2015; Ross, Dreihobl, and Stickles 2018). Moreover, most manufactured homes were built before the U.S. Department of Health and Human Services enacted energy codes for these buildings in 1976 and updated them with more energy efficiency standards in 1994 and 2022 (Grant and Keegan 2015, DOE 2022). Manufactured home residents

often face difficulty accessing capital to perform energy efficiency improvements (Stewart 2017), because they generally have lower incomes and do not own their homes, among other factors (Brennan et al. 2017).

States can use cap-and-trade funds to improve the energy efficiency of manufactured homes. They can deliver efficiency improvements in existing manufactured homes, improve efficiency in new manufactured homes, and incentivize residents in older manufactured homes to purchase new, more-efficient modular homes (Tucker 2021). States can offer programs to weatherize existing manufactured homes, or for new manufactured homes, they can encourage more robust energy codes, certifications, and efficiency incentives for manufactured home producers (Ross, Dreihobl, and Stickles 2018). WAP improvements in manufactured homes usually address air and duct sealing as well as ceiling, wall, and belly insulation because these measures are among the most cost effective while providing robust energy savings and comfort improvements (Talbot 2012). ACEEE research shows that more-stringent manufactured housing energy efficiency standards, which include efficient heat pump water heaters, would reduce high energy burdens for almost one million households (Bell-Pasht and Unger 2022).

Example: Energize Delaware’s Zero Energy Modular Home (ZeMod) Program¹⁶

Energize Delaware, the statewide energy efficiency utility, along with VEIC and Milford Housing Development Corporation, provides incentives to help income-qualified buyers (up to 120% Area Median Income) purchase a new zero-energy modular home.¹⁷ Through the ZeMod program, Energize Delaware offers two highly efficient modular home designs with efficient appliances and rooftop solar. LMI residents receive an incentive of \$16,500 per home and a zero-interest second mortgage up to \$25,000 (ZeMod Delaware 2022). In 2020, the program completed 3 new ZeMod homes, which provided more than \$2,000 in energy savings and avoided over 20 metric tons of GHG emissions per year across these homes (DESEU 2020).

Discussion

In the programs we examined, we identified several themes in their approach to designing and delivering cap-and-trade-funded energy efficiency programs to rural and low-income customers as well as those in fossil fuel-producing communities. Program administrators—like Energize Delaware and Efficiency Vermont—are streamlining these customers’ experience with their programs through simplified application processes and technical support to help customers complete applications. CTGB and NYSERDA are helping customers access funding from several sources simultaneously, including state, federal, ratepayer, and private resources. NYSERDA uses RGGI funds to target low-income households in municipal electric territories that do not have access to ratepayer-funded energy efficiency programs (NYSERDA 2019). Several agencies, such as Efficiency Maine, NYSERDA, and Virginia Department of Housing

¹⁶ This program was based on a similar Zero Energy Modular program in Vermont administered by Efficiency Vermont, which provides eligible residents grants between \$3,000 and \$8,500, depending on purchasers’ income level. The Vermont program offers financing packages developed by Efficiency Vermont, the Vermont Housing and Conservation Board, and other local partners. See this ACEEE topic brief for more details: www.aceee.org/sites/default/files/pdfs/zeb_topic_brief_final_9-29-20.pdf

¹⁷ To learn more about the differences among manufactured, mobile, and modular homes, see Clayton Homes 2021.

and Community Development (DHCD) are launching these programs as the result of legislative requirements to deliver cap-and-trade-funded energy efficiency to underserved customers.¹⁸ Some states have used these laws to establish an umbrella framework under which to offer several simultaneous, multi-year programs that ensure underserved customers benefit from RGGI.

Across the strategies examined above, it will be important for states to work with community leaders and local organizations that are familiar with the needs of the historically underserved individuals they are working to support. By partnering directly with these community members and the local organizations that serve them, decision makers can center these residents' needs and collaboratively develop equitable energy efficiency policies and programs. Local governments can provide opportunities for community-based organizations to support these processes in a way that aligns with these organizations' capacity (Ayala, Dreihobl, and Dewey 2021). States can also coordinate with utilities to deliver energy efficiency to fossil fuel-producing communities by providing technical assistance and/or funding across multiple program implementers and utilities. States can offer programs across customer segments and leverage cap-and-trade funding alongside federal, state, local, and private dollars. By investing in robust energy efficiency programs that meet the needs of these households and workers, states can help ensure a just transition for these communities.

Conclusion

By strategically investing cap-and-trade proceeds, states can steer economic and environmental benefits to underserved residents, businesses, and farmers. This research identifies more cap-and-trade-funded programs for some underserved communities than others. Most of the programs we identified serve low-income households, but we found a lack of programs designed specifically for rural or fossil fuel-producing communities. While income-based energy efficiency programs are often clearly labeled as such, programs for rural and fossil fuel-producing communities are not always clearly marketed in the same way. We believe this made them harder to identify for our paper. For example, Efficiency Maine's heat pump programs engage rural Mainers, but the program is not branded as one for rural residents. Future research could explore energy efficiency programs for underserved communities as part of other types of decarbonization policies, beyond cap-and-trade, as well as state-led programs for rural or fossil fuel-producing communities.

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¹⁸ The Virginia Clean Energy and Community Flood Preparedness Act requires that DHCD use 50% of RGGI revenue to support low-income energy efficiency programs (Virginia General Assembly 2020).

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