

# Weatherization Plus Health 2022 report



Per section 1066(2) of the [2021-23 supplemental capital budget](#)

**ENERGY DIVISION**

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Report to the Legislature

**Director Lisa Brown**

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# Executive summary

## Overview

The Department of Commerce, in partnership with the Washington State University Energy Program (WSU), administers multiple weatherization programs serving low- and moderate-income households throughout Washington. The Weatherization Plus Health program provides funding and oversight to 27 community based organizations. The program and partnerships are making a statewide investment in Washington's clean energy future that delivers affordable housing preservation and efficiency upgrades by providing repairs, health and safety improvements, and installation of energy efficiency measures in low- income communities. Funding of this program, and the broader set of programs that support and enhance weatherization, provides critical, direct support for vulnerable populations. This report provides an overview of current activities and recommended strategies to expand and align the suite of state-funded Weatherization Plus Health initiatives. It also outlines specific strategies to broaden the scope and scale of low-income household energy programs as called for by the 2021 State Energy Strategy.

This report satisfies the requirements of Section 1066(2), Chapter 332, Laws of 2021 (Substitute House Bill 1080, the [supplemental capital budget](#)).

## Key findings

- State investments in weatherization make it possible to serve households most in need with more holistic home services where highly restricted federal funding alone would fall short. Weatherization programs intend to continue leveraging federal funds provided in the Infrastructure Investment and Jobs Act (IIJA) and look for opportunities to align to the expanded credits and rebates in the newly passed Inflation Reduction Act (IRA).
- Commerce commissioned a study to better understand the building energy efficiency needs of low-income and overburdened communities, and how to improve service delivery. This study will provide Commerce, WSU and the Legislature with a roadmap for scaling up residential energy efficiency programs.
- The Rural Rehabilitation Loan program has been difficult to implement due to a variety of challenges. The aforementioned study will help identify service gaps and marketplace need for a tailored loan product, which will inform how this program will change in the future.
- WSU has started to adapt the Community Energy Efficiency Program (CEEP) to incorporate the identified recommendations required by the Legislature in SHB 1080.
- Commerce and WSU will collaborate to implement the low- and moderate-income programs as a system, so eligible households face fewer barriers to accessing services based on income and need.

## Recommendations

Commerce and WSU recommend the following strategies to expand and align weatherization initiatives:

- 1) The state should provide funding to expand the suite of weatherization and CEEP services statewide, prioritizing multifamily housing, fossil fuel-heated housing and high energy burden communities.
- 2) Commerce and WSU should deploy educational strategies to ensure eligible homeowners can access services based on income and need by increasing education and awareness of weatherization and home rehabilitation providers.

- 3) Commerce should work with stakeholders and employers to grow the weatherization workforce by expanding partnerships, training opportunities and career pathways.
- 4) Commerce and WSU should co-lead a statewide residential electrification workgroup to maximize the opportunities for healthy, affordable, clean and efficient homes by creating a low- and moderate-income residential electrification workgroup to develop strategies that balance weatherization, fuel switching and energy burden reduction interests.
- 5) WSU Energy Program should complete and implement findings from the low income needs assessment study and CEEP 2022 program evaluation.

# Introduction

## Background

Weatherization Plus Health is a targeted investment that helps address the underlying disparities and systemic inequalities that prevent low- and moderate-income residents from accessing and benefiting from healthy, affordable, efficient homes. The preservation of energy efficient, affordable housing improves community resiliency while advancing Washington's clean energy goals. The improved health conditions and reduced energy and health costs resulting from the Weatherization Plus Health program have a positive effect on the state by reducing energy assistance needs, Medicaid costs, carbon emissions and energy arrearages. Conservatively, these efforts are estimated to have a three-fold benefit; that is, for every \$1 invested, there is a \$3 gain to residents and the greater state climate efforts. Moreover, the program provides consistent energy savings to markets and clients that utilities cannot effectively or efficiently serve.

## Legislative mandate

This report satisfies certain requirements of Section 1066 (2) of Chapter 332, Laws of 2021 ([2021-23 supplemental capital budget, Substitute House Bill 1080](#)):

The department, in collaboration with the Washington State University, shall make recommendations to the appropriate committees of the legislature on strategies to expand and align the weatherization program and the rural rehabilitation loan program. The department shall report the recommendations to the appropriate committees of the legislature and the governor by November 1, 2022. The recommendations must include strategies to:

- a) Recruit community energy efficiency program sponsors that are community-based organizations located in geographic areas of the state that have not received funding for low-income weatherization programs, targeting hard-to-reach market segments;
- b) Leverage funding from community energy efficiency program sponsors in an amount greater than or equal to the amount provided by the state through the weatherization program;
- c) Ensure that community energy efficiency program utility sponsors work with non-profit community-based organizations to deliver community energy efficiency program services; and
- d) Identify community energy efficiency program sponsors that support the conversion of space and water heating from fossil fuels to electricity, as part of a set of energy efficiency investments.

## History of weatherization programs

In 1976, Congress enabled the [Weatherization Assistance Program](#) (WAP) through the Energy Conservation Policy Act to help low-income families permanently reduce their energy bills by making their homes more energy efficient. While the program started with providing air sealing and cellulose insulation, weatherization professionals learned, with the use of new technologies, how houses operate as a system. Known as the "whole house approach,"<sup>1</sup> weatherization services have expanded beyond energy efficiency to maximize energy savings, comfort and health of the building.

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<sup>1</sup> The "whole house approach" is derived from the house as a system concept. Although home components — insulation, windows, doors, ventilation, exterior walls, foundation, and heating and cooling system — are separate, they operate as a multi-component, interactive system. Sometimes energy retrofits to one component can affect other components in unintended ways. Weatherization programs use the "whole house approach" as standard practice to eliminate the unintended consequences of energy retrofit work.

The U.S. Department of Health and Human Services administers the [Low-Income Housing Energy Assistance Program](#) (LIHEAP). Established in 1981, LIHEAP funds state programs to help individual households with energy bills, health and safety improvements, weatherization and minor home repairs. The [Low-Income Energy-Efficiency Program \(LIEEP\)](#) also supports the weatherization program by providing grant funding to low-income residents in Bonneville Power Administration (BPA) service territories. Washington receives formula funds from both fund sources to support weatherization services.

In 1987, the Washington State Legislature created the [Washington State Matchmaker Program](#) to provide matching funds for weatherization investments made by utility and property owners. The Legislature has authorized the use of state capital funds for weatherization each biennium since 1991.

Recognizing the important role of the built environment in resident health, in 2015 the Legislature expanded the program to pilot healthy home measures for residents with respiratory illnesses or are prone to slips, trips and falls. Many people in low-income households have health conditions such as limited mobility, asthma, chronic obstructive pulmonary disease (COPD), hypertension, or compromised immune systems, made worse by substandard housing conditions. There is strong evidence linking health outcomes to substandard housing, and further evidence suggests that targeted healthy home investments can improve health outcomes and lower health care costs. For example, households that received weatherization plus health services had improved asthma control and saved more than \$400 per year in medical costs. Healthy home measures have been incorporated as a standard practice and the state-funded weatherization program is now referred to as Weatherization Plus Health.

In 2017, the Washington State Legislature created the [Home Rehabilitation Loan Program](#) (HRLP, also called Rural Rehabilitation) to address the hundreds of households deferred from weatherization assistance because of the homes' poor condition. Commerce administers this program through a network of non-profits, including low-income weatherization and housing providers. HRLP is a revolving, deferred loan program that provides up to \$40,000 to eligible low-income homeowners to address health, safety and durability issues in primary residences in rural areas of the state. As a result, these homes can now access weatherization services.

Fueled by the American Recovery and Reinvestment Act and the U.S. Department of Energy State Energy Program, the [Community Energy Efficiency Program](#) (CEEP) launched in 2009. The state capital budget has funded the program since 2012. CEEP is a complementary program that provides energy efficiency upgrades for moderate-income households and small businesses. CEEP has more flexible rules that allow for owner contributions to be leveraged and the ability to support targeted measures, such as the manufactured home duct sealing program. Commerce partners with WSU to administer CEEP.

Today, weatherization delivers affordable housing preservation and efficiency upgrades by providing repairs, health and safety improvements, and installation of energy efficiency measures in single and multi-family homes in every county and for seven Native American tribes. Commerce provides funding and oversight to 27 local community action agencies, municipalities, housing authorities and tribal agencies to deliver weatherization plus health services based on local need. Household measures are installed by a combination of agency-based crews and more than 140 weatherization, HVAC, plumbing and electrical contractors across the state. Each of our community based organization partner selects contractors by a competitive procurement process.

## Current activities to expand programs

Federal and state policies and funding priorities have long emphasized building energy efficiency and reducing the energy burden of low- to moderate-income households. Washington state energy and climate policies also amplify the need to reduce greenhouse gas emissions in the residential sector. The 2021 State Energy Strategy noted that only a fraction of approximately 750,000 income-eligible households receive weatherization services each year due in part to funding, regulatory and system capacity constraints.

Acknowledging the request of the Legislature to expand and align weatherization programs, Commerce and WSU have begun implementing changes and updating program guidelines so community-based providers can serve more low- to moderate-income households. Some specific activities underway are:

### Piloted and updated program guidelines to test new approaches.

With stakeholder input, Commerce launched three pilot programs in 2020 to help weatherization providers reach more income-eligible homes. The state paid for the costs of work completed by associated community partners and their contractors. Once the repairs were made, federal and utility funds were used to provide weatherization measures.

- **Fuel switching:** Incorporating electrification into the low-income weatherization program by transitioning oil and propane heated homes to electric technologies. According to data from the [EIA Heating Fuels Comparison Calculator](#), delivered fuel (oil and propane) systems are some of the most expensive to use and maintain. Further, when these fuels are burned, the process can cause pollution inside the home, particularly if there is not good outdoor air exchange and ventilation. Because of the electrification pilot, participants had energy bill savings and healthier, safer homes. Commerce partnered with 10 community-based organizations for this pilot program. The pilot had an average cost of \$20,809 per home for 45 units.<sup>2</sup> Commerce considers the electrification pilot a success because it converted 45 household from expensive, high CO2 emitting households to electric heat pump technology. Many more households statewide could benefit from this approach.
- **Weatherization readiness:** Addressing small issue deferrals through home rehabilitation. Many qualifying homes are ineligible for weatherization due to needed major repairs. With deferral pilot funds, agencies performed repairs at and then weatherized previously deferred homes. A total of 103 units were completed, averaging \$17,895 per unit.
- **Tribal weatherization readiness:** Providing funding directly to five tribes to address home rehabilitation needs prior to weatherization. The pilot phase is incomplete due to pressing challenges that arose for Native American communities due to the COVID-19 pandemic.

Commerce has evaluated both the fuel switch pilot and the weatherization readiness pilot and incorporated them as standard measures that are now available in the Weatherization Program. All 27 of Commerce's community based partners can participate in these programs. Commerce will assess the tribal weatherization readiness pilot later in the fiscal year to determine if the program should continue.

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<sup>2</sup> This figure is higher than average due to additional administrative burden, prevailing wage labor cost and material cost to meet our specifications. The additional expense is necessary to use federal funding to weatherize these homes, as these homes could not be weatherized without repairs.



## **Completed a Weatherization Workforce Roadmap study and implementing recommendations to recruit and retain a skilled workforce.**

In 2019, Commerce commissioned a study to identify workforce challenges and establish a workforce development roadmap to help weatherization providers and their contractor partners recruit, develop and retain skilled weatherization professionals. The weatherization providers are community-based organizations that work directly with the utilities and with contractors. Since the study's completion, Commerce and WSU have facilitated a Workforce Development Committee with representatives from the Building Performance Center, weatherization agencies and contractors to implement the following recommendations:

- Hire a Commerce staff position to coordinate workforce development efforts, build partnerships and provide technical assistance to service providers
- Conduct a facilitated weatherization network roadmap discussion with workforce experts
- Leverage existing recruiting/hiring resources and events
- Develop effective recruiting tools
- Enhance internal employment/human resources strategies and practices
- Sponsoring work-based learning experiences (internships, seasonal employment) for students
- Increasing efforts to expand diversity in recruiting and hiring

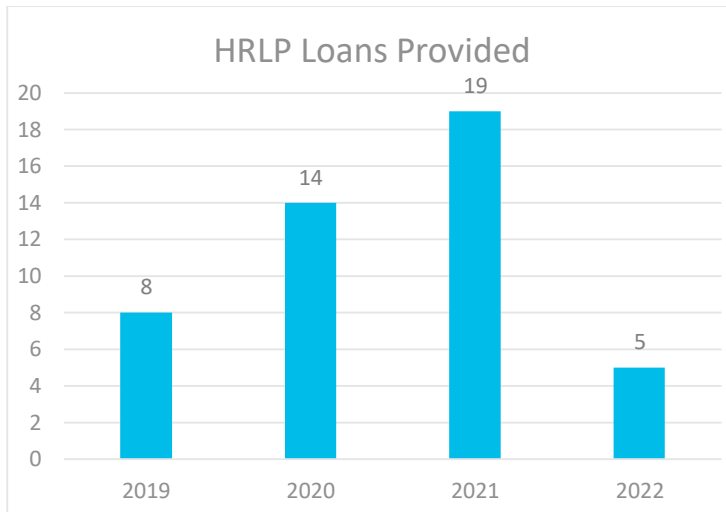
More details on the [roadmap are online](#).

## **Commissioned a needs assessment study for energy efficiency services for low-income households and overburdened communities.**

Washington's building energy services encompass a range of federal, state and utility funded programs and services that collectively address the state's energy and climate goals. Commerce recognizes the need for a cohesive, data-driven understanding of program gaps and needs and knowledge of opportunities for expansion and equitable service delivery for low-income and overburdened communities. To address this, Commerce competitively selected a third-party evaluation and consulting team to provide a detailed implementation plan for scaling up building energy efficiency services to equitably serve low- to moderate-income populations. The needs assessment will also assess the strengths and limitations of the current service delivery model and identify opportunities for improvements. This work is underway with an anticipated completion date of June 2023.

## **Facilitated two procurement processes to expand the Home Rehabilitation Loan Program (HRLP).**

The HRLP is in its third cycle of funding, with the Legislature authorizing \$5 million in the 2021-2023 biennial budget. Our community based partners interest in administering this program has declined from 88% participation (14 out of 16 eligible agencies) in the 2017-2019 biennium, to 50% participation in the 2021-2023 biennium. To date, the program is servicing 46 loans.



This loan program was designed to address deferred maintenance needs in eligible, rural service territories so that homes could be weatherized. However, many challenges have been identified by our community partners

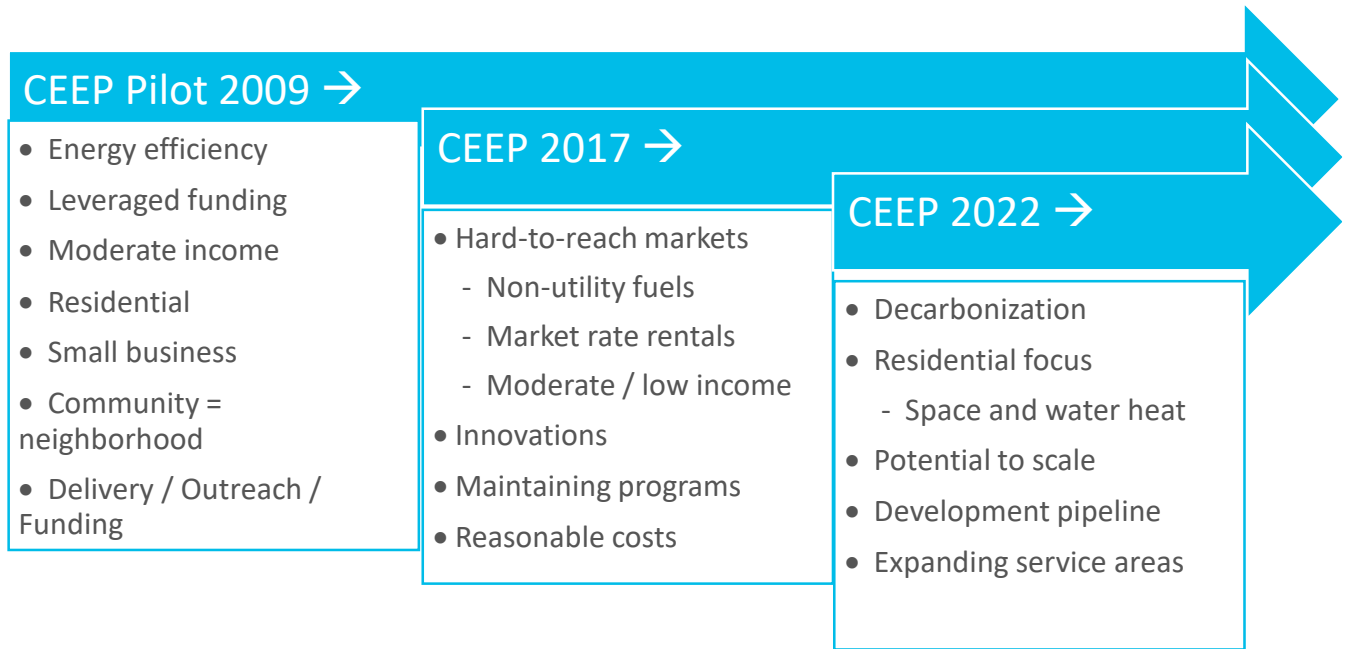
- Operating funding for service providers is insufficient and unstable
- Hesitant to burden low-income clients with debt
- Requirement that the loan be paid in full when homeownership changes. Low-income clients prefer to have the flexibility to transfer the loan to other family members in cases of inheritance.
- Availability of loans with more favorable terms and conditions than what the legislation allows, such as:
  - Fixed low interest rate rather than pinning the rate to the Consumer Price Index
  - Allowing appraised value rather than county-assessed value
  - Allowing income eligibility to be at 80% Area Median Income, instead of 200% Federal Poverty Level

Commerce is continually assessing these challenges and will use results from the latest round of HRLP awards and the needs assessment study to determine if a state financing product is needed to address rural home rehabilitation needs.

## Modifying CEEP based on program findings

CEEP budget authorization required Commerce to work with Washington State University to develop strategies for improved program approach and delivery, which has allowed testing and delivery of alternatives to complete full-home weatherization. While the WSU Energy Program provides a guiding framework for implementation, each program partner (Avista Corporation, Clark Public Utilities, Opportunity Council, Puget Sound Energy and the Sustainable Living Center) shapes their program to address the needs of their community and target market segments. The guiding framework, and its evolution, are shown in Figure 1.

**Figure 1: Focus areas for CEEP implementation**



The focus for the past several years has been targeting hard-to-reach market segments, exploring and testing innovations in both efficiency measures and delivery mechanisms, and keeping costs reasonable while doing so. The effort has also maintained its focus on leveraging funding and bringing efficiency services to moderate-income households.

The WSU Energy Program has begun aligning CEEP program guidelines with the strategies developed per the 2021-23 capital budget (SHB 1080), including creating and implementing recommendations that impact the program. For example, since 2014 (Round 3 solicitation), CEEP partners have identified and supported converting carbon-intensive heating systems to electric heat pumps as part of a broader set of energy efficiency improvements in some residences. Since 2017 (Round 4), proposals that prioritize electric heat pump technology were encouraged over gas.

In response to the legislative requirement to develop strategies to prioritize community based organizations as lead grantees for CEEP, starting in 2021 (Round 6), the WSU Energy Program began phasing out its support of utility-led CEEP partnerships. No funding from the 2021-23 budget will be used to support utility-led efforts because the utility grants had limited partnerships and engagement with these community partners. The WSU Energy Program has begun a major redesign and developed a new solicitation to test and prepare for long-term implementation of recommendations that achieve these objectives for its next solicitation (Round 7).

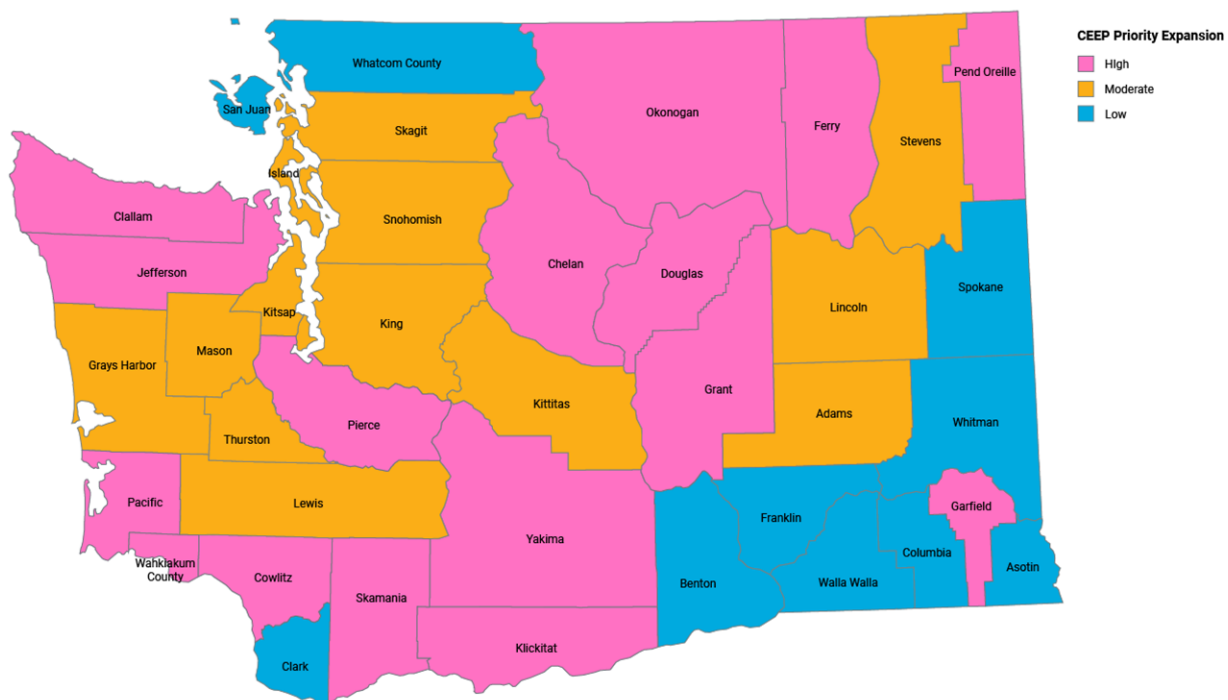
In late June 2022, the WSU Energy Program issued a solicitation for new community-based partners to lead CEEP projects to supplement the continuing efforts of two ongoing projects ([Appendix A](#)). To encourage innovation and further find and implement strategies in line with the legislative intent of the 2021-23 capital budget, the solicitation provided maximum flexibility while acknowledging the need for equitable funding throughout the state (see **Figure 2**).

- The solicitation sought proposals from community-based organizations for projects to support efficient decarbonization in the moderate-income portion of the residential sector, with a particular emphasis on

space and water heat conversions. The solicitation reflected the preference that program partners be public or private non-profits with a local governance and connections, or state-wide organizations, for-profits, utilities and government entities who show a clear strategy to communicate and coordinate existing services and programs in the community. Potential utility applicants were required to show a strong partnership with a community-based organization.

- The projects proposed needed at least equal funding as their proposal for CEEP.
- The solicitation targeted harder-to-serve markets, which specifically included:
  - Low- and moderate-income households
  - Non-utility fuels (oil, propane, wood)
  - Market-rate rentals
  - Areas of the state with limited delivery infrastructure

**Figure 2: Priority counties for 2022 CEEP expansion grants**



# Recommendations

Commerce and WSU have identified several strategic opportunities to expand and align the weatherization programs and the Rural Rehabilitation Loan Program to serve more clients and reach historically underserved communities and populations.

## 1) Secure state funding to expand the suite of weatherization and CEEP services statewide, prioritizing multifamily housing, fossil-fueled heated housing and high-energy burden communities.

The state must fund both the Weatherization Plus Health and Community Energy Efficiency Program for the 2023-25 biennium for Commerce and WSU to provide the leadership needed to expand and align the weatherization, CEEP, and home rehabilitation programs. Additional funding is needed to ensure high energy burden households (including multi-family and rentals) and fossil-fueled heated housing are prioritized in order to align with state policy and equity goals.

This investment would be in two parts:

**Weatherization Plus Health:** Commerce is requesting a \$36 million investment for the 2023-25 biennium. The Weatherization Plus Health Program funding will significantly improve the energy efficiency, health and safety of more than 4,234 households this biennium in hard-to-reach markets, including rental and multi-family households. This state investment represents sustaining critical weatherization services and will directly leverage at least:

- \$36 million in utility energy efficiency funding
- \$60 million in federal and local funding, including \$47 million in formula funds Washington will receive over the next five years from the federal [Infrastructure Investment and Jobs Act](#) for weatherization

**Community Energy Efficiency Program:** The WSU Energy Program is requesting \$20 million to expand CEEP to a statewide program by recruiting community program sponsors in unserved geographic areas of the state and to build the program infrastructure required to identify and serve more people. This funding would support the needed staffing capacity at WSU to collaborate with Commerce to implement the listed recommendations.

## 2) Ensure eligible homeowners can access services based on income and need by increasing education and awareness of weatherization and home rehabilitation providers.

Commerce and WSU should deploy new educational strategies so community partners, residents and other weatherization stakeholders can easily learn about and understand the program. This is envisioned as a central "one-stop shop" where users can access information and services will ensure low-income weatherization providers, HRLP providers, CEEP sponsors, and utility partners understand what services exist, for what demographics, and where. In addition, to help address deferrals and repairs that exceed what can be funded by the standard weatherization program, a centralized platform will facilitate referrals to low or no interest home rehabilitation financing products (such as through the Department of Housing and Urban Development, the U.S. Department of Agriculture and others.)

### 3) Grow the weatherization workforce by expanding partnerships, training opportunities and career pathways.

The Weatherization Workforce Roadmap provides a pathway to recruit, maintain and expand a skilled workforce. Specific recommendations include:

- **Expand the weatherization workforce:** The weatherization industry is not well understood and often overshadowed by the larger construction and energy efficiency industries. Commerce, along with community partners and weatherization stakeholders, should create new, creative approaches to marketing for and recruiting new employees are needed to grow the weatherization workforce.
- **Collaborate with the existing workforce system:** Employers need to actively collaborate in the public workforce system by leveraging state and local resources in order to generate better hiring results.
- **Ensure current and future skills and qualifications:** The Building Performance Center (BPC) delivers industry trainings and certification services across the state. However, additional training capacity and expanded online/hybrid delivery options by The Building Performance Center (BPC) are needed to meet future demand and certification requirements to qualify and upskill weatherization employees, particularly in rural areas.

### 4) Maximize the opportunities for healthy, affordable, clean and efficient homes by creating a low- and moderate-income residential electrification workgroup to develop strategies that balance weatherization, fuel switching and energy burden reduction interests.

Commerce and WSU should create and co-lead a statewide residential electrification workgroup to expand access, while ensuring electrification does not disrupt the opportunity for low- and moderate-income homes to be fully weatherized.

This partnership will develop the tools necessary for better decision making around low- and moderate-income electrification and weatherization interactions. For example, it could develop a future-looking economic heat map highlighting areas in the state where low- and moderate-income household electrification makes sense and is beneficial, considering all associated costs.

### 5) Implement findings from the low income needs assessment study and CEEP 2022 program evaluation.

The WSU Energy Program should complete the current program modifications that align with the Legislature's intent and incorporate learnings into future program implementation as standard practice.

Commerce will prioritize the recommendations of the Needs Assessment for Energy Efficiency Services for Low-Income Households and Overburdened Communities to scale up energy efficiency services to eligible households. The findings and recommendations will be delivered to Commerce in June of 2023. Commerce will also identify whether a state-sponsored financing product is the right vehicle for homes to receive weatherization services.

# Appendix A: CEEP 2022 Request for Proposal

## [CEEP Request for Proposals 2022.pdf](#) (PDF)

The Washington State University (WSU) Energy Program issued an RFP on June 29, 2022 to award implementation and development grants for scaling decarbonization in hard to reach residential markets.