Working Group Recommendations on the Minnesota Weatherization Assistance Program

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Additional thanks to Chair Long, Chair Senjem, and Representative Bierman for their leadership in forming the Weatherization Working Group; to Jed Norgaarden for providing *Considerations for Scaling Up the WAP Program* that can be found in Appendix A which significantly assisted in the initial design; and to Gabe Chan and Elise Harrington from the University of Minnesota for their data analysis that will further inform future considerations. This analysis can be found throughout the report in callout boxes and in full within Appendix B. Finally, this work could not have been completed without the diligent efforts of Alliant Consulting Group who successfully shepherded the process within significant time and resource constraints.

Funding for the consultation and analysis that informed this report was made possible by the U.S. Department of Energy, Weatherization Assistance Program.

NOTE: Members collaboratively drafted this final report based on their sub-group recommendations and all members were able to review and edit the report for consistency and coherence. However, due to the constricted timeline and desire for all opinions to be incorporated, while collaborative in nature, no formal consensus process was utilized in the formation of this report. Recommendations provided are those solely of members of the informal working group members and may not be reflective of the opinion of every working group membership, Minnesota Department of Commerce, nor the entities the members represent.

Executive Summary

The Minnesota Weatherization Assistance Program (WAP) is a predominantly federally funded, statewide, residential assistance program for income-eligible households run by the Minnesota Department of Commerce. WAP services are comprehensive in nature, utilizing a whole-house approach in order to achieve, on average, 20-30% in permanent energy reduction through implementation of energy efficiency measures.

Estimates in 2019 showed, with funding levels at that time, it would take 291 years to serve all income-eligible households. In response, in 2021, an informal Weatherization Working Group, includinglegislators, low-income advocates, utilities, service providers, and other partners was formed to assess barriers to service and establish recommendations for the Minnesota Legislature and for State WAP leaders. Within the Weatherization Working Group, sub-groups formed to look at barriers related to 1) Funding and Deferral Issues, 2) Programmatic Equity Barriers, and 3) Workforce and Supply Chain issues. The subgroups' key themes had significant overlap with each other. Recommendations were categorized into legislative and programmatic recommendations. Programmatic recommendations were also further segmented into policy and partnership opportunities.

Themes

The following are themes, listed in no particular order, that emerged from the discussion and led to the recommendations that follow:

1. Stable funding is central to establishing and maintaining a robust, skilled workforce, providing equitable and ongoing service, and increasing services to more income-eligible households.
2. Targeted, community-level engagement is critical to any efforts to improve program participation.
3. There are structural barriers to service that warrant a deeper and ongoing discussion in order to better serve all income-eligible households equitably, across race, housing type, geographic location, etc.
4. Dedicated funding that supports strategic partnerships is needed to address barriers in workforce and supply chain issues, to increase program equity, and to leverage needed additional services for the household.
5. Additional research, data, and monitoring of program metrics statewide is necessary in order to improve and ensure long-term equitable access to services.
6. There are quantifiable energy and non-energy benefits of the Weatherization Assistance Program, such as improved health, stability, and community involvement that should be highlighted.
7. There are specific legislative and programmatic barriers that, if addressed, could dramatically improve program reach. Further assessment of the authority of each and advocacy for streamlining of services is necessary in order to simplify both access to services and program implementation.
8. The ongoing pandemic has exacerbated workforce and supply chain issues that must be addressed in order to scale up a robust, stable program.
9. There are tangential realities in the energy and housing sectors, that while outside the scope of the Weatherization Assistance Program, greatly impact the same households the program serves.
10. Operational scale up of services requires a multi-faceted approach that rests on a variety of factors addressed in the full set of recommendations.

Summary of Recommendations

Legislative and Programmatic recommendations were generated by each of the working groups, categorized here as Weatherization Assistance Program-Specific Legislative Recommendations, other Recommendations for the State Legislature, Federal Advocacy Recommendations, and Programmatic Recommendations for the Minnesota Department of Commerce (further broken down by themes). Additional background, more specific recommendations, and detail supporting these recommendations can be found within each sub-group's pages that follow.

Weatherization Assistance Program-Specific Legislative Recommendations

1. Supplement the federally funded Weatherization Assistance Program (WAP): Allocate $30 to $40 million of state resources annually for the next 10 years, to supplement federal funds, in order to ensure stable funding of $80 million annually.
    a. Allow state WAP funds to be utilized for addressing barriers to service, including but not limited to structural issues, workforce shortages, and outreach limitations.
    b. Allocate funding for targeted outreach, application assistance, and translation services by local agencies and community-based organizations, targeting areas with disproportionately high poverty and low participation rates relative to the population's energy burden.
    c. Provide legislative allowances for multi-family buildings where upgrade timelines exceed the one-year funding cycle.
    d. Provide gap funding to help owners of low-income subsidized or naturally occurring affordable multi-family housing bridge the owner financial contribution required to participate in WAP.
    e. Create a secondary state-specific WAP eligibility tier for households that are slightly over-income but struggling due to a high energy burden.
2. Add Clean Energy Careers to the Department of Labor and Industry's Dual-Training Competency Grants Program with a specific stipulation and allocation for Energy Efficiency careers.
3. Create a fund for an Apprenticeship track for people entering weatherization workforce.
4. Provide funding to supplement Minnesota Housing's Rehabilitation Loan Program to provide additional access to funds, in order to address deferrals, by income-eligible households.

Other Recommendations for the State Legislature

1. Develop a Home Energy Use Disclosure requirement for rental properties.
2. Create a public-facing Energy Use grading system for multi-family buildings.
3. Require the Energy Code for new residential construction to meet WAP energy standards.

4. Direct all Minnesota electric and gas utilities that do not already operate a Percent of Income Payment (PIP) program to develop this programmatic cap on energy costs. Revise statutory qualification criteria to allow customers whose income qualifies them for Energy Assistance to receive PIP assistance regardless of EAP funding.

5. Create and fund an Interagency Office on Energy Efficiency within the Minnesota Department of Commerce.

Recommendations for Federal Advocacy

1. Advocate in Congress for changes to the U.S. Department of Energy requirements which inhibit the initiation of expanded state weatherization programs, namely:

    a. Utilize energy burden percentage as a standard eligibility criteria;

    b. Allow targeted weatherization on a neighborhood or community-level;

    c. Allow for presumptive eligibility by those who have already proven their economic status with another level/branch of government (free/reduced lunch; SSI; rental assistance; etc.);

    d. Utilize Justice40 as a model to address systemic racism in the current process and to expand program eligibility;

    e. Allow funding to be utilized for an Energy Auditor Mentoring Program to train and utilize additional auditors prior to certification; and

    f. Add transportation energy costs as a factor in energy burden calculations.

2. Advocate in Congress for changes to allow the U.S. Department of Health and Human Services to expand the allowable transfer dollar amount of LIHEAP (Low-Income Housing Energy Assistance Program) to the Weatherization Assistance Program.

Programmatic Recommendations for the Minnesota Department of Commerce

Ensure Equitable Service

1. Convene a stakeholder group, with WAP Service Providers as core participants, to explore the education and outreach application assistance, translation services and other necessary actions being taken by Service Providers. Using the stakeholder group and the data collected, develop and share best outreach practices across the state.
2. Ensure annual and proactive communication between the Minnesota Department of Commerce, weatherization service providers, and community-based organizations in areas of low participation and high deferral rates.
3. Incentivize owners of multi-family and other rental properties to connect with and educate residents on the WAP program.
4. Consult with Tribal Nations about any requirements that create unique barriers for them (eg. Proof of home ownership)

5. Identify other service programs (e.g., SNAP, free/reduced lunch) with higher energy use among residents living in poverty and look for opportunities for collaboration on sharing information about the Weatherization Assistance Program.
6. Explore gaps in participation of the Weatherization Assistances Program based on: poverty, race, housing type, and household energy burden. Utilize the Minnesota Department of Commerce Conservation and Applied Research Development (CARD) grant, or other grant funds. Fund future periodic studies to identify trends.
7. Leverage the outcomes of any CERTs seed grant projects to increase WAP participation among people of color and members of Tribal Nations. Determine if outcomes from the projects can provide recommendations to better address cultural and language barriers.

Address Deferrals

1. Research and develop a report on major barriers and solutions to addressing deferrals beyond funding to determine what other support is needed.
2. Research if MN deferral policies differ from other states in order to look for improvements to state policy that could further reduce deferral reasons.

Stabilize Program Funding

1. Research and develop a long-term strategy for sustained efforts beyond the initial 10-year goal and next steps outlined.
2. Pursue competitive funding to increase and stabilize funding at a scale that would serve all eligible households with weatherization services/energy efficient retrofits.

Streamline Processes & Expand Program Services

1. Convene a stakeholder group to focus on streamlining processes for administering WAP, and other assistance funds, in order to increase and simplify access for income-qualified rental households and increase reporting efficiency.
2. Solicit a third-party analysis on which program regulations are required by the federal government and which ones the state has authority to modify. Based on this analysis:
    a. Align citations for federal, state, and Minnesota Department of Commerce requirements to more quickly update regulations;
    b. Simplify and streamline the paperwork at all steps in the process beginning with the consumer; and
    c. Continue to explore the safest way to work with vermiculite including analyzing processes used by other states.
3. Develop a process for Quality Control Inspector (QCI)-contracted monitoring of the WAP network.
4. Allow partial payments to contractors with a 10% retainage.
5. Make permanent the practice of allowing more flexibilities, more measures, and targeted services, where location and priority are strategically taken into account.
6. Gather and analyze metrics about the impact of spending proportionally more dollars on WAP versus Energy Assistance, as well spending it on a priority and localized basis.

Partner & Innovate

1. Convene a group of technical, implementation, and community experts to:
    a. Identify new opportunities for meeting the energy needs of the income-qualified with new technology and energy efficient systems;
    b. Identify potential cross-cutting partnerships, including areas around energy efficiency, housing, and health sectors. Include communities/cities as well as non-profits; and
    c. Ensure that programs are strategically supporting rather than competing with each other (for example WAP and Conservation Improvement programs).

Expand the Weatherization Workforce

1. Engage stakeholders/players in the workforce development space, including but not limited to MN State Colleges and Universities, to develop a coordinated statewide strategy that:
    a. Provides training across the state in areas of demonstrated need;
    b. Factors equity into the effort;
    c. Reduces competitiveness and increases synergy; and
    d. Builds the needed workforce for WAP
2. Explore opportunities to recruit and support new contractors such as purchasing starter equipment
3. Develop strategies to retain current workforce including community-based projects, conducting a salary study, and ensuring WAP workers make family-sustaining wages in all parts of the state.

Address Supply Chain Issues

1. Identify, through research and surveys with WAP contractors, specific materials and equipment that either 1) have chronic supply chain shortages, 2) have experienced supply chain shortages during instances of global disruption since 2020, or 3) are at high risk for shortages in the future due to highly monopolized or centralized production. Use this information to determine:
    a. Short-term high-need materials that could be acquired through ordering portals or bulk purchasing to achieve both a discount and short-medium term buffer against supply chain insecurity; and
    b. Identify which, if any, are well suited to become a local industry based on Minnesota's particular region, resources, and assets.

Introduction

Background and Need

The U.S. Department of Energy (DOE) Weatherization Assistance Program (WAP) is a federally funded, bi-partisan-supported program, that reduces energy costs for income-eligible households through implementation of comprehensive energy efficiency measures of their homes, while ensuring the health and safety of workers and clients. According to the U.S. DOE, WAP supports 8,500 jobs and provides weatherization services to approximately 35,000 homes every year nationwide using DOE funds nationwide.

According to a national evaluation of the Weatherization Assistance Program, households save, on average, $283 or more every year based on the one-time infusion of weatherization activities. Since the inception of the program, WAP has helped improve the homes and lives of more than 7 million families (Weatherization Assistance Program | Department of Energy).

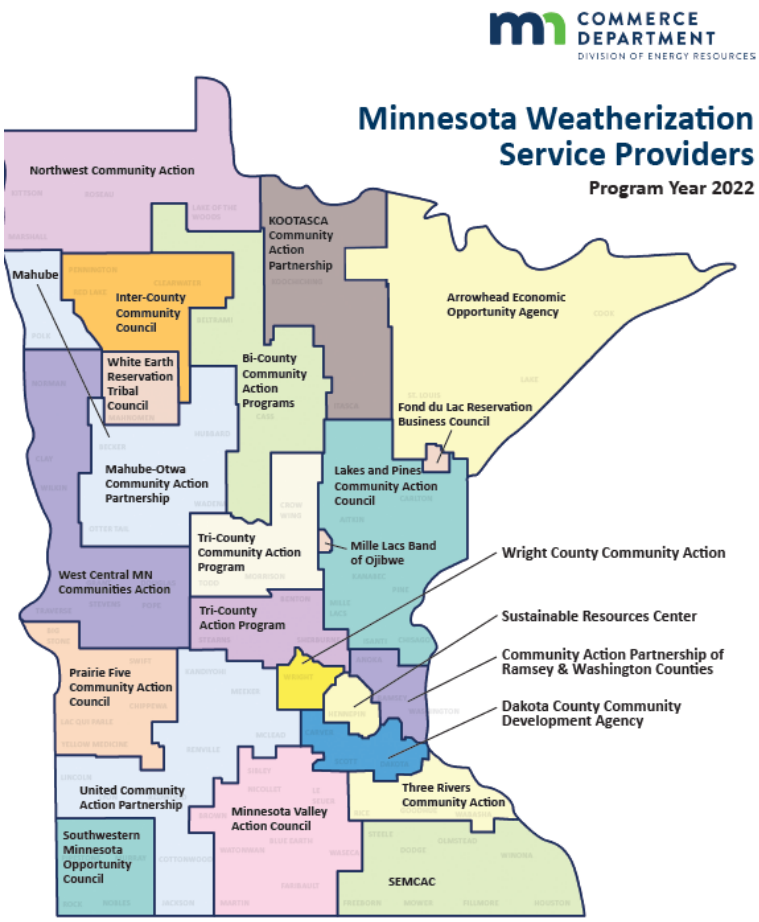
Enabling legislation for the program was enacted in 1976 under Title IX of the Energy Conservation Act1. Minnesota WAP receives an average of $17.4 million annually, with roughly half of the funding from DOE, and the remaining from U.S. Department of Health and Human Services (HHS) as a direct transfer of funds (LIHEAP transfer). Overall, WAP improves the energy efficiency, comfort, safety and health of the homes for an estimated 3,500 Minnesotans annually, while reducing the households' energy burden. Homes with children, elderly, or disabled occupants, or those having a high energy burden or a high energy use, receive priority of service. Two-thirds of the annual funding is spent in Greater Minnesota, with one-third of the funding spent on improving Twin Cities' area homes. Weatherization assistance is available to homeowners and renters, for single-family site-built and manufactured homes, as well as multi-family buildings.

The scope of implemented weatherization work has evolved substantially over the 45+ years of the program, from a light-touch approach of weather-stripping and caulking to a more thorough building science approach, with rigorous quality standards applying to all work.

Through its core mission of residential energy efficiency, WAP reduces Minnesota reliance on imported fossil fuels while reducing utility costs, creating jobs, improving the health and safety of Minnesotans, and mitigating factors causing climate change. WAP is uniquely aligned with the goals of Minnesota State Statute 216C.05 which reads, in part, "Therefore, the legislature, through its committees, must monitor and evaluate progress toward greater reliance on cost-effective energy efficiency and renewable energy and lesser dependence on fossil fuels in order to reduce the economic burden of fuel imports, diversify utility-owned and consumer-owned energy resources, reduce utility costs for businesses and residents, improve the competitiveness and profitability of Minnesota businesses, create more energy-related jobs that contribute to the Minnesota economy, and reduce pollution and emissions that cause climate change."

WAP in-home weatherization work begins with an advanced energy audit and building systems diagnostic, followed by energy measures such as insulation, ventilation, air sealing, and mechanical systems repair or replacement. The program adheres to Federal/State regulations and requires fully licensed/bonded/certified personnel. All work requires inspection at completion and a sign-off by a certified Quality Control Inspector.

The Minnesota Department of Commerce contracts with 23 local Service Providers across Minnesota to deliver weatherization services statewide. The Service Providers are primarily Community Action Partnership agencies, with three tribal nations, one other non-profit agency and one county development agency also delivering services. In total, the Service Provider network employs over 220 people and 280+ independent contractors to weatherize the households of WAP clients.



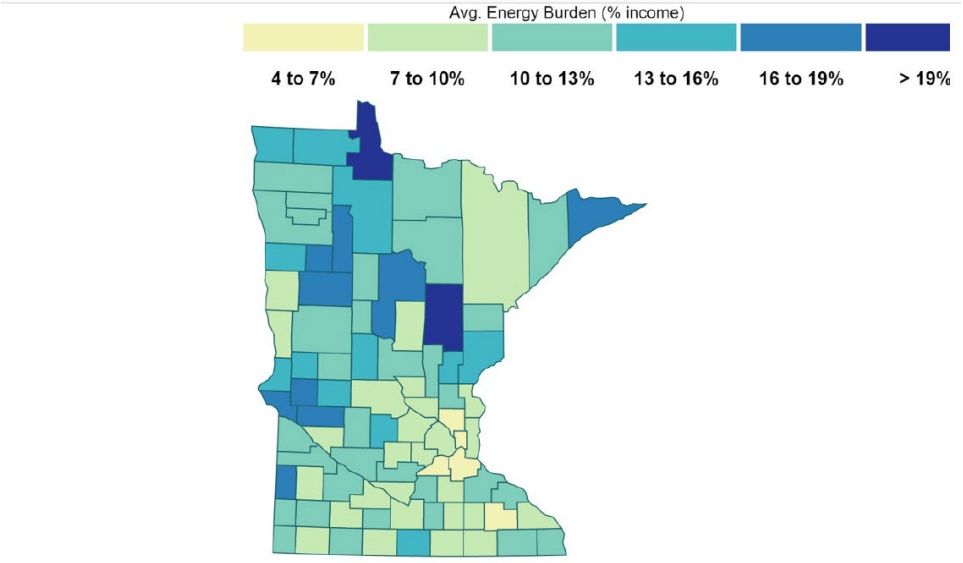
WAP measures improve the household's indoor environment, maintain or improve building integrity, and result in long-term reductions in energy use and in the annual household energy cost, allowing those funds to be re-directed to other key living expenses, allowing a better quality of life for those served.

Energy Burden in Minnesota

Energy burden is the average annual housing energy costs divided by the average annual household income. Energy burden generally means the total energy burden for a household, combining the burden accruing from the electrical load and the burden accruing from heating sources, but not including the burden from transportation energy. High energy burdens are often defined as greater than 6% of income, while severe

energy burdens are those greater than 10% of income (APPRISE 2005)[1],[2]. Drivers of energy burdens include "the physical condition of the home, a households' ability to invest in energy-efficient upgrades, and the availability of energy efficiency programs and incentives"[3]. Nationwide, "low-income households experience high energy burdens almost three times more than the average household and thirteen times more than non-low-income counterparts"[4].

Income-eligible, or low-income (LI) households[5] in Minnesota have an average energy burden of 8%, while the average for Minnesota households over 200% of the Federal Poverty Level (FPL) is 2%.[6] These percentages are similar to the national average, (9% and 3%, respectively). At a county level, twenty Minnesota counties show an average energy burden for LI households at 13% or higher and twenty-eight counties carry an average burden of 10-13%. Further, for the roughly 30% of Minnesota's households that are at or below the Federal Poverty Line (100% FPL), the average statewide energy burden is 16%. In twenty-seven Minnesota counties, the county-wide energy burden for the poorest Minnesotans is 24% or higher, with some LI Minnesotans facing an energy burden of above 30%.



Low-Income Energy Affordability Data Tool Map Export (https://lead.openei.org/)
Exported On: 1/30/2022
FPL: 0% - 100%, 100% - 150%, 150% - 200%
Building Age: Before 1940, 1940 - 59, 1960 - 79, 1980 - 99, 2000 - 09, 2010+
Heating Fuel Type: Utility Gas, Bottled Gas, Electricity, Fuel Oil, Coal, Wood, Solar, Other, None
Building Type: 1 unit detached, 1 unit attached, 2 units, 3 - 4 units, 5 - 9 units, 10 - 19 units, 20 - 49 units, 50+ units, Boat/RV/Van, Mobile/Trailer
Rent/Own: Renter-occupied, Owner-occupied

[1] *Understanding Energy Affordability*, page 2. American Council for an Energy Efficient Economy, 2019. https://www.aceee.org/sites/default/files/energy-affordability.pdf.

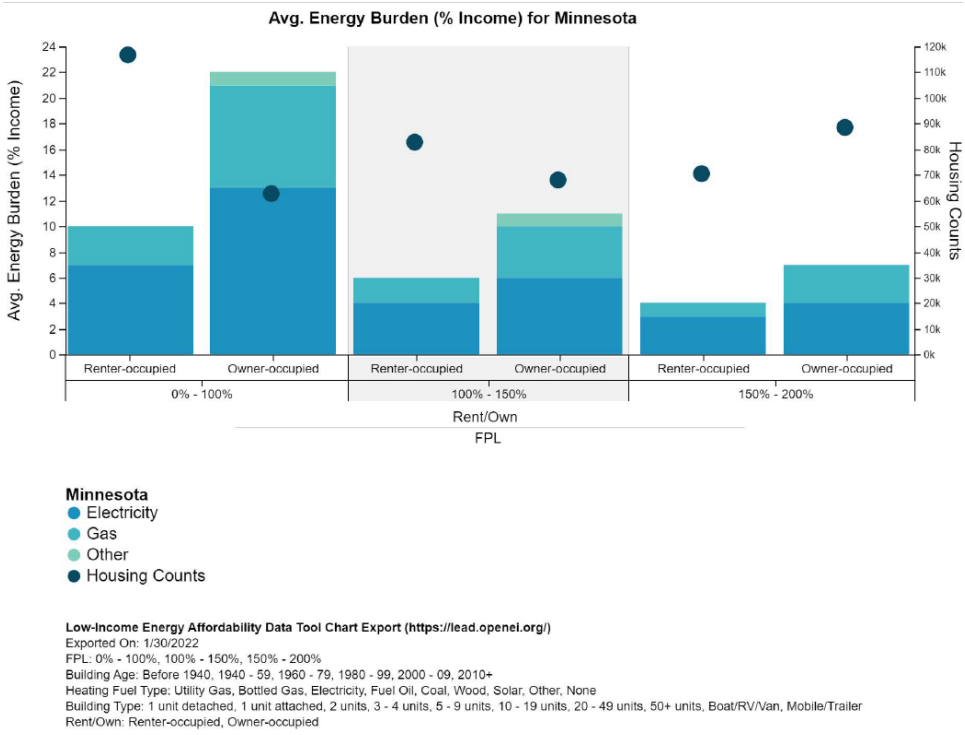
[2] APPRISE (Applied Public Policy Research Institute for Study and Evaluation). 2005. LIHEAP Energy Burden Evaluation Study. Washington, DC: HHS (Department of Health and Human Services). www.acf.hhs.gov/sites/default/files/ocs/comm_liheap_energyburdenstudy_apprise.pdf

[3] *Understanding Energy Affordability*, page 2. American Council for an Energy Efficient Economy, 2019. https://www.aceee.org/sites/default/files/energy-affordability.pdf

[4] Ibid, page 2.

[5] [1] Low-Income qualification for WAP is household income at or below 200% of the Federal Poverty Level (FPL).

[6] Energy Burden information and maps pulled from NREL's Low-Income Energy Affordability Tool (LEAD tool). https://www.energy.gov/eere/slsc/maps/lead-tool.



The assistance offered to LI Minnesotans via the Energy Assistance Program (EAP) and the Weatherization Assistance Program (WAP) reduces the energy burden for the households receiving assistance. EAP is paid annually as needed and focuses on immediate energy needs of income-eligible households, while WAP is a one-time but long-term home modification solution. Both programs target households with high energy burdens for service. On average, households receiving EAP benefits in program year 2018 saw a one-time reduction in energy burden of nearly 40%. A household receiving weatherization under the WAP program will see a long-term energy cost reduction averaging 30%, also resulting in a significant reduction of energy burden. However, neither of these programs can assist every income-eligible household in Minnesota.

Formation of the Weatherization Working Group

In 2021, legislation written, but not enacted, set forth a goal of establishing a Weatherization Assistance Program (WAP) Working Group. Informally established by the Minnesota Department of Commerce, the weatherization working group was developed with a goal to explore ways to leverage existing and identify new funding sources to increase the number of income-eligible Minnesota households served or the scope of services provided by the Weatherization Assistance Program.

The cross-industry working group was invited to participate in the development of WAP-specific recommendation and collaborative approaches, considering the following:

(1) strategies to reduce, each year, a targeted number of eligible households denied weatherization services due to unaddressed health, environmental, or structural hazards in the home;

(2) new sources of funding in order to increase the number of households receiving weatherization assistance services;

(3) existing program models in other states that offer services that complement the Weatherization Assistance Program;

(4) the current distribution of weatherization services across ethnic groups, among different regions of Minnesota, in urban, suburban, and rural areas, and with respect to other demographic factors in order to determine how to distribute weatherization services more equitably throughout Minnesota;

(5) how additional funding would impact the ability of weatherization assistance Service Providers to provide weatherization assistance services to more eligible households;

(6) services that a supplemental funding program could provide to address necessary repairs to homes that the federal Weatherization Assistance Program requires before weatherization assistance is provided, but which cannot be funded with federal Weatherization Assistance Program funds; and

(7) other related issues the working group deemed relevant.

Methodology – Overview

The Working Group met a total of seven times between October 29, 2021 and February 4, 2022 as a large group, with additional meetings and email exchanges by the three separate sub-groups:

Sub-group One focused on identifying additional funding mechanisms and partnerships to:

- Stabilize funding;
- Reduce the deferral rate;
- Increase the number of households served;
- Leverage additional non-energy benefits; and
- Increase competitiveness with funding opportunities.

Sub-group Two focused on methods to improve program equity by:

- Identifying potential program inequities (including housing, demographic, and geographic disparities)
- Considering causes of inequitable program service; and
- Identifying strategies to increase program equity.

Sub-group Three focused on removing additional barriers to providing WAP services by:

- Analyzing and developing methods to address workforce and supply chain issues; and
- Assessing additional barriers and identifying additional strategies.

After an initial meeting to orient the broad, cross-agency membership on the purpose of the group, sub-group work took place in parallel and outside of large group meetings. Sub-groups met individually during two of the scheduled Working Group meetings and progress reports were made by the sub-groups to the larger group to keep all members abreast of work taking place and recommendations being developed.

Researchers from the University of Minnesota were invited to the second meeting to introduce a funded grant opportunity through the Minnesota Department of Commerce, available to the WAP Working Group for research to be conducted in areas highlighted by the large group. After a presentation from the University researchers Gabe Chan and Elise Harrington, members made requests for research findings relevant to the objectives of the WAP Working Group. Findings of this research were presented to the large group at the final meeting on February 4th, 2022 and the report of these findings is paired with this report from the link in Appendix B. Additionally, recommendations from the University researchers that correspond directly to recommendations in this report are called out in boxes noting “Research Findings.”

Definitions

”Department“ means the Minnesota Department of Commerce.

”Income-eligible“ means those households that meet the income requirements of the Weatherization Assistance Program of 200% Federal Poverty Level.

”Legislative Recommendations” means those policy, budget, or advocacy recommendations provided by the Weatherization Working Group for legislative consideration in the development of new or revised laws.

”Programmatic Recommendations” means those recommendations provided for consideration by the Minnesota Department of Commerce in the development of Weatherization Assistance Program through either program-level policy efforts or strategic partnerships.

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Sub-group 1: Funding and Partnership Recommendations

- Scale up and sustain capacity (i.e., funding, clients, workforce, materials)
- Increase partnerships
- Increase competitiveness for funding, including identifying and accessing other sources of funding (e.g., related to health and safety)
- Explore new opportunities (solar, dual fuel, etc.)

Legislative Recommendations

1. Supplement the federally funded Weatherization Assistance Program: Allocate $30 to $40 million of state resources annually for the next 10 years to supplement federal funds. Align funding with, and in addition to, federal funds from the Infrastructure Investment and Jobs Act (IIJA) in to ensure a stable funding of $80 million/year. Allow state WAP funds to be utilized for addressing barriers to service, including but not limited to: structural issues, workforce shortages, outreach limitations, etc. not covered in part or in whole by federal funds.

Research finding: Opportunity for Minnesota to Leverage

In terms of total program size, Minnesota's weatherization program was the 12th largest out of 21 comparison states. The largest program in the comparison states in FY 2019 was Massachusetts ($129.7 million), and the smallest program among comparison states was South Dakota ($2.1 million).

Standardized by population, Minnesota's weatherization program was again the 12th largest out of 21 comparison states. Minnesota spent $3.9 on weatherization per capita in FY 2019. The state with the most per-capita weatherization spending in FY 2019 was Vermont, which spent $24.4 on weatherization per capita.

Relative to the comparison states, in FY 2019, Minnesota ranked 16th out of 21 for leveraging DOE WAP funds with other sources, with 51% of weatherization funding from DOE and 49% of funds from non-DOE sources. Across comparison states, states ranged from 94% non-DOE funds (Massachusetts) to 0% non-DOE funds (South Dakota and Connecticut).

Incorporating federal LIHEAP funding transferred to weatherization, Minnesota ranked 13th out of 21 states for leveraging federal funding with other sources, with 86% of weatherization funding from federal LIHEAP and DOE funds combined and 14% from state-sourced funds.

Research Finding: Sustainably Increasing Weatherization Funding

The 2009 ARRA increase in funding was mentioned by nearly every state. The ARRA period saw significant funding increases, but funding levels were not sustained.

Because funding levels were not sustained, ARRA led to challenges among weatherization implementing agencies. Several states mentioned that their implementing agencies had to lay off significant staff following ARRA, which made subsequent efforts to hire new staff more difficult. The ARRA experience also contributed to a general sense among states that increases in funding need to be sustained to be most effective.

In contrast to ARRA, several states described the significant benefits of additional revenue streams created or directed by state policy. Funding sources for state funds varied significantly. For example, Vermont directs funds to weatherization from a tax on heating fuels; Washington directs funds to weatherization from a state fund that was initially funded by an oil-related legal settlement in the 1980s; Colorado directs funds to weatherization from a "severance tax" on fossil fuel and mineral extraction; and Wisconsin directs funds to weatherization from a "public benefit charge" collected from a surcharge on utility bills. Ohio also implemented a utility charge and has built strong coordination of the use of these funds and weatherization.

Overall, five of the six states that were selected for case studies have access to state funding sources that they use to bolster their federal funds. (The sixth state, New York, also has a "System Benefits Charge" that funds income-qualified energy efficiency and community solar investments through New York State Energy Research and Development Authority (NYSERDA), but this is not directly through their weatherization program). Each state described that these more flexible funds have significant advantages. Minnesota also has access to non-federal funds for Weatherization, primarily through the Conservation Improvement Program administered by the Minnesota Department of Commerce. However, compared to the five case study states with access to state funds for their weatherization program, Minnesota's state funds are significantly lower (see in Appendix B Report Section 1 and Figures 2-5). For example, of the case studies we investigated, Wisconsin receives the most comparable DOE allocation to Minnesota ($10.1 million in FY 2019 in Wisconsin compared to $11.2 million in Minnesota). However, Wisconsin's total weatherization spending in FY 2019 was $76.7 million compared to Minnesota's $22.0 million. The primary cause of this difference was the $50.8 million public benefit charge for weatherization that Wisconsin reported in FY 2019.

Programmatic Recommendations

1. Convene a stakeholder group to develop and share best outreach practices across the state. Make sure to include WAP Service Providers as core participants, as well as utilities, contractors, and the Minnesota Department of Commerce representatives in order to learn about different strategies and improve and streamline outreach and communication efforts.
2. Research and develop a report on major barriers and solutions to addressing deferrals beyond funding. I.e., what other support is needed?
3. Research how MN deferral policies differ (or not) from other states in order to look for improvements to state policy. E.g., Crawl spaces
4. Research and develop a long-term strategy for sustained efforts beyond the initial 10-year goal, next steps.
5. Convene a stakeholder group to focus on streamlining process for administering WAP and other assistance funds in order to increase and simplify access for income-qualified rental households and

increase reporting efficiency. Due to the more limited number of renters in rural areas, determine a corresponding barrier to address and fund.

6. Convene a group of technical and implementation experts to identify new opportunities for meeting the energy needs of the income-qualified with new technology and energy efficient systems.
7. Engage a stakeholder group to identify potential cross-cutting partnerships (e.g., health and EE).
8. Focus exploration of partnerships with Housing and Health Sectors. Include communities/cities as well as non-profits.
9. Engage stakeholders/players in the workforce development space to develop a coordinated statewide strategy to build the needed workforce for WAP.
10. Factor equity into this effort. E.g., by geography
11. Reduce competitiveness and increase synergy
12. When developing partnerships and reassessing any energy program, ensure that programs are strategically supporting rather than competing with each other (e.g., WAP and CIP).

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Sub-group 2: Program Equity Recommendations

Recommendations on program equity are informed by the Minnesota Department of Commerce analysis of a limited sample of data. The high-level analysis suggests potential gaps across in four areas: poverty, race, housing type, and energy burden. Several recommendations apply to more than one gap. Note, the analysis was limited to one-year (during COVID) and therefore is not necessarily representative of the entire program over time.

Legislative Recommendations

Income Inequality

A high-level analysis of a limited sample of data from program year 2020 suggests that Minnesota WAP participation rates were potentially out of alignment with poverty rates in three counties. Deeper analysis is recommended to both understand the barriers and inform successful implementation of the recommendations below:

1. Provide annual grants to Service Providers (SPs) and neighborhood organizations already providing education and outreach to provide application assistance, translation services, and other necessary services. SPs that do not have sufficient capacity could be encouraged to contract with community-based organizations that serve targeted communities for this effort. This funding could go to translation and interpretation services.

2. Fund targeted outreach resources to agencies and community-based organizations serving areas with disproportionately extreme poverty rates and low participation rates. California Environmental Protection Agency (EPA) targets resources to overburdened / low-income communities using the "CalEnviroScreen" tool. The following report cites legislation that has made this possible: https://calgreenzones.org/wp-content/uploads/2018/09/CEJA-CES-Report-2018_web.pdf

3. Provide funding to supplement the Rehab Loan Program (Rehab Loan Program & Emergency Loan Program (mnhousing.gov) The Rehab Loan Program provides zero interest, deferred loans which are forgiven if the property is not sold during the loan term. However, exploring the use of a grant-based program, raising the income limits past 30% area median income (AMI), raising the asset limit past $25,000, or providing supplemental funding to raise the maximum loan amount past $37,500 could provide additional access to income-eligible households (pg 46 of https://www.mnhousing.gov/sites/Satellite?blobcol=urldata&blobheadername1=Content-Type&blobheadername2=Content-Disposition&blobheadername3=MDT-Type&blobheadervalue1=application%2Fpdf&blobheadervalue2=attachment%3B+filename%3DMHFA_264465.pdf&blobheadervalue3=abinary%3B+charset%3DUTF-8&blobkey=id&blobtable=MungoBlobs&blobwhere=1533153450970&ssbinary=true). The estimated resource availability for 2022-2023 is $15.5 million.

4. Initiate advocacy in Congress for changes to U.S. Department of Energy requirements which inhibit the initiation of expanded state weatherization programs.

5. Create a streamlined process so that when a home is identified as needing pre-weatherization work it will not stop progress. Create a fund with state dollars to be utilized to make the repairs without putting the project on a deferred status. Once the repairs are complete the weatherization can kick off without delay but the funding may switch to federal dollars. The funding may be coming from two pots but critical weatherization work at the client site should not be adversely impacted. Legislatively we may need to spell it out, specifically connecting the two functions through a clear program allowance for the funding streams.

Race

A high-level analysis of a limited sample of data from program year 2020 suggest that MN WAP person of color participation rates were potentially out of alignment with person of color population rates in five counties. Deeper analysis is recommended to both understand the barriers and inform successful implementation of the recommendations below:

6. Fund targeted outreach resources to agencies serving areas with disproportionately high poverty rates and low participation rates.

7. Fund Service Providers and neighborhood organizations already providing education and outreach, application assistance, translation services, and other necessary services in those counties that have the lowest annual participation rates relative to the person of color population.

8. Encourage the Legislature to consider using Justice40 as a potential model for eligibility expansion that could address systemic racism in the current process.

Housing Type/Renters

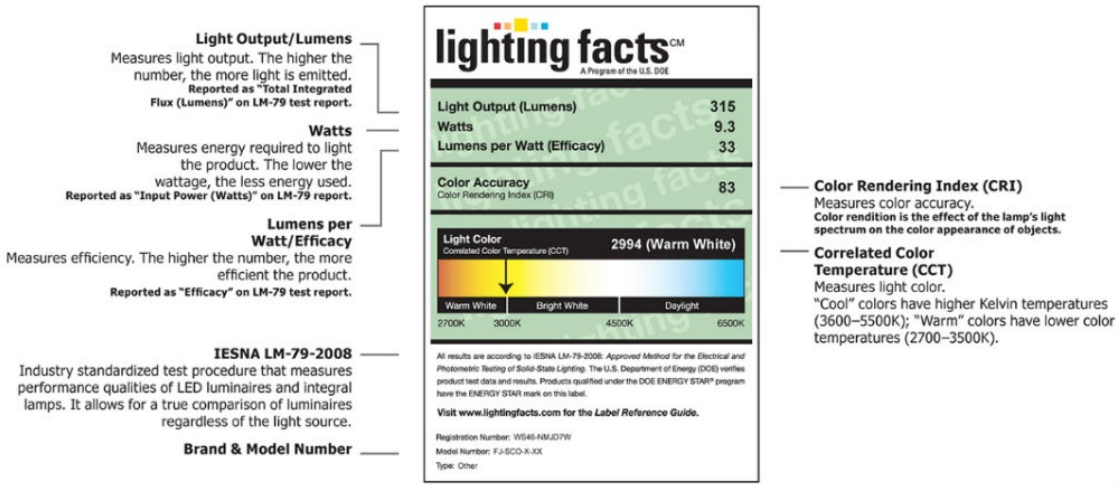
A high-level analysis of a limited sample of data from program year 2020 suggests that MN WAP participant housing type for attached and multi-unit housing were lower than statewide rates. In addition, MN WAP renter participation rates were potentially out of alignment with renter population rates in 12 counties. Deeper analysis is recommended to both understand the barriers and inform successful implementation of the recommendations below:

9. Require that renters receive a Home Energy Use Report/disclosure before or during signing lease agreements. Ensure the report compares subject properties to equivalent properties in the area in terms of energy usage.

10. Provide gap funding to help owners of low-income subsidized or naturally occurring affordable multi-family housing bridge the owner financial contribution required to participate in WAP.

11. Create a public facing grading system for multi-family buildings (similar to the U.S. Department of Energy's Lighting Fact Sheet found at: Consumer Guide to Energy-Efficient Lighting). Rate buildings A through F on energy efficiency. New York City currently has a law for this that provides guidelines for larger commercial and multifamily buildings; however, we recommend the legislature to tailor the

guidelines for smaller multifamily buildings with five or more units (https://www1.nyc.gov/site/buildings/property-or-business-owner/energy-grades.page).



12. Provide legislative allowances for multifamily buildings where upgrade timelines exceed the one-year funding cycle. Pair ECO-approved or other pre-weatherization funding with federal funding to allow for extended upgrade timelines in those cases.

Research Finding: Targeting Multifamily Weatherization

Identifying ways to address weatherization in multifamily households was an important area of focus during the interviews. Most states described the need for specialization to address multifamily homes, due to the specific measures that are relevant in multifamily homes, the high cost of weatherizing an entire multifamily home, and the geographic differences across their states of where multifamily homes were located.

States described some of the "baked in" incentives and disincentives for implementing agencies and their contractors to pursue weatherization for multifamily homes. For example, Vermont found that weatherizing multifamily homes instead of single-family homes allowed some of their less efficient agencies to still meet their target number of weatherization units in a year. The Vermont Office of Economic Opportunity started to address this 6-7 years ago by implementing a "flexible job cost average." This allows for flexibility in cost across single and multifamily projects. Given the lower cost of multifamily jobs, the flexible job cost average requires an agency to complete more units with the same amount of money compared to an agency with a higher percentage of single-family homes.

New York State is the leader in multifamily building weatherization primarily due to the high concentration of multifamily in New York City (NYC). To address multifamily, subgrantees operate at a more granular level than elsewhere in the state. Most subgrantees in New York State are responsible for counties, but in New York City they operate by neighborhood. This enables subgrantees to have specific and intimate knowledge about the existing buildings within their area of operation. Subgrantees in New York City work with housing authorities, like New York City Housing Authority (NYCHA) which owns hundreds of old buildings across all five boroughs. Multifamily buildings in New York are eligible for WAP if 66% of tenants are income-qualified, and New York State has a methodology of identifying these buildings and enacting owner contributions to encourage owner buy-in. Beyond weatherization, many multifamily building owners want building improvements that increase the building's value, but they are required to sign that they will not sell the building or increase rent based on

this increased value. In exchange, owners can add services (that they pay for) that are completed during weatherization, such as new windows. Additionally, as new rules phase out certain fuels, some building owners participate in the program for the benefit of a new boiler or heating system for fuel-switching to comply with local or state laws.

To address the multifamily housing sector Vermont created a specialized service provider for multifamily homes. This new provider works statewide, but Vermont developed a creative compromise by giving the five primary service providers the right of first refusal for multifamily properties in their areas. In practice, most now turn over multifamily properties to the specialized provider because it can increase efficiency. Having the sixth multifamily agency has also allowed the program to leverage more funds by completing more units per year.

Similar to Vermont, Colorado also created a specialized multifamily weatherization implementing agency. In Colorado, this agency completes all multifamily weatherization projects.

Wisconsin has also taken steps to address the multifamily building sector. During ARRA, Wisconsin developed a program focused on buildings with 20 or more units. And since ARRA, Wisconsin implementing agencies with a significant multifamily building stock have continued engagement with multifamily buildings, occasionally doing "application fairs" for energy assistance and weatherization together in the lobbies of multifamily buildings.

Energy burden Inequality

A high-level analysis of a limited sample of data from program year 2020 suggests that the six counties with the highest energy burden in the state (>5%) had among the lowest participation rates in MN WAP. Deeper analysis is recommended to both understand the barriers and inform successful implementation of the recommendations below:

13. Fund targeted outreach resources to agencies serving areas with disproportionately high energy burden rates and low participation rates.

14. Fund Service Providers and neighborhood organizations already providing education and outreach, application assistance, translation services, and other necessary services in those counties that have the lowest annual participation rates relative to the population's energy burden.

15. Advocate at the federal level for adding energy burden to eligibility criteria. For example, Minnesota's statewide energy burden is 2% (per DOE LEAD tool: Low-Income Energy Affordability Data (LEAD) Tool | Department of Energy, 2018). If a household's energy burden is above 2%, they could be eligible for the program. This could address unsteady incomes and the rigidity of the specific income thresholds currently in place for eligibility guidelines.

16. Add transportation energy costs as a factor in energy burden calculations. In outstate Minnesota, fuel and mileage expenses are a bigger share of energy and household expenses for workers commuting to places of employment.

Programmatic Recommendations

Income Inequality

1. Explore gaps in participation based on poverty as the subject for the Minnesota Department of Commerce Conservation and Applied Research Development (CARD) grant, or other grant funds. Fund future periodic studies to identify trends.

2. Identify other service programs (e.g., SNAP, free/reduced lunch) with higher use among residents living in poverty and look for opportunities for collaboration on sharing information about WAP.

3. Ensure annual and proactive communication between the Minnesota Department of Commerce, weatherization service providers, and community-based organizations in areas of low participation and high deferral rates. This could come in the form of an annual check-in and review process. Method of communication is flexible, with the Department to provide an informal report for the public.

Research Finding: Navigating Deferrals (an issue of funding, access, and equity)

Nearly all states spoke to the challenges of having to defer weatherization service to otherwise eligible households. States spoke to the challenges of having to forgo providing service to potential customers who lived in houses with underlying issues, such as vermiculite and mold, that would benefit significantly from weatherization services but whom they could not serve. This section synthesizes lessons learned from states that took innovative steps to navigate deferrals.

Across several states, the ability to reduce deferral rates was made possible by more flexible state funds that allowed implementing agencies to conduct "pre-weatherization" measures.

For example, Wisconsin and Ohio have both made recent policy changes to use some of their LIHEAP to weatherization transfer to address deferrals. In Wisconsin, this change came about through a unanimous decision of the weatherization providers in the state, demonstrating an important way that Wisconsin has built collaboration between the state energy office and the implementing agencies to shape program rules and policy.

In Ohio, the legislature required that the state apply for the maximum transfer of 25% of LIHEAP funds from HHS. The state uses DOE WAP and HHS LIHEAP (15% of the transfer) funds for their Home Weatherization Assistance Program (HWAP) program, with the additional 10% in their waiver for their HWAP Enhancement Program. In Ohio's traditional HWAP program, the 15% from HHS is used for health and safety measures, while in the HWAP Enhancement Program, the additional 10% from HHS is used for previously deferred homes. Ohio started the HWAP Enhancement Program 3 years ago and has worked with HHS each year to add additional allowable uses to address deferrals.

Vermont has an innovative approach to addressing deferrals by allocating specific funds for vermiculite remediation and standardizing deferral criteria across implementing agencies. Prior to a concerted effort to standardize deferrals, the state found that agencies were deferring homes based on different criteria resulting in inconsistent service across the state. Depending on the agencies, some would defer clients for issues that others would serve. To achieve parity across the state, Vermont developed a deferral policy paired with additional funding to address deferrals. The deferral policy specifically calls out vermiculite insulation because 10-15% of weatherization-eligible homes have vermiculite. Vermiculite must be remediated prior to any work

on the home as it is highly likely to have asbestos. To sufficiently address vermiculite deferrals, Vermont combines flexible state funding from the fuel tax with three additional sources: Vermont Low Income Trust for Electricity (VLITE), Office of Economic Opportunity (OEO) Vermiculite Fund, and Zonolite Trust. The combination of multiple funds targeted at vermiculite enabled the state to realize a policy change made in 2014, that vermiculite cannot be cause for an automatic deferral.

Race

1. Explore gaps in participation based on race as the subject for the Minnesota Department of Commerce Conservation and Applied Research Development (CARD) grant, or other grant funds. Fund future periodic studies to identify trends.

2. Consult with grantees of CERTs seed grants Catalyzing Grants for Communities | Clean Energy Resource Teams or other projects focused on groups faced with cultural or language barriers to accessing and participating in WAP. Create additional strategies informed by the consultations that could overcome these barriers to the program.

Renters

1. Explore gap in participation based on housing type/renters as the subject for a Minnesota Department of Commerce Conservation and Applied Research Development (CARD) grant, or other grant funds. Fund future periodic studies to identify trends.

2. Incentivize owners to connect with and educate residents on the WAP program.

Energy Burden

1. Explore gaps in participation based on housing energy burden as the subject for a Minnesota Department of Commerce Conservation and Applied Research Development (CARD) grant, or other grant funds. Fund future periodic studies to identify trends.

2. Explore the education and outreach application assistance, translation services and other necessary service actions being taken by Service Providers. Using that data, build on successful practices and modify unsuccessful practices?

OBJ

OBJ

Sub-group 3: Workforce, Supply Chain, and Additional Program Barrier Recommendations

Legislative Recommendations

Workforce

1. Add Clean Energy Careers to the Department of Labor and Industry's Dual-Training Competency Grants Program *Dual-Training grants | Minnesota Department of Labor and Industry (mn.gov)*with a specific stipulation for Energy Efficiency and provide funding to meet the need.

Description: The Dual Training Competency Grants (DTG) program is a funding source that has generated collaborative and strategic educational solutions between employers and related instruction training providers across Minnesota. The Minnesota Private Investment, Public Education, Labor and Industry Experience (PIPELINE) program team at the Department of Labor and Industry partners with employers, training providers, and community organizations to educate and support the Minnesota workforce in establishing dual-training models where on-the-job training and formal related instruction come together to generate a comprehensive platform of learning. Apprenticeship programs have a long history in Minnesota, and the DTG program acts as a gateway to the apprenticeship by leveraging many of the techniques utilized in apprenticeship models to allow employers the flexibility to upskill their workers. Similar dual-training models can be found in Indiana with Next Level Jobs (www.nextleveljobs.org) and Wisconsin's Fast Forward (http://wisconsinfastforward.com).

Minnesota Statutes 175.45, Subdivision 1 lists advanced manufacturing, health care services, information technology, and agriculture as targeted occupations for the Dual-Training Program. Adding Energy Careers would create the opportunity to utilize the resource to address the workforce shortage. In particular, a stipulation is needed within that for Energy Efficiency careers as a subcategory, and that employers are welcomed into the program across a variety of measurements for Dignified Labor Standards (including worker-owned businesses, minority/veteran owned, cooperatives, as well as unions).

2. Create and fund an Apprenticeship track for people entering the workforce to gain experience.

Description: Minnesota's Weatherization Program serves income-eligible Minnesotans, many of whom are industrious and resourceful survivors of a low-wage economy. If given a chance to try out a Weatherization career pathway, these workers who have experienced the Weatherization Program first as clients could be in a unique position to work very well as contractors, inspectors, or auditors. Creating a paid internship program could increase the pool of apprentices and the workforce overall (from contractors, program operators, inspectors, to outreach workers).

Research Finding: Workforce for Weatherization All interviewees spoke to the challenges of maintaining a sufficiently trained workforce over time. States described challenges associated with offering wages and working conditions that could compete with other

contractor firms. And states also spoke to the need to align the training of their workforce with funding cycles and expectations for production. By some states ' estimates, building up a workforce takes time 2 years or more for trainees without any prior experience.

Ramping up funding without a sufficient workforce can create inefficiencies and frustrations. To address workforce needs, states have developed approaches to build capacity. For example, the Ohio Weatherization Training Center (OWTC) was started with the Weatherization Assistance Program in the 1970s and continues to play a central role in the state's program. The OWTC is housed in the Corporation for Ohio Appalachian Development (COAD) and funded by DOE WAP funds. The integration of the OWTC into the state's program allows for the center to use subgrantee technical monitoring reports to guide training and technical assistance efforts. As training needs continue to evolve in the state, OWTC is exploring ways to make training opportunities more accessible across the state. Traditionally, HWAP training sessions are held at the COAD in Athens, Ohio in the southeastern part of the state. Recently, OWTC has been expanding training offerings through a hub model with options in the northern/middle parts of the state. One of the strengths of Ohio's training capacity is that the training center is flexible; given 5-15 students in the same track, trainers can travel to different parts of the state to enhance accessibility.

Colorado offers another innovative approach to planning for long-term workforce capacity. Colorado, which relies heavily on contractors, described significant workforce challenges in competing with other construction firms. This competition results in weatherization relying on contractors who are either more junior or who really believe in the mission of weatherization. They recently considered how to bolster their recruiting efforts by emphasizing their sustainability mission (rather than only construction). For example, the Colorado Energy Office has partnered with Colorado Youth Corps in identifying sustainability-minded youth into Weatherization externships (they are piloting this program with six Youth Corps members this year). Colorado's implementing organizations have also made concerted efforts to recruit younger people through social media platforms.

Wisconsin described how they are strategically managing for the specific dynamics of their workforce. Many of the senior employees in Wisconsin's weatherization program have had long tenures and are now retiring, taking their knowledge based on years of experience with them. Wisconsin is planning more intentionally for staffing overlap between new staff and retiring senior staff to facilitate this knowledge transfer, at times, this means they are providing duplicative staffing. To help build capacity moving forward, Wisconsin has also used LIHEAP transfer funds to build up staff and capital requirements. It is critical that funds are deployed as soon as possible ahead of scaling up. But Weatherization is very technical, and it takes a while to train, so they are seeking ways to move quickly without overwhelming implementing agencies.

During ARRA, New York state looked to new ways to expand their workforce. During ARRA, New York Homes and Community Renewal expanded their training and technical assistance program primarily relying on their two vendors that administer training (Association for Energy Affordability and the NYS Weatherization Directors' Association). The vendors operate training centers, which was extremely important to handle the influx of training needs during ARRA. The state does conduct state-led training but this was limited in comparison to the training led by the vendor training centers, the state's role was primarily to create the support and means for training centers to operate by making it more likely that clients enroll in additional services.

Additional Program Barriers

1. Advocate to the U.S. Department of Health and Human Services to continue to expand the allowable transfer dollars amount of LIHEAP to WAP and advocate to the U.S. Department of Energy to allow for "targeted services" of WAP on a strategic, localized basis including neighborhood-based grant projects based on the competitive program established in 2022 WAP Memorandum 085: (Weatherization Memorandum 085: WAP Community Scale Pilot Project (CSPP) Grant Application | Department of Energy.

Description: There are two key precedents set here that it is vital to continue, and metrics on both should be collected to present a clear case to the Federal government on why they must continue. The first investing a higher proportion of federal monies for help with energy costs on weatherization compared to assist with paying high energy bills. WAP is an upstream solution (lowering the monthly energy use) and the Low-Income Home Energy Assistance Program (LIHEAP) is triage (paying for a non-lowered energy bill) for an inefficient, unaffordable energy system and an unequal society where wealth flows towards those with capital. The second key precedent is efficient and strategic investment of new LIHEAP dollars. Because of the priority rule (e.g. elderly, families with one or more members with a disability, families with children, those with a high energy burden, or high-energy users), contractors must weatherize applicants on a one-off basis in that order of priority rather than grouping all WAP-recipient households who live nearby one another. This contributes to a rise in resource inefficiency, overall cost, and speed of the program (commuting, scheduling, etc). For example, if a household that is priority #1 lives in geography A, but so do priority #10, #30, and #32, a contractor under normal rules would have to schedule #1 separately from the others. Under this new scheduling rule, the contractor can schedule all of those together. Household #1 is still done before #10 and #10 is still done before #30, but they are bundled by geography before moving onto #2 priority-household and the WAP households that live near household #2. The Minnesota Legislative delegation to Washington DC should present a clear, compelling case to advocate to the Federal Government (using the metrics and testimonials collected about this improved process) about making these two changes permanent. Additionally, advocate to the Federal Government to expand the localized practice to include pre-qualifying whole communities and installing community-wide projects such as town-specific geothermal for areas of persistent poverty.

2. Gather and analyze metrics about the impact of targeted spending (spending proportionally more dollars on WAP v. LIHEAP and spending it on a priority *and* localized basis improves the program) including number of households served, time spent per household in commuting/scheduling, testimonials from contractors, etc. (See also Recommendation #1 under "Programmatic Recommendations; Additional Program Barriers" below as well).

Description: Clear metrics on how many more households were served because of the American Rescue Plan Act (ARPA) LIHEAP flexible money that was spent on WAP, time efficiencies gained in strategic scheduling, and testimonials from contractors should be collected to bolster the case for continuing these two practices.

3. Direct all Minnesota electric and gas utilities that do not already operate a Percent of Income Payment (PIP) program (including rural electric co-ops, municipal utilities, and investor-owned utilities) to develop this programmatic cap on energy costs and revise the statutory qualification criteria to allow customers whose income qualifies them for EAP to receive PIP assistance regardless of EAP funding. Direct the Minnesota Department of Commerce to update the EAP application to ensure enrollment in EAP, WAP, and PIP programs is as streamlined as possible. (Note: Percent of Income Payment programs are also known for gas utilities as "gas

affordability programs" and for electric utilities as "low-income discount electric rates." Some investor-owned utilities are required to offer such programs by MN Stat. 216B.16 subd. 14 and 15.)

Description: Due to the scale of inefficient housing and insufficient funding, it will currently take 291 years to weatherize all WAP-eligible homes in Minnesota, not even touching the non-eligible homes who are struggling but don't qualify for help. Even with full funding and significantly increased annual capacity, improving the efficiency of housing is a long-term project. Given that fact, ensuring customers have easy access to available help paying their bills is essential, even with expanded weatherization efforts.

Currently, Minnesota law requires most investor-owned utilities to offer programs to assist with their bills and lower the percentage of income spent on energy bills. However, customer-owned utilities and the smaller electric investor-owned utilities are not covered by this requirement. The legislature should consider expanding the scope of the existing requirement to ensure all customers have access to such programs, regardless of their energy provider.

Current law also defines eligibility such that only customers who receive energy assistance are eligible for utility PIP programs. Because the need for energy assistance regularly exceeds the funding available, this requirement means customers who are income-qualified sometimes cannot receive support from utility PIP programs. This results in customers with unmet needs even as utility programs have unspent funds intended to address those needs. The legislature should revise the statutory language to allow any customer to participate in a utility's PIP if the customer is eligible to receive EAP, rather than conditioning PIP on the customer actually receiving EAP.

Finally, although current law requires that PIP programs be coordinated with other available assistance for both bill payment and conservation, it is unclear to stakeholders whether this coordination is as successful in practice as it could be. The legislature should direct the Minnesota Department of Commerce and the Commission to explore what changes to the application process for EAP, WAP, and PIP programs could streamline the process and ensure all available services are provided to eligible customers with minimal administrative burden for the customer and avoid the need for multiple applications. This could include (but should not be limited to) consideration of a process whereby a customer who applies for one benefit is automatically enrolled in other programs for which they qualify, and whether programs could eliminate the need for customers to re-enroll annually in order to continue receiving support.

4. Create and fund an Interagency Office on Energy Efficiency within the Minnesota Department of Commerce

Description: A dual challenge exists for many of the dwellings most in need of WAP services: the dwelling doesn't qualify because it is in need of other repairs and the occupant lacks the ability to navigate the many different funding streams to get their unit ready. An Interagency Office could work through issues that arise with false starts (never apply) or deferrals (application stopped in the process). Some of the challenges require housing funds, some mental health services, some social services, and some require all three. Minnesota has a long and successful history with using interagency councils as a strategy for service integration and to achieve effective and efficient results. Examples include the Governor's Interagency Coordinating Council on Early Childhood Intervention, Interagency Council on Homelessness, and Minnesota State Interagency Committee (MnSIC).

5. Explore the creation of a secondary state-specific WAP eligibility tier for households that are slightly over-income but still struggling.

Description: The Minnesota Legislature should pursue the creation of a state-specific expansion of WAP that expressly allows for an increased income threshold for WAP services that would support people struggling with bills but who are disqualified for other often-cited reasons identified in the section on equity recommendations. This would create a better taper off of assistance that we hope removes the "cliff" many experience across several assistance programs. Applications should be the same as the streamlined EAP/WAP application but their project money would come only from this additional pool of money so that the federal WAP dollars would continue to go towards the first tier of most deeply low-income households. There are a number of other non-energy programs that may also be interested in an expanded income threshold and could therefore provide a critical mass of partners to increase awareness of the issue. If created this tier should be streamlined as part of the same application for as LIHEAP, WAP, CIP, and rate affordability programs.

7. Deepen the Residential Energy Code so that all new residential construction meets WAP energy standards. Description: The most upstream solution to energy-intensive buildings that extract wealth from local communities is to ensure that builders and contractors of residential buildings are incentivized and directed through policy to ensure occupants of new construction live in properly weatherized buildings. The new construction built today will someday be "naturally occurring affordable housing," and non-weatherized buildings inflate energy costs unnecessarily for all ratepayers but particularly those who already face high energy burdens.

Programmatic Recommendations

Workforce

1. Develop a partnership with Minnesota State Colleges and Universities (MNSCU) to provide training across the state in areas of demonstrated need.

Description: Work with local community and technical colleges around the state to incorporate the Weatherization Assistance Program as a target job opportunity for students. This should cover all levels of the program with the goal of infusing the Service Providers and contractors that work with the program with the next generation of mission driven employees. This partnership could span multiple disciplines such as administrative office functions, social services, building science, carpentry, HVAC, electrical technicians. The Minnesota Department of Commerce could provide MNSCU with detailed info about the program and the associated knowledge, skills, and abilities that the WAP network would be looking for in employees. An established list of businesses in the network could be included and provide the backbone for a robust internship program getting students into the field while they are completing their education.

2. Develop strategies to retain current workforce including community-based projects, conducting a salary study and ensuring WAP workers make family-sustaining wages in all parts of the state

Description: The Minnesota Department of Commerce, in partnership with MinnCAP or the Department of Human Services (DHS), could conduct an expansion of a wage survey - similar to the Davis Bacon wage surveys conducted during the American Recovery and Reinvestment Act (ARRA) in 2009-2011, and the National Association for State Community Service Programs (NASCSP) wage survey from 2021 https://nascsp.org/wage-surveys/ - to identify wage disparities within the program across all service providers (controlling for urban v. rural economic difference), with a goal of retaining the existing worker base and knowledge base. This could include both Service Providers as well as their third-party subcontractors. Additional open-ended questions

about non-wage related challenges could be added onto the survey to capture other areas that are needed for retention.

3. Explore opportunities to recruit and support new contractors by purchasing starter equipment.

Description: The Minnesota Department of Commerce or Service Providers could dedicate a small fraction of program funds to purchase the unique equipment required to conduct weatherization work such as blower doors systems, digital pressure gauges, combustion analyzers, infrared cameras, insulation blowers, etc. This equipment would then be loaned to new or expanding contractors for a period of time while they are beginning their relationship with WAP, and perhaps include an additional discount based on income or other marginalized backgrounds.

4. Solicit a third-party analysis on which regulations are required by the federal government and which ones the state has authority to modify.

5. Based on this analysis, align citations for federal, state, and Minnesota Department of Commerce requirements to more quickly update regulations.

6. Continue to explore the safest way to work with vermiculite including analyzing processes used by other states.

7. Develop a process for Quality Control Inspector (QCI)-contracted monitoring to utilize the strength of the WAP network.

8. Advocate with DOE to allow an Energy Auditor Mentoring Program to train and utilize additional auditors prior to certification.

9. Allow partial payments to contractors with a 10% retainage.

Supply Chain

1. Identify through surveys with WAP contractors and research specific materials, equipment, etc. that either 1) have chronic supply chain shortages, 2) have experienced supply chain shortages during instances of global disruption since 2020, or 3) are at high risk for shortages in the future due to highly monopolized or centralized production (e.g. X material is only produced by a very small number of companies, regions, countries outside of Minnesota).

Description: Information about specific supply chain needs for weatherization was only anecdotally defined but not systematically. This is an important piece of the landscape and should be researched to identify what materials or equipment experience or are very likely to experience bottle necks. The understanding of this will create both an opportunity to plan for those bottle necks and for Minnesota's local industries to fill that needed gap thereby creating more local industries. In order to do this swiftly and with regional specificity, we recommend tapping into the resources within the Minnesota university and college systems, which has another benefit of connecting local graduate students and professors to local problem-solving.

2. From the research and survey findings about which materials are already in short supply or at high risk to be in the future, identify which, if any, are well-suited to become a local industry based on Minnesota's particular region, resources, and assets.

Description: This is the critical action step that follows previous recommendations. Explore opportunities to 1) promote local purchasing where there is already a nascent industry in Minnesota or 2) incubate, fund, or provide technical assistance in partnership with local jurisdictions and small businesses for the creation of new Minnesota industry(ies) for those materials and equipment in highest-need or at highest risk of disruption or shortage.

3. From the research and survey findings above, identify any short-term high-need materials to explore both the use of ordering portals and/or with six-month, annual or bi-annual bulk purchasing to achieve both a discount and short/medium-term buffer against supply chain insecurity.

Description: The Minnesota Department of Commerce (and/or other large institutions) may well have potential with their institutional purchasing power to buy and regionally store supplies that are frequently used but currently in short supply. This could both be a short-term solution while new local industries develop to guard against future shortages and/or a long-term practice that creates a public-private synergy that leverages statewide collective buying power to lower costs for Minnesota participants. This bulk purchase should carefully align with current demand for efficiency projects, shelf-life of materials, availability and cost of proper storage facilities in each region. It should also be scaled based on national/global supplies so that Minnesota does not take more than its fair share during times of national/global crunches or contribute to stockpiling (i.e. the toilet paper phenomenon during 2020).

The Minnesota Department of Commerce should also explore ordering portals through secondary resources such as legacy platforms like CommunitySavers® Grant Program as an option to take advantage of economies of scale.

Additional Program Barriers

1. Make permanent the practice instituted by the State in 2022 - with the use of LIHEAP transfer dollars - of using and allowing flexibility within LIHEAP dollar transfers to be able to weatherize more WAP-eligible households, and to use targeted services where location and priority are both taken into account strategically.

Description: There are two key precedents set here that it is vital to continue, and metrics on both should be collected to present a clear case to the federal government on why they must continue. The first investing a higher proportion of federal monies for help with energy costs on weatherization compared to help with paying high energy bills. WAP is an upstream solution (lowering the monthly energy use) and LIHEAP is triage (paying for a non-lowered energy bill) for an inefficient, unaffordable energy system and an unequal society where wealth flows towards those with capital. The second key precedent is efficient and strategic investment of those new LIHEAP dollars. Because of the priority rule (e.g. elderly, families with one or more members with a disability, families with children, or high-energy users), contractors must weatherize applicants on a one-off basis in order of priority rather than grouping all WAP-recipient households who live near to one another. This contributes to a rise in resource inefficiency, overall cost, and speed of the program (commuting, scheduling, etc). For example, if a household that is priority #1 lives in geography A, but so do priority #10, #30, and #32, a contractor under normal rules would have to schedule #1 separately from the others. Under this new scheduling rule, the contractor can schedule all of those together. Household #1 is still weatherized before #10 and #10 is still done before #30, but they are bundled by geography before moving onto #2 priority-household and the WAP households that live near to household #2.

2. Pursue competitive funding to increase and stabilize funding at a scale that would serve all eligible households.

Description: Most people who need weatherization services are not being served. Unstable funding sends unclear signals to workers about whether they have a future in the WAP program. Lack of WAP services contribute considerably to a costly and highly inefficient energy grid.

3. Pursue new WAP funding for energy efficient retrofits.

Description: The Minnesota Department of Commerce and the Service Provider network should pursue the supplemental funding that U.S. DOE is making available to help expand the program offerings and removal of barriers to service. These opportunities were developed with the input of the national WAP network and are specifically designed for the current Service Provider network and as such represent a very clear opportunity. https://globalrenewablenews.com/article/energy/category/climate-change/82/936671/doe-announces-18-6-million-to-expand-the-weatherization-assistance-program.html

Research Finding: Setting Long-Term Goals and Preparing for Long-Term Gains

Across interviews, states stressed the benefits of aligning their investments with funding availability. When this alignment was possible, states were better able to set ambitious long-term goals and design innovative approaches to meet those goals, often through new pilots that built up learnings toward an ambitious vision for the future. States described their need for ramp-up time to work toward ambitious long-term goals. Currently, some implementing agencies are particularly concerned about having sufficient and predictable time due to the continuing COVID-19 pandemic, near-term labor market instability, supply chain disruptions, and rising material costs. Still, states are working to build up funding ramps and build capacity to prepare for increases in federal funding.

Vermont described their approach to building up capacity among contractors and implementing agencies prior to increasing the expectations of their agencies for delivering services. Washington talked explicitly about needing to set realistic expectations so as to not overwhelm implementing agencies.

To work toward a long-term vision for weatherization, nearly all states emphasized the importance of developing pilot programs and building learnings before expanding. For example, Colorado discussed their approach to setting a bold vision of beneficial electrification which empowered them to target households with persistently high energy burden with a solar and air-source heat pump pilot. Multiple states emphasized deploying pilots and new innovations in weatherization with those implementing agencies interested in or excited about the specific innovation as this led to more effective pilots.

4. Advocate with the federal government to allow presumptive eligibility who have already proven their economic status with another level/branch of government (free/reduced lunch; SSI; rental assistance; etc.).

Description: Low-income customers are not being served and valuable WAP resources go into tracking down documentation that proves burdensome for both the customer and the program staff. The Minnesota Department of Commerce should use whatever flexibility they have within federal regulations to develop presumptive eligibility criteria. That is, if another federal program has already proven a household is income-eligible, the Department could use that designation to make these households automatically eligible for EAP and WAP.

Furthermore, all income-eligible households should be eligible for a period of three years before needing to prove their documentation again. This would reduce the negative impact of the cliff effect, reduce the administrative burdens on Service Providers, and all EAP and WAP staff to focus on getting assistance to people in need.

5. Consult with Tribal Nations about any requirements that create unique barriers (e.g. Proof of home ownership).

Description: Funding for Tribal Nations needs to be sufficient to sustain a program. Tribes should be allowed to operate their own programs but need full-time staff to do this. The Minnesota Department of Commerce should consult with the Tribal Nations to offer funding and support to match the needs of Tribal Nations and to ensure the Department is not creating extra barriers for enrolled members to access services.

6. Simplify and streamline the paperwork at all steps in the process beginning with the consumer.

Description: The Minnesota Department of Commerce should increase efforts to reduce or radically streamline the amount of data that needs to be collected for the program. In cases where there are federal requirements on certain data points, the Minnesota Department of Commerce is encouraged to meet with program leadership at U.S. DOE to ensure that the least amount of data is being used in order to reduce the administrative burden at all levels of the program. For all remaining required data, the Minnesota Department of Commerce should create a streamlined technology solution that allows all the data to be collected on one platform with a goal of reducing duplicate entry and increasing the efficiency of the program at the local level.

Research Finding: Managing Administrative Burden to Maximize Outcomes

States described the administrative burdens of weatherization as a barrier to rapidly scaling up programs. In particular, nearly all states mentioned the administrative burdens associated with complying with DOE performance metrics. Some states also spoke to the specific administrative burdens of linking, or "braiding," multiple funding streams, each with their own goals, metrics, and in some cases, data management practices.

Wisconsin has helped control some administrative burdens by working with a third-party vendor, Slipstream, to handle data management and evaluation. Slipstream helps facilitate data analysis, allows implementing agencies to conduct "self-study" assessments, and more efficiently conduct referrals. They were very happy with the data management services they have access to and described the ways in which digitized records and easy-to-access databases helped them better measure success, motivating staff at all levels to continue impacting people's lives. Their data management practices and partnering with Slipstream also helped reduce administrative burden while enhancing their operations.

With respect to braiding multiple funding streams, New York, Vermont, and Washington each undertook notable pilots to braid weatherization and health. All three states spoke to the administrative burdens to integrate these funding streams, but all three are still encouraged that this approach can be worth it with further refinement and tailoring.

The NYS Healthy Homes Value-Based Payment Pilot relies on Medicaid's value-based payment (VBP) system that pays for outcomes rather than inputs and aligns with the state's Medicaid transition to a VBP framework. The pilot includes 500 healthy homes interventions focused on asthma-related outcomes, reductions in energy use, utility bills, improved home comfort and safety, and reduced Medicaid utilization associated with hospitalization and emergency department visits. Given the focus on health, NYSERDA and the New York State

Department of Health identified ways to work together, which started a long planning process for the pilot. NYSEDRA and the Department of Health planned for about 1.5-2 years and the program will run for 2 years in the field (ongoing). The inclusion of specific Medicaid claims data is an innovation in this pilot and would not be possible without the close collaboration with the Department of Health. Establishing this arrangement required substantial lead time and separate legal agreements. New York state officials engaged in this pilot have developed substantial experience that can help future states pursuing this type of integration to reduce the significant administrative burden they faced.

Another example of managing the administrative burden of health-weatherization integration comes from Vermont. In Vermont's case, they piloted an approach to reduce the administrative burdens associated with engaging customers in multiple service programs. The Vermont Low Income Weatherization Assistance Program started an "efficiency coach" program using a SERC (Sustainable Energy Resources for Consumers) grant funded under ARRA. This coaching program was instituted as a first step in the weatherization process in Vermont and enables a coach to introduce the state's weatherization program to a new client. This provides a customer service-like person who is knowledgeable in the weatherization program offerings and opportunities for energy conservation. In this first meeting, the coach describes the work that is going to occur, explains why, discusses conservation practices, and reviews the client's electric bill with them. The efficiency coach is the first step in Vermont's holistic approach and is followed by the One Touch Program. In Vermont, efficiency coaches and energy auditors were trained in Healthy Homes Assessment to maximize health outcomes along with the Weatherization Assistance Program. The One Touch program, or One Touch Screening and Referral Process, links energy, health, and housing by providing a common home assessment and automatic electronic referral system across involved programs in the state. Data from Vermont shows that 30% of clients needed referrals to other programs. This example from Vermont demonstrates the potential to share capacity across weatherization and health to reduce administrative burdens on a single program, while also maximizing holistic benefits to households.

Research Finding: Gaps in Weatherization Implementation

In addition to the research findings throughout the report, our research also allowed us to identify several areas of opportunity that emerged as gaps in other states' weatherization implementation where Minnesota has the opportunity to lead.

1. **Leading on Equity**: We found that very few states had fully developed equity-focused approaches to weatherization. In the near term, there may be opportunities to expand on the way implementing agencies prioritize their waitlists to advance more equitable service. But as weatherization expands, deeper engagement with underserved communities requires further outreach to build awareness and interest.

   Possible Recommendation: Consider developing strategic goals, performance metrics, and implementation priorities to weave equity into weatherization programs.

2. **Leading on Resilience**: Minnesota has an opportunity to lead in the integration of resilience considerations in weatherization. The demands on the housing stock are rapidly changing in Minnesota, and across all households, there is a need to consider increasing resilience in the state's building stock, but also a particular need to understand disproportionate impacts that are particularly relevant for the population of Minnesotans eligible for weatherization.

   Possible Recommendation: Consider developing strategic goals, performance metrics, and implementation priorities for weatherization practices that support a more resilient housing stock.

3. **Strengthening Alignment between the State and Implementing Agencies**: The working relationship between state weatherization offices and their implementing agencies is vital to the success of weatherization programs. States described how they worked to convene and build consensus among their implementing agencies, but interviews did not reveal a coherent set of best practices.

   Possible Recommendation: Consider developing new practices and staffing roles to support the continued nurturing of relationships and communication channels between the state energy office and implementation agencies as the program scales.

4. **State-to-State Knowledge Exchange**: We found that states were very excited to talk to our research team and share their experience. They were also very curious to hear what we found by talking to other states.

   Possible Recommendation: As states continue to explore innovative approaches to scaling, leveraging WAP funds with other sources, and implementing expanded programs, build stronger coordination among states to share best practices, lessons learned from other pilots, and anticipate barriers.

Appendices

Appendix A: Considerations for Scaling Up the WAP Program

By Jed Norgaarden, Executive Director – Sustainable Resources Center

The Opportunity Minnesota's federally funded Weatherization Assistance Program (WAP) has been a huge success over its 44-year history. The deep energy efficiency retrofits have reduced the energy burden of tens of thousands income-eligible households in Minnesota. Working synergistically with WAP is Minnesota's utility Conservation Improvement Programs (CIPs) which have made major contributions in the low-income segment and will continue to do so via the Energy Conservation and Optimization (ECO) Act, administered by the Minnesota Department of Commerce. Despite these successful efforts, those who receive weatherization services each year are a fraction of the number of income-eligible Minnesota households who theoretically qualify for the service.

Recent additional federal funding from the American Rescue Plan Act (ARPA) and the Bipartisan Infrastructure Bill is now a catalyst that is creating a capacity building effort among Minnesota's weatherization service providers. However, these funds are limited in size and duration.

With an investment from the state, the large gap between those who are qualified and those who receive service could be reduced. Such an investment would take advantage of the additional capacity building that is going on now as a launching point.

While many energy efficiency activities exist in the state, Minnesota's Weatherization Assistance Program is unique on several dimensions: (1) it only serves disadvantaged households, (2) it delivers "deep" energy efficiency retrofits, (3) because tightening up a house and improving its energy profile can easily exacerbate home health risks, health and safety improvements are required to be made when warranted. No party can choose to leave them out, and (4) the program covers all 87 Minnesota counties.

As a result of the above four unique attributes, WAP not only reduces energy burden but also creates tremendous societal non-energy benefits. These non-energy benefits fall into several categories:

1. Health in terms of ventilation, moisture/mold, backdrafting appliances, thermal stress, etc.
2. Climate in terms of greenhouse gas reductions due to less energy needed to run the home
3. Community resilience in terms of comfort, housing stock improvement and aging-in-place assistance
4. Equity

With society's biggest issues today including health (from Covid-19), climate change, and equity, the non-energy benefits resulting from WAP should have significant value.

Operational Considerations

Operationally, the process of scaling up any product, service, or program (be it for-profit or non-profit) is the same and requires four basic elements. These elements are the constraints to growth.

1. Adequate funding
2. Large number of readily available clients

3. Sufficient workforce pipeline
4. Expandable supply chain of materials

Once weatherization is framed in the manner of these four constraints, scaling up turns into an exercise of identifying and removing the next constraint so growth can continue. Which constraint is holding us back today? When we overcome that constraint, which constraint will become the next bottleneck? As each new level of expanded production is achieved, each constraint can come back into play. Using the above framework, let's look at Minnesota's situation.

Funding

As mentioned above, current federal, state and CIP funding contribute to solid success in lowering the energy burden of residents, however, a large contribution would need to be made via the state legislature to scale up to 5,000 - 10,000 homes per year. The Minnesota Department of Commerce estimated that between 1,500 and 2,000 homes are being served annually today. Using preliminary analysis, the Department suggested that it might take $350-400 million spread out over 8-10 years to scale up to 10,000 homes per year.

While federal stimulus funds are in the process of increasing current WAP production, they will run out and are already accounted for in the Minnesota Department of Commerce's preliminary numbers.

Often CIP funding is looked at as the next logical funding source, however, the funding is already weaved into the 1,500-2,000 homes currently served. Further, the largest utilities were proactive in boosting their 2021 income-eligible CIP budgets to account for heightened spending in the ECO Act. Therefore, the additional households are already implied in the Minnesota Department of Commerce's unit count.

The next party who might logically contribute funding would be those who gain from the non-energy benefits that WAP produces. Unfortunately, other than at the state or federal level, there are few large well-funded parties that focus on equity, climate change, or community resilience (although, a possible partnership to explore is the Minnesota Housing Finance Agency). Many of these efforts are at the city level and less well funded. The health industry is usually the primary target when it comes to the idea of seeking funding for non-energy benefits. While progress is being made across the nation, the medical community has not jumped onboard with regard to funding energy efficiency programs. At some point in the future, health insurers will pay to have energy auditors conduct assessments of the home's health risks, but adoption is slow today. I believe that SRC is one of the few weatherization Service Providers in MN that also runs a substantial and decades old Healthy Homes program and a Lead Poisoning Prevention Program. Some generalized objections from the health community have been: that weatherization is a government program and already has funding, that the cost of weatherization measures are high and medical funds might be more effective elsewhere, and that weatherization targets any qualified resident, while the medical community targets only those that have a currently existing health problem. On the internal operational side, SRC has learned that technical energy auditors and healthy homes assessors are not necessarily the same people in qualifications or interests. Despite the objections, SRC remains committed to motivating the medical community until they support the health benefits generated by WAP. One possibility is to get the medical community to "ride along" with a larger state commitment by pushing them to fund one of the standard health & safety measures that potentially reduces asthma, such as ventilation fans or mold reduction.

In summary, while the non-energy benefits created from WAP may not immediately attract other outside funding, the fact that these benefits are generated may enhance any funding request to the state legislature. Obviously, with a sizeable contribution from the state, the funding constraint is removed from the entire process of scaling up weatherization.

Acquiring Clients

Despite the somewhat high occurrence of deferrals, identifying a sufficient number of income-qualified clients has not been a problem at current levels of funding. However, at some point, outreach will need to expand to facilitate continued growth when scaling up. Potential client acquisition constraints can be discussed in three general categories:

a. Speed of locating clients
b. Barriers to serving clients
c. Client equity considerations

Speed of Locating Clients

While not a problem today, additional outreach will need to be conducted to acquire more and more qualified clients. Minnesota's WAP program does allow spending on certain outreach efforts, which I believe is untapped at this time. In addition, the utilities have been willing to assist service providers by conducting outreach directly to customers in their service territory. Until these efforts have been fully leveraged, we won't know the extent of need for marketing dollars. However, any funding request made in order to scale up weatherization should have the stipulation that a small portion can be used for outreach if needed.

A second strategy is to speed up client acquisition on a bulk basis, which means work on more multi-family rental buildings where income-qualified residents live. The marketing effort to capture more qualified rental buildings is different than capturing single family home clients. High level one-on-one conversations with landlords is usually required. SRC has recently put more emphasis in this direction. Other than a bit of time commitment of sharing strategies across Minnesota's CAP partners, I don't envision this strategy requiring earmarked funds. (More on rental buildings below.)

Barriers to Serving Clients

Deferrals as well as access to renters are generally viewed as the biggest client-related constraints. Deferrals are a significant barrier to serving certain clients. Not only do they pause a client from receiving service, but they also reduce the energy auditor's productivity. One of the results of the rush to spend American Recovery and Reinvestment (ARRA) stimulus money (10 years ago), was that it pointed out a desire to improve the quality of work performed under WAP. After ARRA, not only were Building Performance Institute (BPI), Quality Control Inspector (QCI), and Standard Work Specifications (SWS) certifications and requirements instituted for auditors to acquire and adhere to, but added safety was considered for the clients. These safety considerations resulted in adding vermiculite and inaccessible crawl spaces to the list of reasons to defer a dwelling. For SRC, these two account for nearly half of the deferrals in Hennepin County. Problems with the building structure and excessive moisture are SRC's next two most common deferrals. Outstate Minnesota likely has a higher incidence of building structure problems especially as they relate to roofing, as well as inadequate floors in manufactured

homes. Clutter and pests are two more deferral reasons that are not as common but do exist. Knob and tube wiring is generally not a reason for deferral, as it can be replaced with program Health & Safety funds.

Fortunately, 2022 looks like a turning point in the fight to reduce deferrals. Not only has the state improved the service providers' ability to tackle vermiculite and excessive moisture, but the ECO Act allows certain income-eligible CIP money to be spent on pre-weatherization measures that directly reduce deferrals. While these changes are very positive, we won't understand their true magnitude or limits until later in 2022. Any funding request made to the state legislature should include flexibility to allow for spending on deferral reducing pre-weatherization measures.

Another traditional barrier to serving clients has been difficulty in accessing renters. Since most people are familiar with the split incentive problem and other landlord/renter issues, I won't repeat them. Also, there seems to be quite a bit of confusion and misinformation about serving renters. WAP might be unique in being able to overcome the landlord hurdles. First, WAP offers free health and safety measures that go along with the free energy measures (they are not an extra cost to the landlord). Second, while a landlord contribution is required in a 5+ multi-family building, the level of contribution can potentially be determined by the WAP service provider, and therefore, the expense to the landlord can be customized. Third, the US DOE is allowing a new method to fast-track the qualification process of all renters in certain designated income-eligible rental buildings. Taken together, these three make a compelling argument for landlords to accept weatherization. Future success on this dimension involves, better outreach to the landlords, sharing practices among WAP service providers, and clearing up misconceptions. The need to spend current stimulus funding is creating a catalyst for movement towards serving more renters right now.

Client Equity Considerations

Scaling up weatherization equates to fast growth in the number of clients being served. In this context, the topic of equity can be framed as: are client segments being disadvantaged now, and would fast growth exacerbate any disadvantaged client segments or create any new disadvantaged groups?

First, a bit of a review. WAP exclusively serves income-eligible residents. In a broad sense, income-eligible residents are the larger disadvantaged group. On the economic dimension, they have a higher energy burden. On a social dimension, they are the group that occupy any substandard housing that exists. Substandard housing is one of the factors in health disparities. WAP not only does much of its work in substandard housing, but also requires that health and safety (H&S) measures are installed. WAP is unique in this regard. If these H&S measures were not required and free, the income-eligible resident would likely not pay form them because they do not save energy and therefore save money.

High-risk clients. Program rules also ensure that priority is given to certain high-risk client subgroups. Households with children, disabled or elderly members can move to the front of the line when applying for service, as do households that have very high energy burden.

Language spoken is sometimes thought of as an equity barrier. Many of the WAP service providers deliver services in multiple languages. For example, in addition to English, SRC delivers its services in Spanish and Hmong, and has begun conducting outreach in Somali. However, no matter what the language challenge, all WAP Service Providers across the state have access to a free Language Line. The service provides an interpreter who joins the incoming or outgoing call. The service claims to handle over 200 languages.

Geographic location is not an equity barrier. Every county in Minnesota is covered by a weatherization Service Provider. These providers consist of Community Action Agencies, Tribal Nations and non-profits. All providers have been in existence for decades with the goal of fighting poverty in their territory. Minnesota legislation in 1963 and 1965 created the network. Weatherization-specific funds began flowing in 1977. WAP funds are allocated to each service provider according to the number of income-eligible households in each provider's territory. The network works together to advance weatherization and fight poverty. Teamwork is evidenced by having a strong association – MinnCAP, and having a weatherization-specific work group – MWAGS. No other energy program in Minnesota has geographical reach anywhere near WAP. As a result, inequity due to geographic location is minimized.

WAP serves income-eligible residents who apply for the service. Data on the client's race is not captured (and there are strict data privacy rules for these income-eligible residents). While outreach can be targeted, it is not up to the service provider to decide who applies, and who does not apply for service. Service Providers are familiar with the communities where they do a majority of their work. Some Service Providers are themselves, Tribal Nations. SRC has obtained census tract demographics for Hennepin County to confirm that the communities where significant work is being conducted are in the census tracts that contain the highest racial minority.

Deferrals exist because doing the work creates a health or safety risk to the resident, energy auditor, contractor, or installed materials that outweighs the benefits of completing the work. This situation can be viewed as a possible inequity to a segment of residents. Note, deferring a property means that the dwelling cannot receive service at this time. It does not mean that that the dwelling will never receive service. As outlined in the above section ("Barriers to serving clients"), 2022 is shaping up to be a transition year for the reduction of deferrals. Any funding request made to the state legislature should include flexibility to allow for spending on pre-weatherization measures that directly address deferrals.

The fact that renters are harder to reach due to landlord barriers presents a possible equity issue. As outlined in the above section ("Barriers to serving clients"), WAP might be unique in being able to overcome the landlord hurdles. If state legislative funds are received, the first pressure point is to spend more with the same staff. This will necessitate that Service Providers capture more clients in bulk via weatherizing increasing numbers of multi-family rental buildings. So instead of making rental inequity worse, it will improve it.

A very sensitive topic deals with the fact that an income-eligible homeowner, renter, or landlord can receive energy efficiency service from other programs, all with different levels of benefits and costs. The inequity arises when the income-eligible resident's health & safety is not protected, or someone pays for something that could have been free through a different program simply because they weren't aware of that option.

Workforce Constraints

The lack of an available and qualified workforce that can be hired is the primary constraint at this time to achieving growth. Scaling up weatherization implies that many more energy auditors, inspectors, and support people will need to be added in order to achieve the desired growth in the number of households served. In addition, more work will need to flow through installation crews, whether those crews are internal staff or external contractors. However, Minnesota's current market for energy staff is very tight with no excess workforce waiting in the wings. The humorous example is that SRC and other WAP service providers are in

friendly competition with our funder, the Energy Division of the Minnesota Department of Commerce, to hire the exact same people. As a result of today's market, an effort to source and train potential workers is needed. This need would be throughout the state.

Today's workforce situation is very different from approximately a decade ago when ARRA funds flowed into WAP and required a quick increase in staffing. At that time the housing construction market had crashed and was characterized by construction people looking for jobs as well as many contractors fighting for any available work. Sourcing new energy staff, internal work crews, and external contractors was relatively easy. In addition, all new parties were very knowledgeable regarding energy, mechanical, and building shell concepts.

Most WAP providers do not traditionally source and train people on the very basic concepts of construction, building science, and energy systems in the home. Schools, construction jobs, and other energy jobs seem to be the route before joining a WAP provider. To scale up weatherization, this pipeline would need to be scaled up too. A state-wide program does not exist today. Although I do understand that Winona has some type of training effort and the University of Minnesota has a building science program. Further, CEE has just begun a workforce development program with support from Xcel Energy for the Twin Cities area. I also understand that the Infrastructure Bill has $40 million available to 20 states to train energy auditing staff. Is Minnesota applying? Whatever the source, it seems logical to roll out a program that leverages the existing school system network across the state and that already markets to students and those looking for career change accreditation.

Given today's tight market for workers, workforce development is the biggest constraint to successfully scaling up weatherization. Any legislative request for funding should allow for some of the funding to be used to create and maintain a workforce pipeline.

Materials Scaling up weatherization assumes that the supply chains for the various materials such as insulation, furnaces, water heaters, caulk, etc., is available and expandable. While many supply chains are having trouble today due to COVID-19, the ones supplying deep energy efficiency retrofits do not seem to be troubled. The assumed reason is that these products are produced either in the United States or regionally in the upper Midwest. This lends confidence that access to sufficient materials can scale along with weatherization. While it may become a constraint at some higher production level in the future, it does not look like a constraint today (at least in the Twin Cities). Further investigation should be made by discussing with contractors where they are sourcing their materials from, as well as if the supply chain is working fine state-wide.

OBJ

OBJ

Appendix B: University of Minnesota

Weatherization Assistance Program / Minnesota.gov (mn.gov)

https://mn.gov/commerce/consumers/consumer-assistance/weatherization/

OBJ

Appendix C: Abbreviations

AMI – area median income

ARPA – American Rescue Plan Act

ARRA – American Recovery and Reinvestment Act

BPI – Building Performance Institute

CARD – Conservation and Applied Research Development

CERT – Clean Energy Resource Team

CIP – Conservation Improvement Program

CSPP – Community Scale Pilot Project

DHS – Department of Human Services

DOE – U.S. Department of Energy

DTG – Dual Training Competency Grant

EAP – Energy Assistance Program

ECO – Energy Conservation Optimization

EPA – Environmental Protection Agency

FPL – Federal Poverty Level

HHS – Department of Health and Human Services

H&S – Health and Safety

LEAD – low-income energy affordability data

LIHEAP – Low Income Home Energy Assistance Program

MNSCU – Minnesota State Colleges and Universities

MnSIC – Minnesota State Interagency Committee

NASCSP – National Associate for State Community Service Programs

PIP – percent of income payment

QCI – Quality Control Inspector

SNAP– Supplemental Nutrition Assistance Program

SP – Service Provider

SSI – Supplemental Security Income

SWS - Standard Work Specifications

WAP – Minnesota's Weatherization Assistance Program

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