NEW YORK STATE OF OPPORTUNITY. Department of Public Service

Regional Residential Weatherization Program Technical Conference

Cases: 25-M-0248/18-M-0084

June 17, 2025: Albany

Hybrid Meeting Guidelines

- Virtual participants are muted automatically upon entry and will be unable to unmute themselves
- Virtual participants should use:
  a) The **raise hand function** to ask a question
  b) The **Q&A function** to submit questions for the panelists, to be answered live during Q&A portion of the presentation

Agenda

9:30–9:40	Welcome from DPS Staff	Marc Carpenter, NYS DPS
9:40-10:10	Building Science Primer	Andy Stone, NYS Weatherization Directors Association
10:10-10:40	NYSERDA presentation on Comfort Home experience, evolution, lessons learned	Keith Bohling & Courtney Moriarta, NYSERDA
10:40-11:00	Questions/Comments	All
11:00-11:15	Break	
11:15-11:35	Brief presentations on downstate weatherization program experience from Con Edison & National Grid	Jared Sommerkamp, Con Edison Alexa Ruscitto, National Grid
11:35-12:15	Facilitated Discussion among NYSERDA and utility program managers	Adam Hinge, Facilitator
12:15-1:00	Lunch Break	

Agenda

1:00-1:45	Presentations and Q&A on leading Weatherization programs in other jurisdictions: Mass Save, Energize CT, NH Saves, Efficiency VT	Jo Ann Bodemer, MA Department of Energy Resources Kate Peters, Eversource Dave Westman, Efficiency VT/VEIC
1:45-2:15	Facilitated panel of implementation contractors regarding key points and challenges for developing NY's program	Dave Boettcher, Abode Energy Mgt Andy Frank, Sealed Billy Gibson, Upstate Spray Foam Jason Scher, Energy Mgt Solutions
2:15-3:00	Facilitated discussion and Q&A with all program administrators (NY and elsewhere)	Adam Hinge, Facilitator
3:00-3:20	Questions and brief comments from other attendees	
3:20-3:30	NY Utility Program Managers: share what they learned today; key areas needing more info/research before proposal submissions	
3:30-3:45	Wrap up/timing of next steps	Marc Carpenter, NYS DPS

Summary of Order

- Directs the formation of Regional Residential Weatherization Programs for the Upstate and Downstate Regions
- Gas utilities must allocate a minimum of 50% of their portfolio program budgets towards residential weatherization programs and electric utilities must allocate a minimum of 25%
- **Upstate Region**: Central Hudson, NFG, NMPC, NYSEG, O&R, and RG&E
  - Non-LMI residential customers (1-4 family)
- **Downstate Region**: Con Edison, KEDNY, and KEDLI
  - Non-LMI residential customers (1-4 family)
  - Non-LMI multifamily buildings
- Weatherization programs for commercial buildings (both regions) and Non-LMI multifamily buildings (Upstate only) will continue in 2026-2030 through **utility-specific programs**

Technical Conferences

- Gather input from stakeholders on **best practices** from regional or statewide weatherization programs in other jurisdictions and the **strengths and weaknesses** of existing New York state weatherization programs in order to inform utility proposals
- Review Commission Order requirements regarding Regional Residential Weatherization program proposals
- All presentation materials from today's discussion will be filed in DMM

weatherization nyswda directors association

Education. Advocacy. Innovation.

Building Science Primer

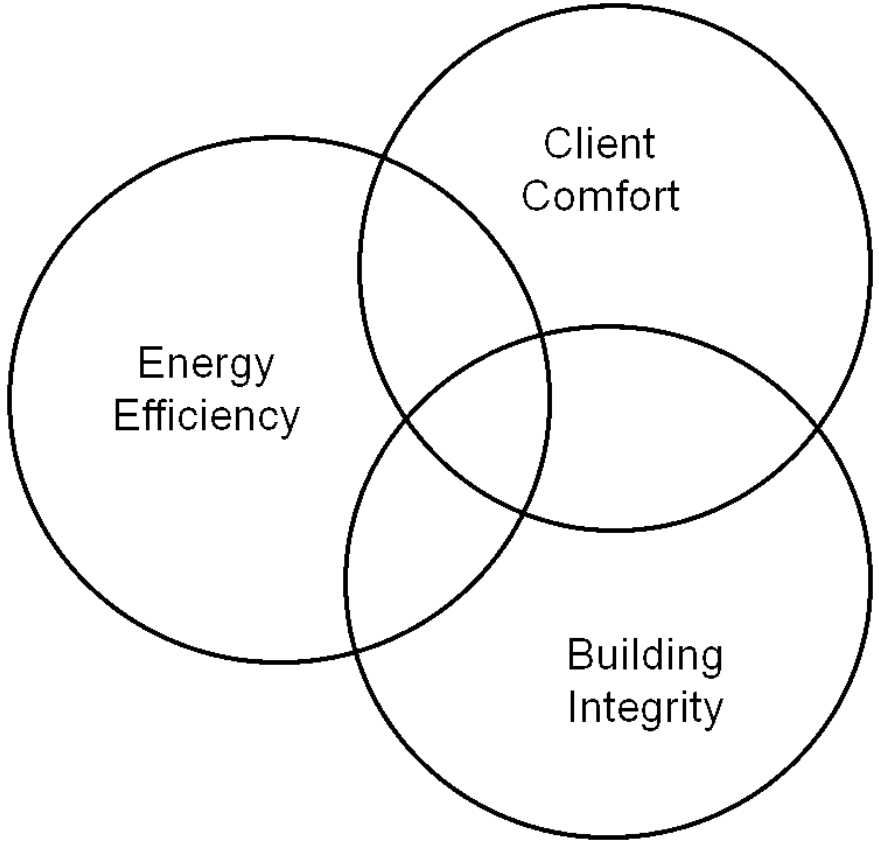
Andy Stone - NYSWDA

Building Science – A Whole House Approach

Building science is a systems approach to home building and remodeling that considers relationships between a home's components and its environment.

The Goal of Building Science:

- maximize energy efficiency
- optimize occupant health, comfort and safety
- ensure structural durability



NY State Housing Stock

NY has some of the oldest homes in the country. They are extremely diverse – even newer homes vary from simple to complex

Simple Ranch

Raised Ranch

Cape Cod

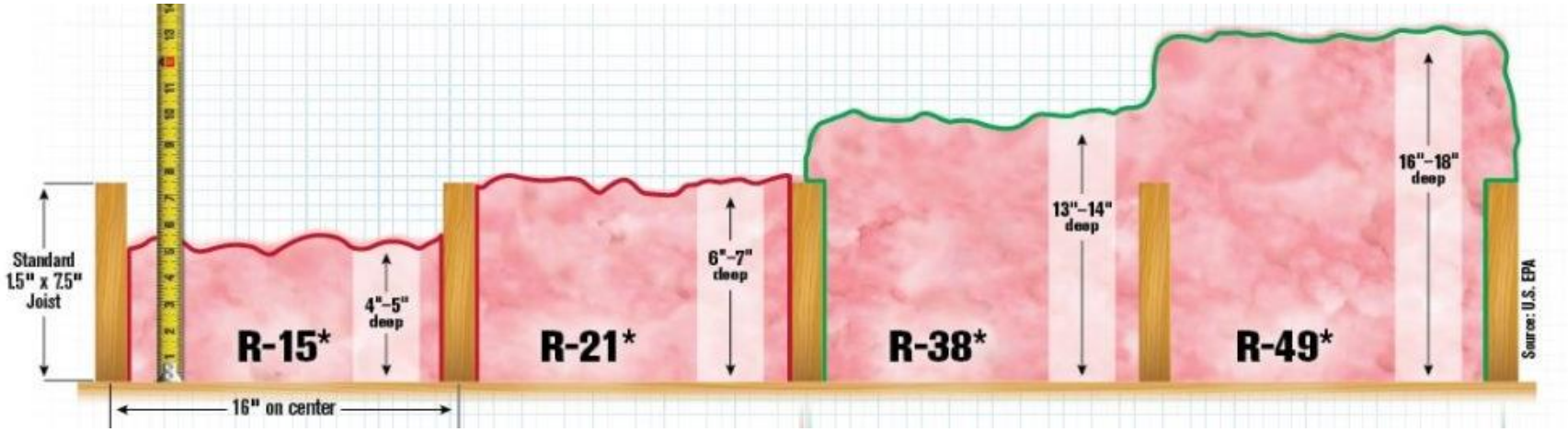
Identifying energy use in residential housing requires an *Energy Audit*

- Analyzes the house as a collection of interacting systems including habits of occupants.
- Analyzes conductive and convective energy losses.
- Analyzes heating/cooling systems including distribution systems.
- Performs health and safety testing such as CAZ and CO testing and gas leak testing.
- Develops a plan for retrofits to save energy and address any health and safety Issues.

Conduction

Conductive loss in a home is defined as: the amount of heat that transfers from the inside of a building to the outside *directly through building materials.*

Adding insulation to attics and walls, when possible, is one of the highest performing weatherization measures.



Insulation

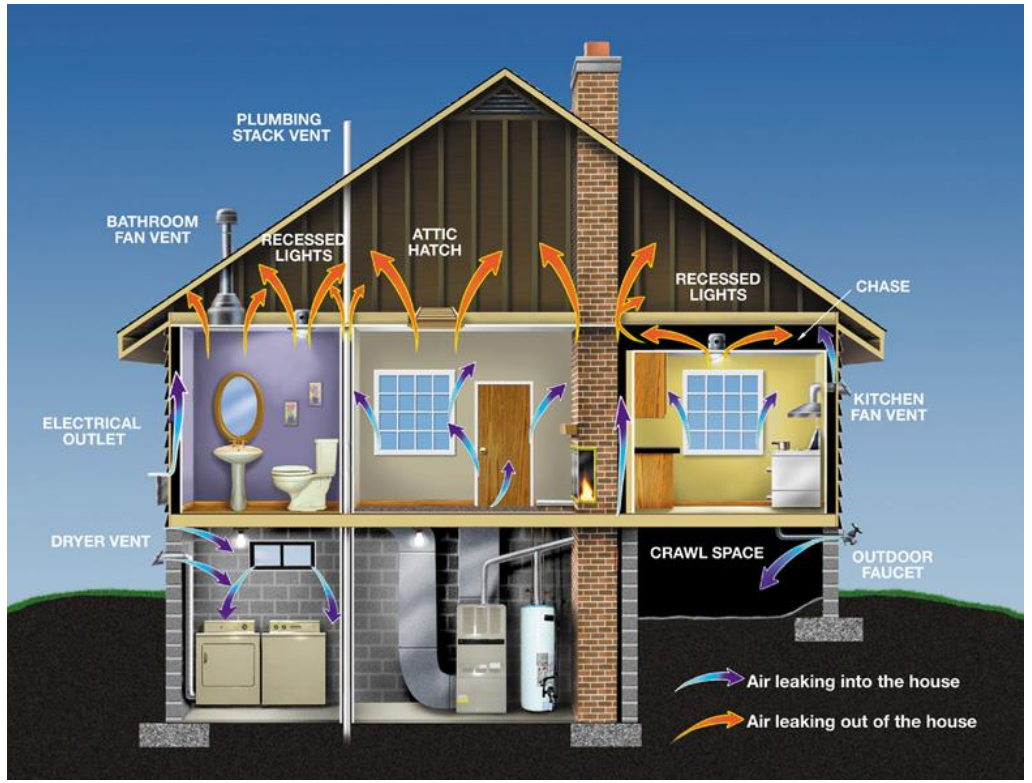
The most common technique for adding insulation is using an insulation machine that blows cellulose into attics and wall cavities.

A high-powered fan and an agitator blow material through a hose to the desired location.

Infiltration and Air Leakage

Air leakage in residential housing can contribute as much, or more, to the total load of the home as low insulation levels.

- Infiltration: Air entering the home caused by wind and/or stack effect.
- Exfiltration: Air exiting the home due to heat rise or improper heating distribution.



Infiltration and Air Leakage

Air leakage is measured with a blower door.

A high-powered fan is placed in an exterior opening and the fan pulls air from the house producing negative pressure.

A digital manometer measures the pressure difference between the inside and outside and determines how leaky the home is by converting the pressure measured into Cubic Feet per Minute (CFM).

Fenestrations

Doors and windows, depending on their condition, in many cases do not generate a significant payback. This is due to two factors:

- The low net savings from the reduction of conductive losses.
- The high initial investment cost for the materials.

Heating Ventilation and Air Conditioning

Heating systems should be tested.

- Steady State Efficiency
- Heat Rise
- System Pressure

Replacing old inefficient heating systems may be a good option. Cold Climate Heat Pumps are too in certain circumstances.

Baseload

Non-heating electric usage is called ***baseload usage*** and generally includes appliances and lighting. Baseload reduction measures can have a significant impact on electric usage.

Health and Safety

- Gas leak detection has obvious positive implications.
- Carbon monoxide detection literally saves lives!
- Active ventilation is becoming more and more popular in new as well as existing homes to control indoor air quality.
- Radon is prevalent all over NYS. Interim measures can be installed at low cost.
- Lead based paint is also prevalent. Raising lead dust can be problematic for customers and workers.

To sum up- Modern Weatherization Measures Include:

- Blower door-directed air sealing
- Attic insulation
- Dense-pack sidewall insulation
- Heating and cooling equipment repair and replacement
- Duct sealing and modification
- Electric base load measures
  - Light Emitting Diodes (LED)
  - Refrigerator replacement
  - Water heater modification and replacement

Tools of the Trade

Anyone conducting energy audits should have the equipment necessary for a thorough and complete walk through including:

- Blower Door
- Infrared Scanner
- Combustion Analyzer
- Gas Leak Detector
- Carbon Monoxide Detector

Cost Effectiveness of Measures

Variables in determining cost-effectiveness

- Price of materials and labor
- How long the product or service will last in years
- Savings benefit ($$ saved annually)
- Payback period (how long before the improvement “pays for itself”)

Measures Costs and Savings

2-Story Colonial @ 2,280 Square Feet

Measure	Installed Cost	Annual Savings*
Sidewall Insulation	$4,012	$473
Attic Insulation	$2,656	$743
Air Sealing	$500	$405
Lighting	$66 (6 bulbs)	$85
Refrigerator	$700	$153
Bathroom Ventilation	$233	N/A
Smoke Detector	$45	N/A
CO Detector	$80	N/A

* Source: Oak Ridge National Laboratory-NEAT Software

Training

Basic Skills:

- Air Sealing Techniques
- Installing Insulation
- Basic Health and Safety
- Lead Safe Work Practices

Building Performance Institute:

- Building Science Principles (BSP)
- Building Analyst Technician (BA-T)
- Building Analyst Professional (BA-P)

Environmental Protection Agency:

- Lead Renovator

Lessons Learned Regarding Electrification and Heat Pumps

- Load Reduction is a MUST!!
- Equipment Selection
- Sizing must be RIGHT!
  - Balance Point
  - Auxiliary (Backup) Heat

Questions?

Andy Stone

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Comfort Home

Courtney Moriarta
Keith Bohling
Home Modernization Team

NEW YORK STATE | NYSERDA
New York State Energy Research and Development Authority
50 YEARS 1975-2025

AGENDA

- **Background, design**
- **Volume, savings,**
- **Success factors**

COMFORT HOME ORIGIN STORY

Program model to accelerate making homes Heat Pump Ready

Key strategies we tested…

Can simplified measure package incentives and a streamlined workflow reduce program overhead, contractor soft costs, and project cycle times?

Will a simplified energy model that neither requires measure-by-measure TRM calculations nor a fully customized whole house energy simulation deliver sufficiently accurate results?

Can we “save a ton” with weatherization measures?

COMFORT HOME: WHAT IS IT?

- A state-wide market-rate ~~weatherization~~ **load reduction** pilot program designed to test a hypothesis
- **Theory of change: Can a simplified program, with streamlined inputs and modeling of standard measure packages, increase adoption of building shell improvements to get homes heat pump ready, reduce heat pump costs, AND help mitigate future winter peak demand?**
- A network of BPI-certified contractors delivers services

- **Simple packages, standardized incentives**
- **Streamlined data capture / input**
- **Modeling by Energy Plus using a "semi-custom" approach**
  - TRM custom measure category 5 (and 6) developed, approved and adopted
- **Strike a balance between minimizing process and burden to implement while still maintaining good outcomes overall**
  - more of our program funding going to incentives
  - less to administrative processes
  - test how far we can go in streamlining our processes without sacrificing program level performance
  - understanding that we will not have full visibility to detail of every individual project
  - focus on program level energy savings, not project level

PACKAGE A: ATTIC AND RIM JOIST

- Air seal attic
- Insulate attic
- Air seal rim joist
- Insulate rim joist

Performance criteria:

- Attic floor: R-49
- Attic walls: R-14
- Attic Roof: R-49 or to capacity
- Rim joist: R-14

NOTE: The full package incentive is paid for achieving the performance standard. This can be achieved through a mix of existing conditions plus the contractor's upgrades.

PACKAGE B: WALLS AND FLOORS

- **All areas of Package A, plus at least one of the following:**
- Insulate above-grade walls
- Insulate floors over unconditioned spaces
- Insulate foundation or crawlspace walls to at least 18” below grade
- Redefine the thermal envelope by moving thermal barrier from attic floor to roof, bringing the attic and mechanicals “inside”

Performance criteria:

- **Walls: R-11**
- **Floors:**
  - **Climate Zone 4: R-19**
  - **Climate Zone 5/6: R-30 or to capacity**

NOTE: The full package incentive is paid for achieving the performance standard. This can be achieved through a mix of existing conditions plus the contractor’s upgrades.

PACKAGE C: WINDOWS

- All areas of Package A
- All areas of Package B

AND

- Replace existing windows with new ENERGY STAR or equivalent listed windows

Or

- ENERGY STAR storm windows or insulated panels

Performance criteria:

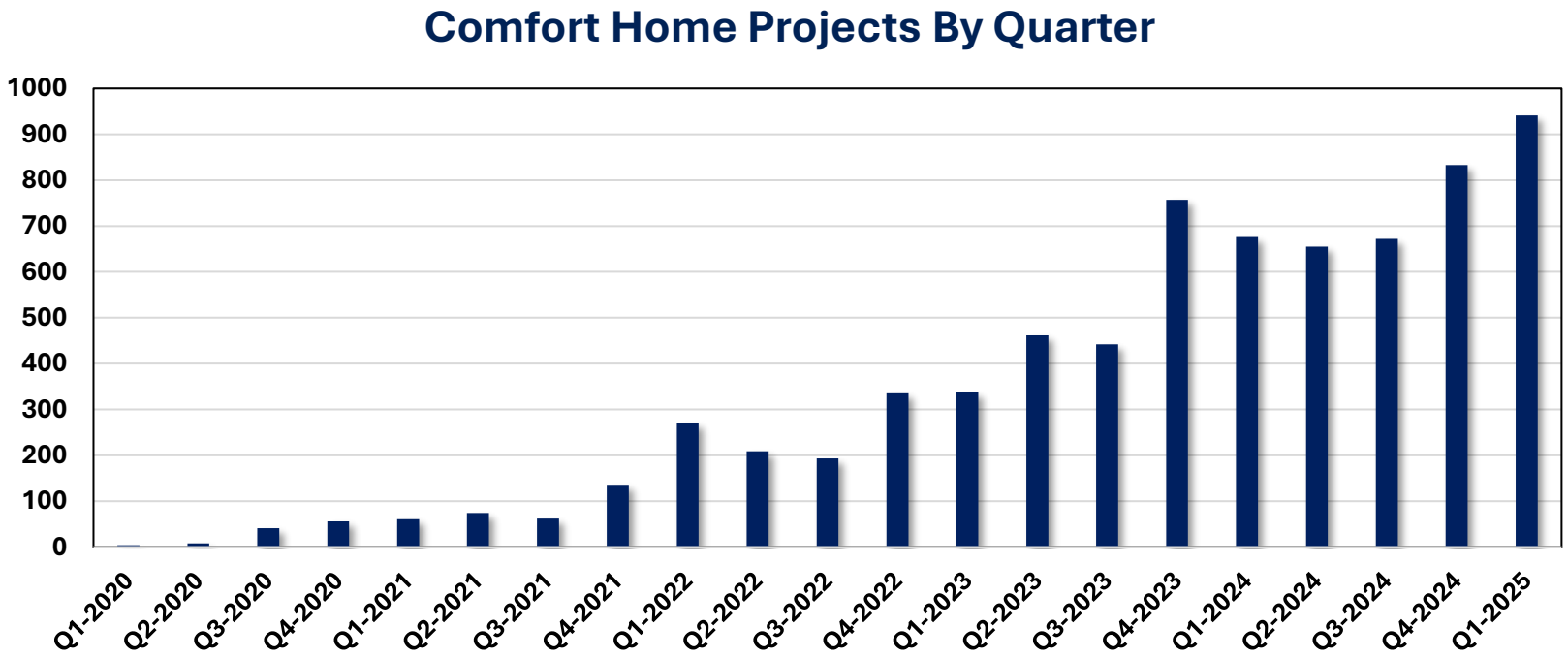
- At least 80% of the home's window area is ENERGY STAR-rated or equivalent

NOTE: The full package incentive is paid for achieving the performance standard. This can be achieved through a mix of existing conditions plus the contractor's upgrades.

COMFORT HOME PACKAGE OVERVIEW

	Select an Insulation Package		Windows Add-On
	Good	Better	
Upgrades	Seal and insulate attic and rim joist	Good Package plus insulate walls and floors	After air-sealing and insulating, upgrade windows to ENERGY STAR
Value	The average home saves 14% on their heating and cooling consumption after installing this package.	The average home saves 20% on their heating and cooling consumption after installing this package.	For homes with upgraded air-sealing and insulation, upgrading the windows saves an average of an additional 8% on heating and cooling consumption.
NYSERDA Incentive	$2,500	$3,000	$2,000
Multiple Comfort Home Projects Over Time	Customers who received Comfort Home incentives for a package within the past year are eligible for a total of $1,000 toward another package. Customers who received Comfort Home incentives for a package more than a year ago are eligible for total of $2,000 toward another package.		

COMFORT HOME VOLUME AND INCENTIVES

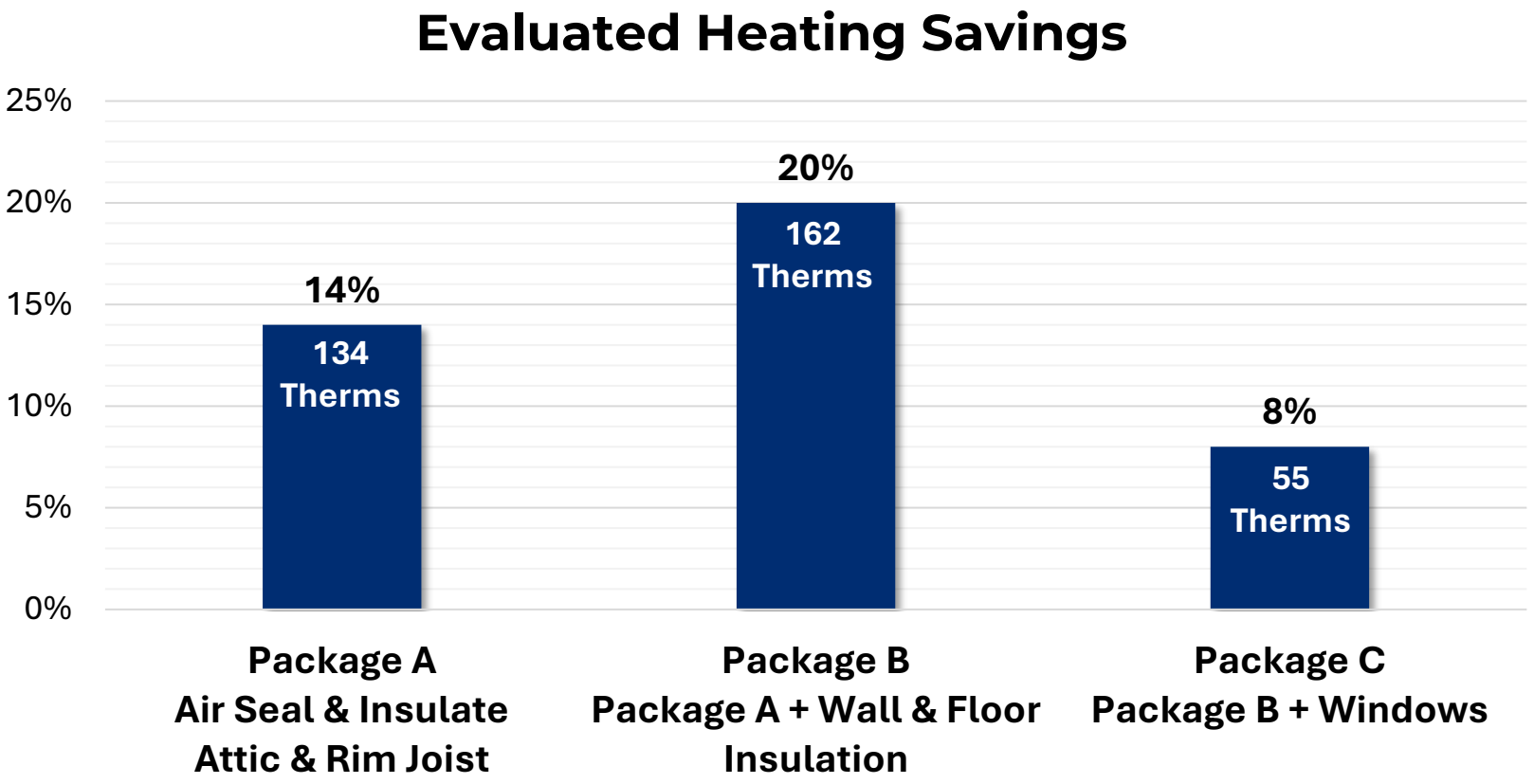


Growth has been mostly organic and budget constrained

								Incentive Adjustment 6/1/25	
Q1 2025	**Project Count**	**% of Projects**	**Avg Project Cost**	**Avg Incentive**	**Incentive %**	**Leveraged Funds**	**Leveraged Funds %**	**New Incentive**	**New Incentive %**
Package A	247	26%	$ 5,245	$ 1,589	30%	$ 3,656	70%	$ 2,500	48%
Package B	595	63%	$ 8,699	$ 2,946	34%	$ 5,753	66%	$ 3,000	34%
Package C	106	11%	$ 8,400	$ 3,819	45%	$ 4,581	55%	$ 2,000	24%

COMFORT HOME EVALUATION STUDY

Overall program average evaluated savings = 16% of baseline heating energy consumption.



Third-party evaluation of customers' heating energy consumption before and after Comfort Home project. (Limited to metered gas and electricity with no visibility to secondary heat sources.)

While only heating consumption was evaluated, these savings carry over to reductions in cooling consumption as well.

Most Package B projects included some elements of Package A.

Most Package C projects didn't include elements of Packages A/B.

COMFORT HOME EVALUATION STUDY

- Overall realization rate = 66%
  - Package A = 80%
  - Package B = 53%
  - Package C = 56%

Takeaways from this analysis:

- The elements of Package A are fairly consistent and the physics model is fairly simple leading to higher RR
- Package B elements are widely variable, the baseline conditions are widely variable, and the physics can be very complex, leading to lower RR for this group, noting that these measures are seldom addressed outside of programs and extremely important for comfort, moisture management, and air leakage control
- Analysis results are used to tune up EnergyPlus modeling assumptions to improve modeling accuracy over time.

Homes with the most opportunity have higher realization rates:

- **Homes with higher consumption had higher RRs.**
- **Homes with higher EUI had higher RRs.**

COMFORT HOME SUCCESS FACTORS

Program success factors as heard from our contractor network:

- Assessment incentive ($200)
- No customer application
- No pre-approval needed
- Simple packages – Easy for contractor and customer to understand
- Easy workflow w/ limited inputs (as little as 20 minutes)
- Blower door test required for installation, not for assessment
- Simple paperwork
- Short payment lag (5-14 days after installation)
- ACH payments

Participating contractors value stability, predictability, consistency.

Contractors will only adapt their business model to a program that appears to be stable.

When programs pull back, contractors have to lay off people. This is very hard for the market to recover from.

CUSTOMER FEEDBACK

Primary customer drivers for program participation:

90% - Increase home's comfort

86% of customers report home comfort benefits

84% - Reduce energy costs

53% of customers reported lower energy bills

59% - Reduce energy consumption for environmental reasons

This jumps to 88% for those who installed a heat pump within 24 months

- **"Comfort Home was easy to use, not too much overhead in terms of paperwork, and it cut the project cost in half. Thanks!"**
- **"Great opportunity to increase energy efficiency and lower energy bills."**
- **"It's a great program to get what you need. I couldn't have gotten my insulation otherwise and I am thankful that my family wasn't cold this winter"**

CUSTOMER FEEDBACK

Top drivers of satisfaction:

- Communication with contractor
- Contractor's knowledge about the program

Top driver of dissatisfaction:

- Resolution of issues (not that there was an issue, but how it was resolved)

87% of program participants would recommend Comfort Home to a friend or family member.

95% are satisfied or very satisfied with the quality of the contractor work.

Can simplified measure package incentives and a streamlined workflow reduce program overhead, contractor soft costs, and project cycle times?

Program overhead:

- **Comfort Home evaluated cost to deliver savings (LMMBtu-e) is $8.86**
- For comparison, in 2024 NYS Clean Heat averaged $7.74 statewide, Mass Save RCD averaged $11.00 (based on gas savings), Non-LMI EE/BE Order $7.22 statewide.*
- **Using the Comfort Home evaluated cost rate to achieve savings estimated in May 15 Order for market rate weatherization programs ~ $222M per year**

Contractor soft costs:

- **Decreased by limited data capture, no requirement for blower door test at time of assessment, no pre-approval allows quicker turnaround, no customer application**

Project cycle times:

- **Average of 54 days between assessment and installation**

* Represents program only minimum budgets, not inclusive of EM&V, non-labor administrative and labor costs, as well as estimated energy savings targets to be refined as part of the Utility Joint Proposals

FINDINGS

Will a simplified energy model that neither requires measure-by-measure TRM calculations nor a fully customized whole house energy simulation deliver sufficiently accurate results?

We compared realization rates across a sample of Comfort Home projects using BPI-2400 calibration methods and NYS TRM Custom Measure Category 5 modeling.

Attrition due to lack of acceptable quality metered data reduced our sample set from 1,227 to just 22 projects

Package	Category 5 RR	BPI 2400 Simple RR	BPI 2400 Detailed RR
A	112%	102%	128%
B	34%	45%	82%
C	81%	74%	93%
Total	73%	78%	111%

Package B is most difficult to model across all methods.

CH simulation tool can be tuned to improve Package B predictions.

Can we “save a ton” with weatherization measures?

YES!

It depends on project conditions, but we have found Package A can often save a half a ton of heating load and Package B can save a ton or more.

This allows for smaller heat pumps to be installed saving homeowners on both first costs and operating costs.

LESSONS LEARNED

We can save a ton or more with weatherization work, particularly for homes the do not have wall insulation

Accuracy of the semi-custom simulation can be tuned up over time using ex ante energy consumption data analysis as a guide

Kicker incentive for Heat Pump installation following Wx work did not help drive cross-trade coordination

The standard packages, and simplified modeling and workflows make the program very attractive to contractors and indicators are promising for scalability

Incentive levels higher than 50% of project costs to not appear to be necessary to drive uptake

Added program rules and process increase complexity, eroding the benefits of the measure package approach.

We should be valuing weatherization work primarily as permanent load reduction (reducing costs to the homeowner) and as a mitigation strategy to reduce future winter peak electricity when heat pumps are installed.

Energy savings can also be captured as a side benefit.

Thank you

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NEW YORK STATE | NYSERDA
New York State Energy Research and Development Authority

50 YEARS 1975-2025

Con Edison's Weatherization Program

Upstate Regional Residential Weatherization Program Technical Conference

June 17, 2025

Current Con Edison Weather Ready Offering

Program Eligibility

- Single Family Residential or Small Multifamily (2-4 Units) Residential Buildings
  - Using Con Edison gas for heating
  - Using Con Edison electric for heating (resistance or heat pump)
  - Using a delivered fuel (e.g. fuel oil, propane, etc) for heating and Con Edison for electricity
- New Construction and major rehabilitation projects are not eligible
- Customers must work with a registered participating contractor
  - Contractors required to be BPI certified

Measure Requirements

- Mandatory Measure: Air Sealing
  - Whole home w/ blower door test
  - Blower door test exemption w/ the presence of health hazards
- Opaque Shell Insulation (Must select one or more)
  - Attic/knee-wall floor
  - Roof slope
  - Knee-wall
  - Exterior wall
  - Ceiling and overhang
  - Crawl space ceiling or wall
  - Rim Joist
  - Attic ventilation
- Optional: Duct Sealing and Insulation

Customer Incentives: Based on Heating Fuel

	Gas, Delivered Fuel or Electric Resistance		Geothermal or Air Source Heat Pump	
	Incentives	DAC Enhanced Incentives*	Incentives	DAC Enhanced Incentives*
Single Family	$2,000	$2,500	$1,000	$1,250
Two Family	$2,500	$3,000	$1,250	$1,500
Three Family	$3,000	$3,500	$1,500	$1,750
Four Family	$3,500	$4,000	$1,750	$2,000

Contractors awarded an additional $1,000 for a completed project

Incentives are capped at 70% of project cost

*Disadvantaged Communities are defined by the New York State Climate Justice Working Group. For more information and to confirm customer eligibility, visit nyserda.ny.gov/ny/Disadvantaged-Communities

Performance to Date

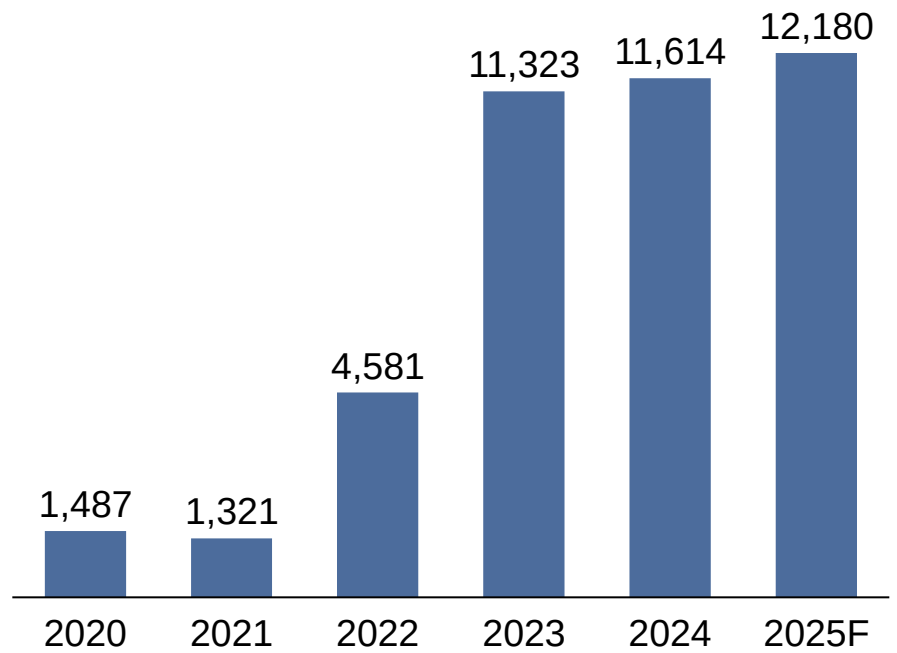
Pilot Program (2017-2019)

- Established a pilot program in 2017
- Completed ~100 projects
- Completed M&V Study

Weather Ready Program (2020-2025)

- Graduated to full-time program in 2020
- Completed a program evaluation
- More than 6x growth in projects from 2020 to 2024 w/ additional growth forecasted in 2025
- More than doubled number of participating contractors from 2020-2025
- Improved QA/QC process

Weather Ready Savings (Post-VGS Annual MMBtu)

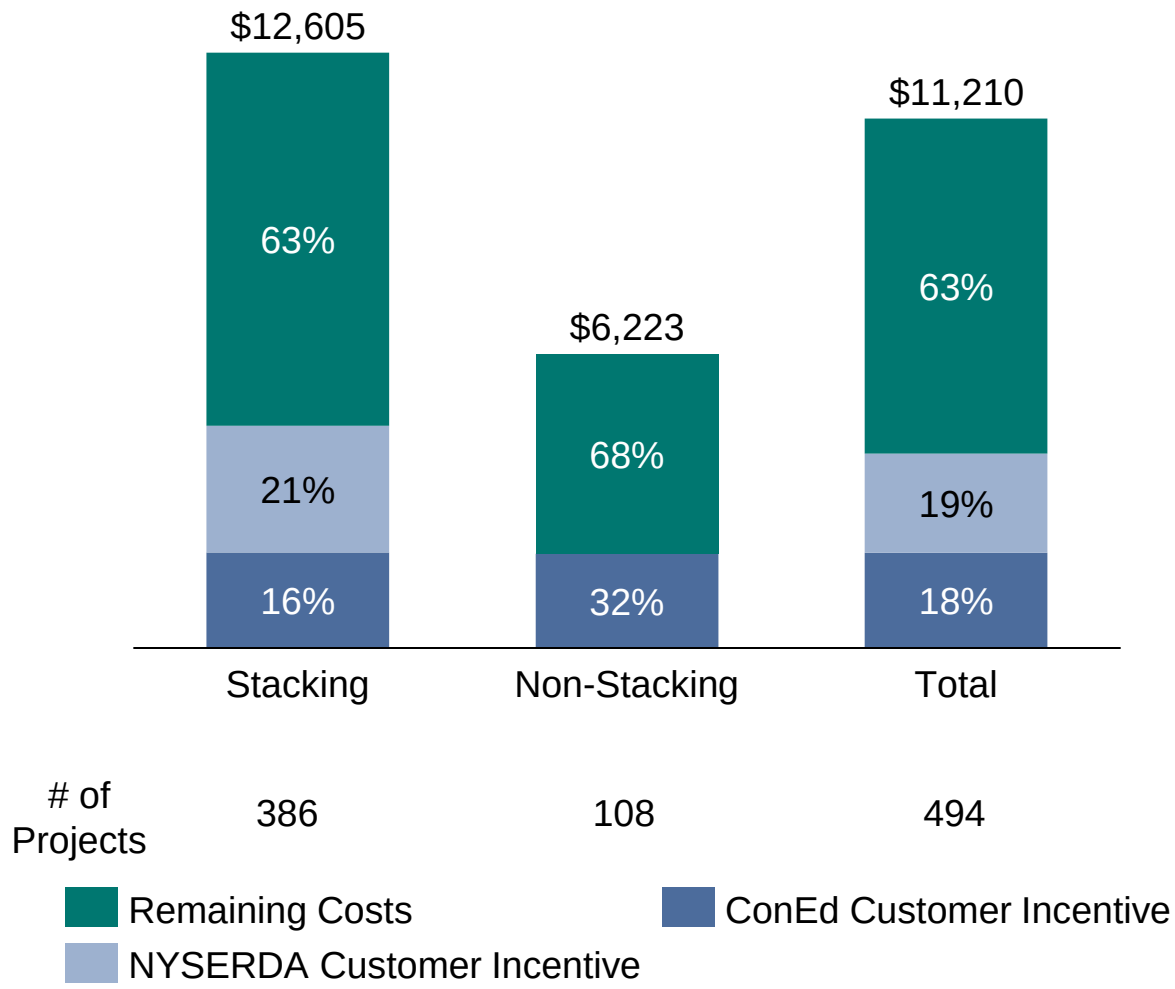


	2020	2021	2022	2023	2024	2025F
# of Projects	119	107	182	607	674	860

Key Program Data Points

- Current incentives cover ~40% of project costs even when accounting for NYSERDA incentives
  - Higher incentives lead to more expensive projects in the program
  - ~75% of projects stack with NYSERDA Comfort Home
- Measure Mix
  - ~70% of projects have multiple insulation measures
  - Attic most popular (>80% of projects)
  - Walls & Rim Joist (~50% of projects)
- ~90% of projects in Westchester currently

2025 YTD Project Cost Coverage



Takeaways

Lessons Learned

- Increased incentive offering is needed to drive further growth
- Multiple programs in the same service territory creates additional administrative burden and complexity
- Simple, easy to understand program design works
- Requirements are important to ensuring higher quality
  - Blower Door Test
  - Photo evidence of insulation depth installed
- Consistency of program offering allows for easier navigation of the program

Key goals for the 26–30 Program

- Determining the right measures and incentive levels to drive participation responsibly
- Increasing participation in New York City
- Designing offerings and tiers so they are easy to understand for customers and contractors
- Growing the contractor network to meet the level of activity ordered in NENY
- Maintain a consistent program offering

Future Considerations

Incentives	Continuously adjust and review incentive levels to manage participation.
Equity	Increase engagement and participation for customers in Disadvantaged Communities.
Preapproval Process	Projects require preapproval prior to construction with clear expiration dates.
Project Documentation	Require more detailed documentation (pre/post-photos, install specs, etc.).
Contractor & Inspection Requirements	Contractors must provide proof of industry experience and complete trial periods.

Thank you!

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nationalgrid

New Hampshire and
Connecticut Programs

EVERSOURCE

Weatherization Program Design Models

Market Rate Customers

Steward of Energy Efficiency Funds

These programs and services are **managed and delivered jointly by electric and gas utilities** (including Eversource) and Energy Efficiency Service Providers within each state.

Common goal of helping residents and businesses across each state save money and energy through various program offerings, rebates, incentives and tips

Programs are state regulated, and the funding is supported from a charge on customers' energy bills.

Multiple Program Elements

There are a range of choices when designing weatherization programs, ranging from more market driven to more heavily managed approaches.

Each program element has multiple choices:

- Policy Objective
- Incentive Levels
- Incentive Delivery
- Project Delivery and Contractor Networks
- Pricing
- Energy Savings and Data Tracking
- Customer Acquisition

Policy Objectives

Capture Lower Cost Savings for More Customers

- Shorter visits focused on the most cost - effective measures such as air sealing and basic insulation
- Reach more customers with available budget
- Leaves savings on the table for later

Maximize Cost-effective Opportunity

- Full home recommendations screened for cost effectiveness at home and program level
- Do as much work as possible in the project while maintaining >1 cost benefit

Deep Retrofit

- More significant and costly measures for deepest possible savings
- Fewer projects or higher customer co-pays
- Most comprehensive for long term

Incentive Levels

Flat Amounts

Dollar amounts for eligible measures

Similar to tax credits or appliance rebates

Percent of Project Cost

Usually a percent of total project cost with a cap

Can also be paired with set program pricing to control costs

$ per MMBtu

Ties incentive to performance

Harder for customer to understand upfront

Needs accurate modeling, post checks

Incentive Delivery

Rebate Back to Customer

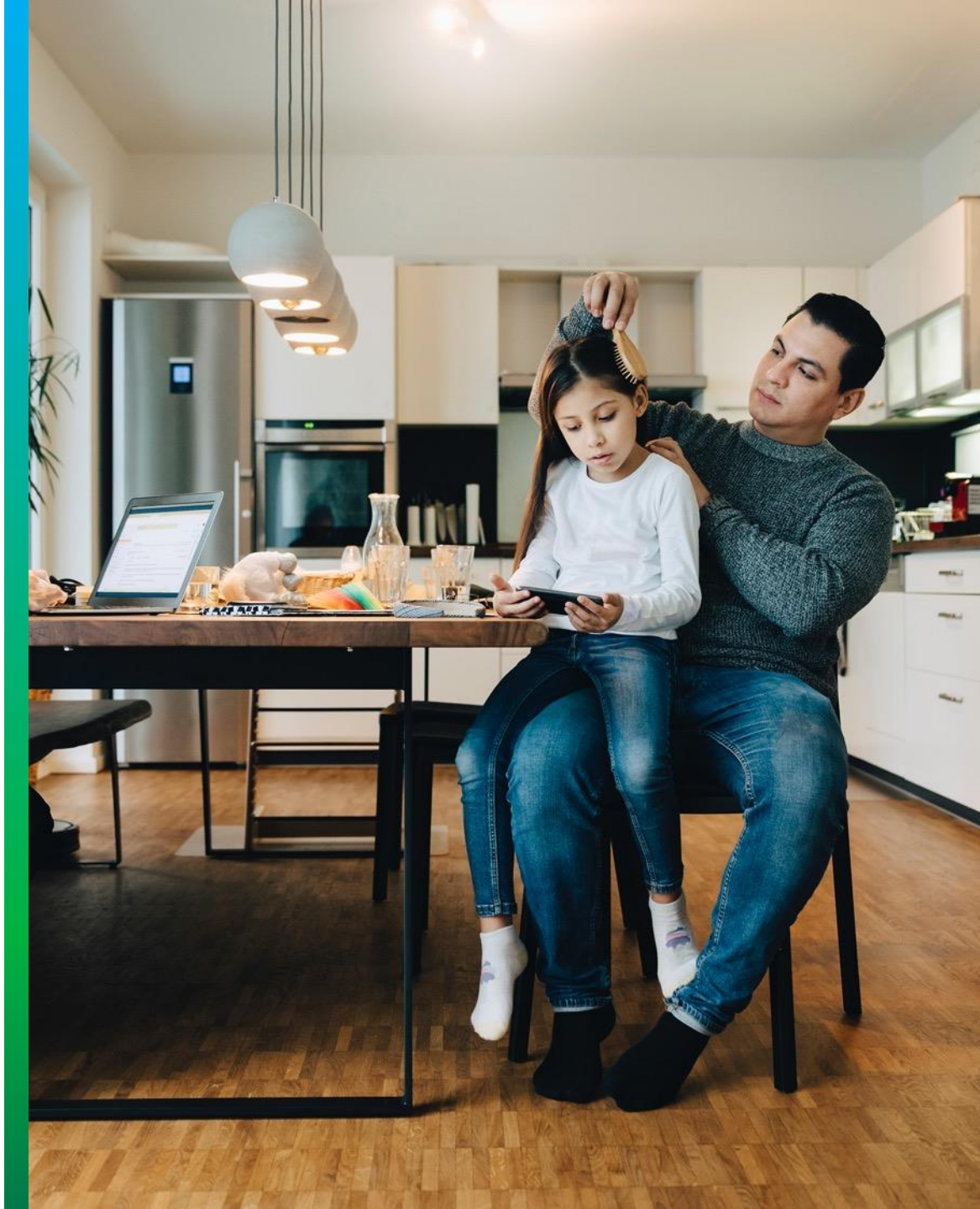
- Customer applies for and receives rebate after eligible project completion
- Direct payment to customer
- Customer covers full initial cost, or contractor waits for rebate payment

Two-party Checks to Customer and Contractor

- Program provides two party checks, allows customer to pay contractor during and after project
- Often used with loans

Paid Directly to Contractor

- Program pays incentives directly to contractor, reducing customer’s project cost
- Minimizes upfront cost for customer
- Provides accountability between contractor and program



Project Delivery and Contractor Networks

Open Market

Customer chooses a contractor to do eligible work

Often paired with rebate approach

Similar to tax credits or appliance rebates

Eligible Contractor List

Customer chooses contractor from list of approved vendors

More quality control for program

Customer managing their own project

Program Facilitated Delivery

Program contracts with approved vendors

Can be list or Lead Vendor with subcontracts

More project management support for customer

Project Pricing

Open Market

- Customer gets quotes from contractors who set their own pricing
- More for customer to manage
- Contractors compete for customers

Program Set Pricing

- Program determines pricing for eligible measures
- Through procurement or pricing index or other process
- Often paired with Program facilitated delivery
- Removes burden from customer
- Cost control for program

Energy Savings and Data Tracking

Deemed Savings

- Eligible measures assigned a deemed savings amount based on research and studies
- Requires the least field data and software
- Less accurate for individual customers

Modeled Savings with Baseline Assumptions

- Modeling software applies savings values per measure based on home analysis
- More accurate than deemed savings
- Requires studies to keep up with baseline assumptions

Fully Modeled and Trued-up Calculations

- Modeling software generates savings based on full input of existing conditions and usage
- Requires more information and time from customer
- Expertise in software

Customer Acquisition

Marketplace Driven

Contractors bring in customers

Customer seek out projects

Requires high awareness of program

Contractors motivated by profit margins

Program and Market Driven

Programs do broad outreach and awareness

Contractors bring in projects

Program Driven

Significant outreach

Community and vendor partnerships

Higher marketing costs

Program pays contractors and others for leads

New Hampshire

Policy Objectives

- Electric Savings Driven
- Fuel Neutral Weatherization allowed
- Maximize Cost Effective Opportunities

Incentive Levels

- **75% of project cost, up to $6,000**
- Air Sealing at 100%
- Some Health and Safety Measures required

Incentive Delivery

- Paid Directly to Contractor
- Customer gets quote for all recommended measures, incentives and customer co-pay amount after audit
- Utility pays incentive to contractor at completion

New Hampshire

Project Delivery and Contractors

- Program Facilitated
- Qualified Contractors, can be assigned or chosen
- Customer contracts with contractor directly
- Contractor provides Audit and installation per program rules

Project Pricing

- Program Sets Pricing
- Pricing set by the program at Measure level
- Program review of price list each year
- Customers do not need multiple quotes

New Hampshire

Energy Savings and Data Tracking

- Modeled Savings with Baseline assumptions
- PSD Compass Software for modeling and project tracking
- Recommended measures are specific to home conditions but savings are not adjusted for existing energy use.

Customer Acquisition

- Program and Market Driven
- Statewide program marketing efforts and targeted customer marketing
- Contractors bring in many of their own jobs

Connecticut

Policy Objectives

- Electric and MMBtu Savings Driven
- Fuel Neutral Weatherization allowed
- Capture low-cost Opportunities, allow for deeper savings

Incentive Levels

- Split in two program pieces
- **Core Service** - $75 co-pay, 100% air sealing, duct sealing, conservation measures
- **Additional Service** – insulation at $1.70/sq ft up to $10,000

Incentive Delivery

- Approach split similar to incentive
- Core Service – Paid Directly to Contractor
- Additional Service – Rebate after install, to customer (can be designated to contractor)

Project Delivery and Contractors

- Core Service - Program Facilitated
- Qualified Contractors, can be assigned or chosen
- Additional Service - Customer chooses contractor

Project Pricing

- Combination Set Pricing and Market Pricing
- Core Service – pricing set and established by bid process
- Additional Service – Market based, contractor provides a quote to customer
- Customers encouraged to obtain multiple quotes for Additional Service measures

Connecticut

Energy Savings and Data Tracking

- Modeled Savings with Baseline assumptions
- Audit tool provides projected savings, DOE Home Energy Score
- Recommended measures are specific to home conditions but savings are not adjusted for existing energy use.

Customer Acquisition

- Program and Market Driven
- Statewide program marketing efforts and targeted customer marketing
- Contractors are encouraged to generate their own leads

Connecticut

Program Size and Scale

Program Year 2025
Single Family Market Rate Weatherization

New Hampshire

Incentives: $9.3 Million

Homes: 1,535

Connecticut

Incentives: $38.9 Million

Homes: 22,441

*Due to program design, Connecticut program includes higher numbers of “Core Service” only homes, leading to a lower cost/home

Massachusetts

Incentives: $159 Million

Homes: 37,528

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Elizabeth Mahony, Commissioner

NY DPS Technical Conference

June 17, 2025

Presented by

Jo Ann Bodemer

Director of Energy Efficiency

Weatherization Policy Priorities

2010-2012 Term

- Focus on increasing number of qualified weatherization contractors
- Delivery of uniform statewide program
- Test incentive structure for Residential Sector (75% up to 2000)
- Provide no cost services to income eligible sector, including pre-weatherization barriers

2013-2015 Term

- Identify methods to overcome pre-weatherization barriers, e.g., expand heat loan eligible measures to include pre-weatherization barriers for non-income eligible customers
- Explore alternative insulation types like spray foam, rock wool
- Establish set pricing

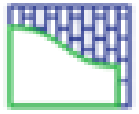
2016-2018 Term

- New offer to increase weatherization of moderate-income customers (90% up to 3k)
- Special incentives to help customers overcome low-cost pre-weatherization barriers
- Instant incentive (customer only responsible for any co-pay)
- Focus on contractor training and education to ensure program maximizes savings and customer satisfaction

Weatherization Policy Priorities

2019-2021 Term

- No cost weatherization for moderate income customers, and 90% incentive for landlords (renters); market rate incentives move to 75% with no cap
- Focus on developing multiple program entry points and improve customer experience (trade allies, contractors, online assessments, single phone number to access program)
- Establish Equity Working Group to assist in programmatic changes to reach under participating groups (renters, moderate income, small business and language isolated)



2022-2024 Term

- Requiring weatherization to receive maximum heat pump incentives
- Requiring weatherization with heat pump to earn performance incentives
- Continue to iterate programmatic enhancements to drive participation by under participating groups
- Introduction of Community First Partnerships

2025-2027 Term

- Double down on weatherization as energy savings measure, continued requirement for weatherization to maximize heat pump incentive
- Enhanced support for CFPs to focus on community outreach and customer support
- 100% incentive offer for Designated Equity Communities

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Weatherization Contractor Workforce

- Delivered by lead vendors selected through a competitive bidding process. Lead vendors are responsible for managing and training participating contractors
- All participating contractors must meet program eligibility and requirements.

- Home Performance Contractors independently recruit customers, provide Home Energy Assessments, and implement weatherization measures.
- Independent Insulation Contractors provide installation of weatherization measures for those customers who received a Home Energy Assessment from the lead vendor. Participating IICs receive weatherization projects via an allocation system. IICs also may independently recruit customers and refer them to the lead vendor for the Home Energy Assessment.

- To receive incentives or program rebates, customers are required to have a Home Energy Assessment through either the PAs lead vendor or via a participating Home Performance Contractor to identify and prioritize all cost-effective energy efficiency upgrades.
- Insulation work, whether performed by a Home Performance Contractor or Independent Installation Contractor, will have a quality control inspection performed by the PA-vendor, or third-party vendor when the work is complete.
- Installations must meet BPI standards or similar standards set by the PAs.

Weatherization Fixed Pricing

The Program utilizes set pricing since the 2013-2015 term.

Pros:

- Provides certainty regarding cost-effective energy efficiency upgrades
- Prevents claims of price gouging
- Provides ease of participation, allowing for instant rebate
- No requirement of the customer to solicit multiple bids
- Helps generate and support further business within the market
- Allows production of executable weatherization contract for the customer at the end of the HEA

Other considerations:

- Difficulty in setting pricing to maintain adequate and competent workforce
- Balancing pricing and quality service
- Works best with centralized software and project management systems at the utility or lead vendor level
- Requires creation and management of formal process for fairly setting prices. This is currently an RFQ process in MA, though the exact structure and details continue to evolve as the market and program needs change.

Funding- HEAT LOAN

In addition to program incentives, a heat loan is available to residential customers.

Features of the heat loan include:

- **0% financing (electric program administrators buy down the interest)**
- **Up to 25k in borrowing to cover customer contributions to Mass Save measures, including barrier mitigation costs**
- **Up to 7 year pay back term, depending on household income**

- **Delivered through participating local banks and credit unions**
- **Requires program authorization form verifying eligible measures**
- **Requires credit approval**

Overlapping Service Territories

- **With limited exception, customers are served based on the heating source in their home:**
  - Electric PAs serve delivered fuels (oil, propane, wood pellet) and electric resistance customers
  - Gas PAs serve gas customers

- **PA's utilize a collaborative partnership approach to jointly develop and administer programs.**
  - Joint program plans, with some PA specific elements
  - Joint working group and leadership team structure
  - Consensus based decision-making among PAs
  - Each PA ultimately responsible for their own filings, goals and contracts

Pooled Approach- 2025-2027 Prescriptive Electrification

- Shared savings and budget model for prescriptive electrification measures (heat pumps only) are accounted for in a statewide pool that allocates costs and savings across all PAs
- The pooling design motivates all PAs to drive heat pump adoption, regardless of location.
- Planning:
  - The PAs developed statewide goals for prescriptive electrification measures, and allocated associated costs, savings, and benefits to each gas and electric PA based on a distribution formula centered on territory specific production, which will also be used for reporting purposes and fixed for the duration of the term.
    - Costs allocated include incentives, HEAT Loan costs, and sales, technical assistance, and testing ("STAT") costs insofar as they are related to delivery of the measures (processing and QA/QC fees).
  - all prescriptive electrification measures are grouped together and included under relevant core initiatives in the Residential and C&I sectors in a single, statewide benefit-cost model.
  - Grouping mitigates potentially large bill impacts to customers in select communities because all ratepayers will bear the cost of electrification and associated GHG emissions reductions, not just customers in a PA territory where heat pumps installed.
- Each PA continues to budget for and report on its incurred costs for program, planning, and administrative ("PP&A") costs related to retail heat pumps
- Similarly, the PAs will also collectively monitor the shared budget, so in the event it exceeds the Department's threshold for a mid-term modification, all PAs would request the mid-term modification.

Weatherization Results

Since 2013:

Weatherized approximately 350,000 homes, including 70,000 low-income households

2025-2027 Term:

Plan to weatherize 166,686 homes, including 33,255 low-income households

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Thank You!

June 17, 2025; New York State Res Wx Technical Conference

Efficiency Vermont's weatherization programs

Dave Westman

Director, Regulatory and State Agency Affairs

Efficiency Vermont

“My home is drafty and cold all winter. My heating bills are really high, too. What should I do?”

Efficiency Vermont

Understanding weatherization

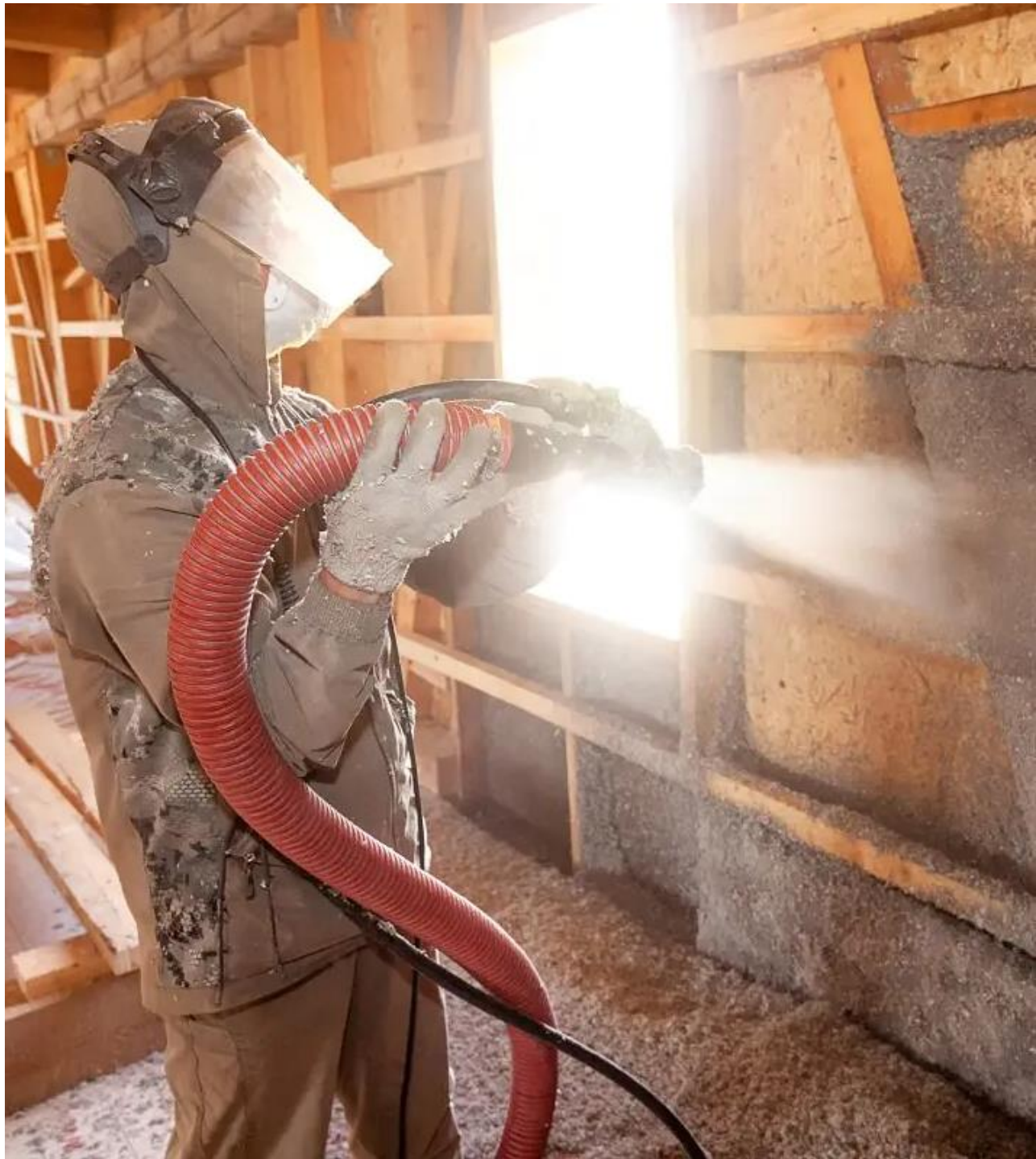
Insulation

Air Sealing

Comfort & Savings!

How homes benefit from weatherization

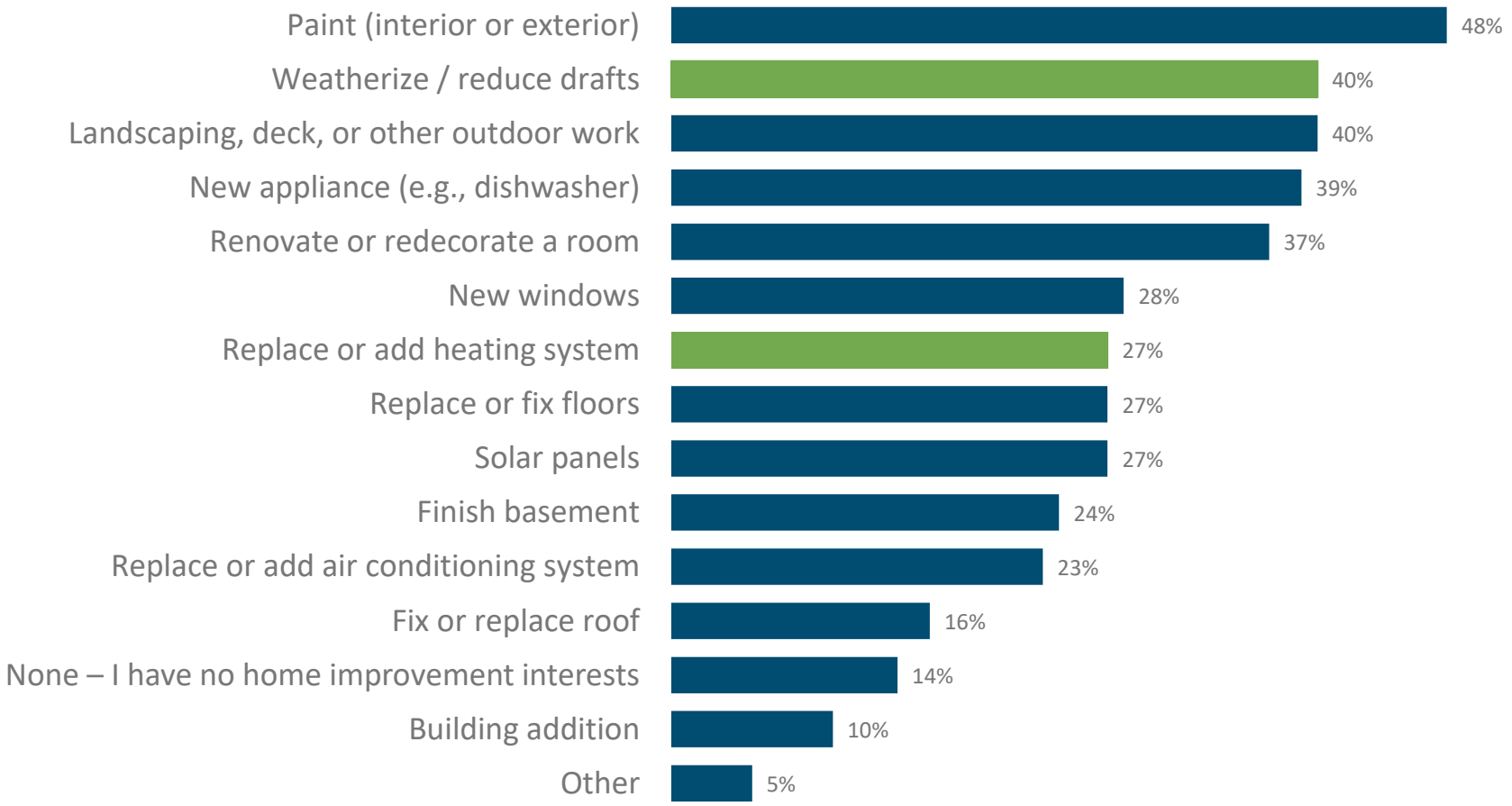
- Saves money
- Saves energy
- Increases comfort
- Reduces emissions



Program Overview

Efficiency Vermont

Survey Results: Home project priorities



Our Home Performance with ENERGY STAR rebate

Average Project Cost: $13,000

The rebate:

- **Low-income households: 90% of project costs back, up to $9,500**
- **Moderate-income households: 75% of costs back, up to $9,500**
- **Higher income households: 75% of cost back, up to $4,000**

Connecting with a Contractor

- **Efficiency Excellence Network contractors** are specially certified for exclusive access to Home Performance rebates
- These contractors are listed on the searchable **“Find a Pro” tool** on our website

Customers can start with a free Virtual Home Energy visit

- Free 90-minute virtual tour of a home with an Efficiency Vermont Energy Consultant
- A 1:1 video conversation to understand a home's needs & customer goals
- Offers guidance on specific areas for improvement
- Customers receive a personalized list of next steps

Removing barriers to weatherization

Our Home Repair program enabled weatherization in homes that otherwise wouldn't have been able to weatherize

- Launched Oct. 1, 2024 for low- and moderate-income households
    - $2.25M in ARPA funding
- Offered up to $15,000 per household for home repairs deemed necessary to move forward with a weatherization project
    - Eligible repairs: roofs, plumbing, foundations, asbestos/vermiculite/mold remediation & more
- EVT Funds fully allocated as of April 2025
    - Funding still available to support WAPs

Financing weatherization projects

Home Energy Loan

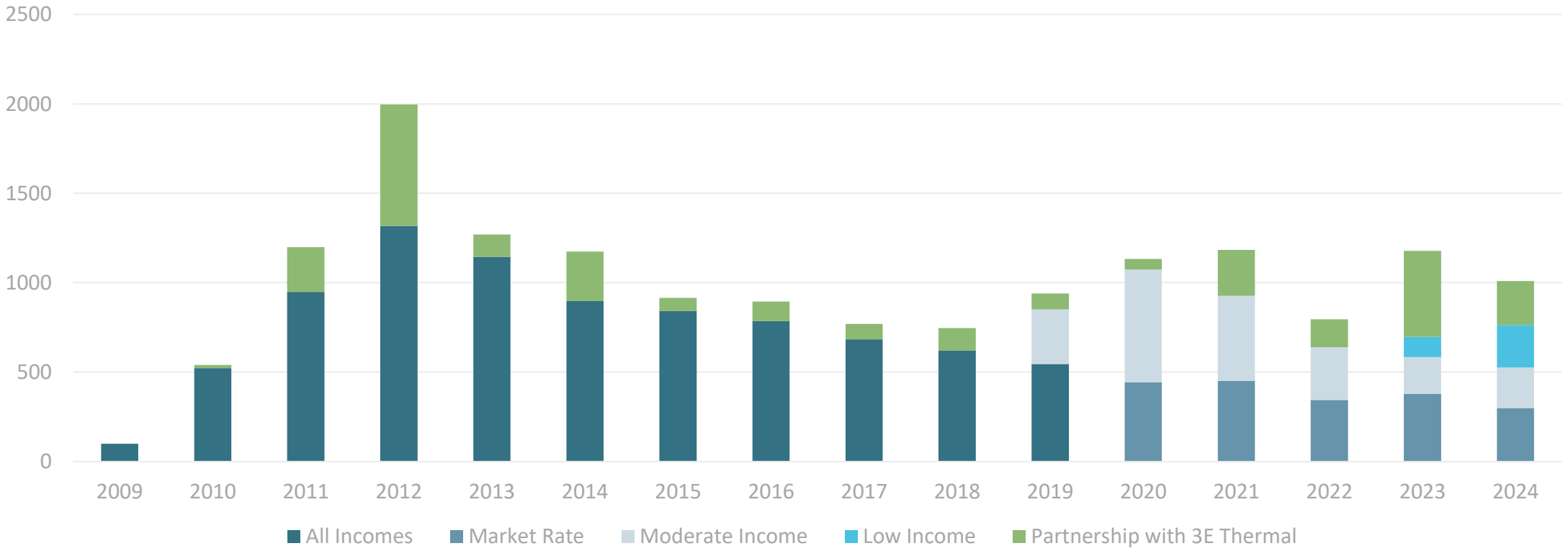
- 0% interest financing for low- or moderate-income households
- Low financing for other income levels on terms up to 15 years
- Finance 100% of a project, up to $25,000

Weatherization Repayment Assistance Program (WRAP)

- VT Housing Finance Agency partnership
- Also called “on-bill financing”
- No credit check required
- Pays for a weatherization project through a monthly charge on a customer’s utility bill

Annual Housing Units Served

By income



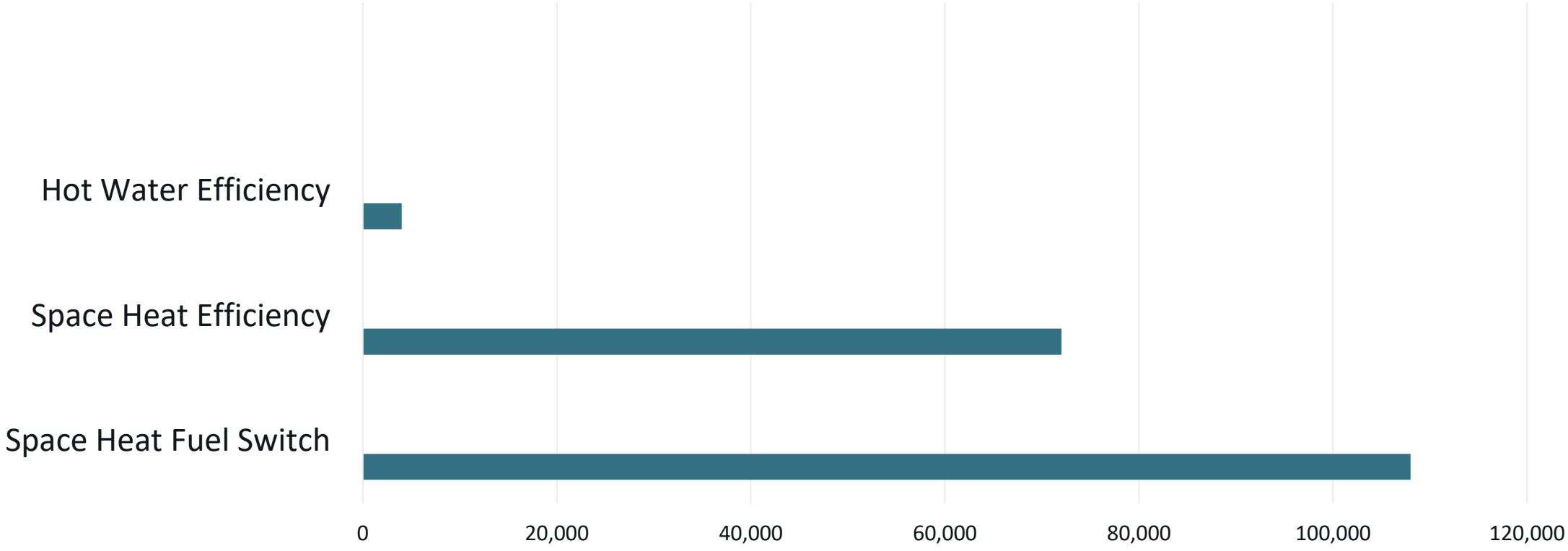
Planned 2024-26 Thermal Portfolio

Small State, Big Impact

Market	Budget	Savings (MMBTU)	Notes:
Business - Retrofit	$4,867,500	133,000	Includes SMB Weatherization
Business – Equipment Replacement	$1,782,500	36,700	
Low Income – Existing Homes MultiFamily	$5,124,000	27,000	Contract w/3E Thermal to enhance impact of WAP projects
Low Income – Single Family Homes	$1,000,000	52	Supplements State Contract for LMI Wx
Market Rate – Existing Homes Multifamily	$32,400	200	
Market Rate – Single Family Homes	$12,400,000	23,100	Mostly HPwES SF projects
Retail Efficient Products	$2,550,000	135,000	Includes heat pumps and geothermal not supported by Utility BE programs
TOTAL:	**$27,700,000**	**354,900**	

2024-2026 Thermal Programs: Comparison by Measures

Weatherization expected to trail fuel switching in savings (annual MMBTU)



(Re)building the workforce

Recruit more contractors who can sustain & grow their Wx businesses

Strategy

Motivate adjacent trades businesses to expand into weatherization

Encourage current EEN contractors to expand their capacity

Support creation of the Wx Workforce Training Center, and ensure it is a strong resource for EEN contractors

Overview

Encourage new entrants to join the EEN/HPwES network & current members to take on more projects.

Provide direct (technical and financial) support to contractors in expanding their businesses to serve more customers.

Ongoing partnership with VT Sustainable Jobs Fund “Tools of the Trade” contractor business training program.

Wrote business plan and RFP for OEO & pledged financial support to the center.

Will serve as a longstanding sponsor of the center, ensuring it is structured to meet the unique recruitment, training, and placement needs of private contractors; help build long term stability.

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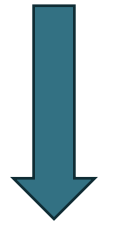

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HPwES contractor EEN membership trend since 2020

Questions?

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NEW YORK STATE OF OPPORTUNITY. Department of Public Service

Regional Residential Weatherization Program Technical Conference

Cases: 25-M-0248/18-M-0084

June 17, 2025: Albany

Guidelines for Proposals

- Adopt a regional approach based on building stock, with statewide consistency where possible
- Consolidated approach to procurement of program administration and implementation functions
- Streamlined shared services model for program activities at the regional or statewide level
- Identify which program functions are procured individually or shared, and justify individual procurement

Guidelines for Proposals

- Plan for ensuring that incentives for Non-LMI program are not greater than incentives for the LMI program for similar measures
- Approach to coordinating with the NYS Clean Heat Program
- Administrative structure used to enable collaboration among utilities to implement the Program and with NYSERDA
- Defined graduated tiers of weatherization levels for differentiated incentive levels
- Annual and total budgets and projected energy savings

Next Steps

- New York City Technical Conference on June 26th, 2025
  - Location: DPS NYC Office (80 Church St, 3rd Floor, Manhattan NY)
  - Time: 9:30am – 3:45pm
- Proposals due: **August 13, 2025** (90 days post-Order)

Questions or Comments?

- Contact: Marc Carpenter (marc.carpenter@dps.ny.gov)