

Home Modernization Program Update

Scott Oliver, Program Manager

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Steve Wagner, Senior Project Manager

EmPower +
Residential Energy Assessments (REA)
Comfort Home

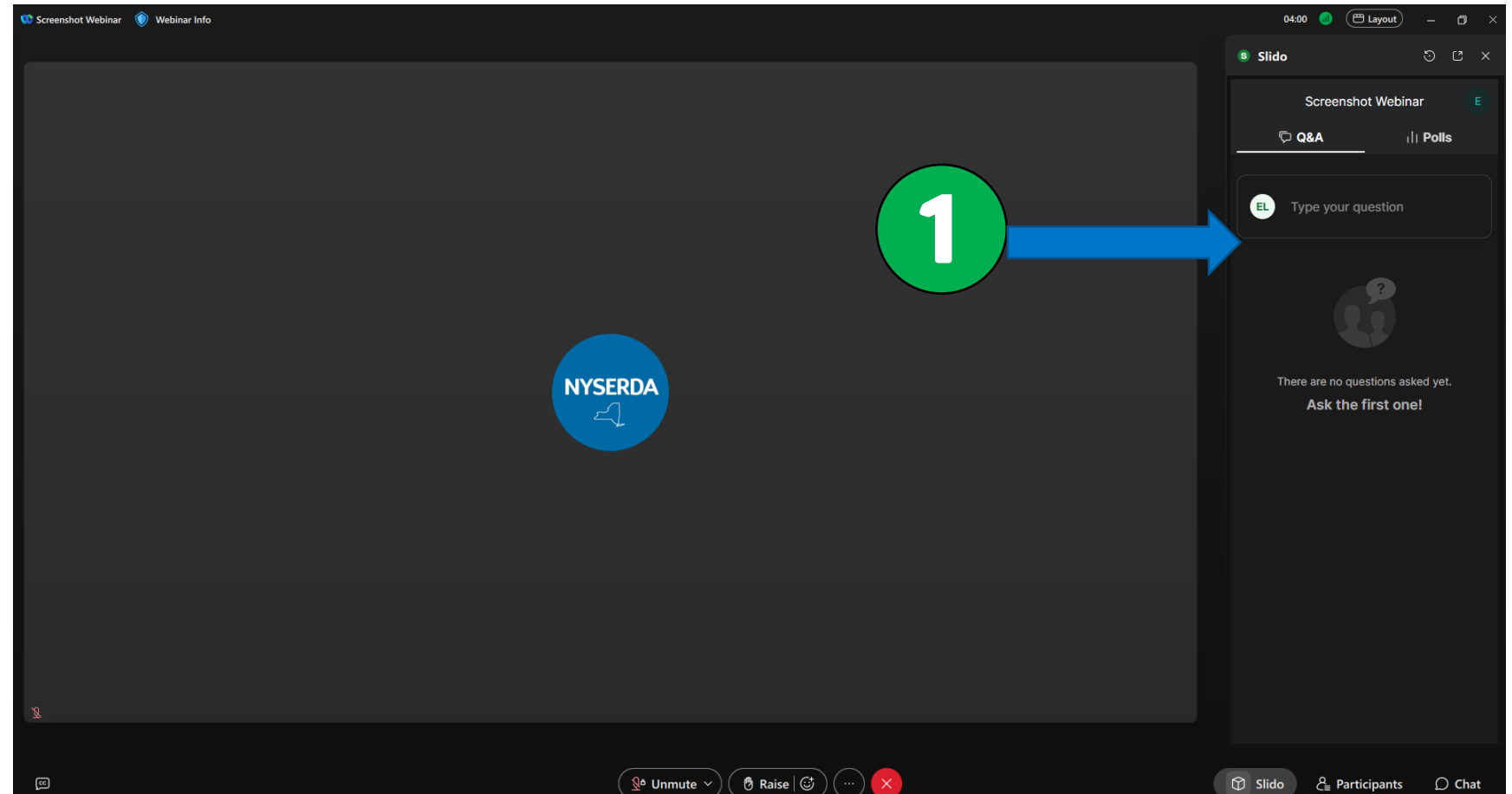
November 7, 2025



Options for Q&A During Today's Webinar - Text

OPTION 1 - TEXT

- Locate **s**lido panel in the right portion of your webinar panel.
- Type your question as prompted into the text field and click "send."



Topic Specific Questions are Encouraged

Feel free to ask any general questions related to the topics presented today.

Please note that specific inquiries and topics not covered during today's agenda, i.e., enrollment number or client name can be addressed through the standard customer or contractor support options.

Format of Q&A During Today's Webinar

Topic: [Type your question]

- > Please list your topic first followed by a colon sign.
- > Type your question pertaining to the topic after the colon sign.
- > This will allow the Host to align the questions with the topic being presented.

Questions not answered during the call should be sent to contractor support.



Comfort Home: will the deadline for the new incentives be extended?

from Uthman Aziz to everyone: 1:24 PM

EmPower+: How will new applications be processed after MyEnergy roll out?

from Uthman Aziz to everyone: 1:28 PM

NYHEP: How do we confirm if a customer is getting OTDA funding or IRA funding?

from Uthman Aziz to everyone: 1:34 PM

REA: How will the new testing requirements be implemented?

from Uthman Aziz to everyone: 1:35 PM

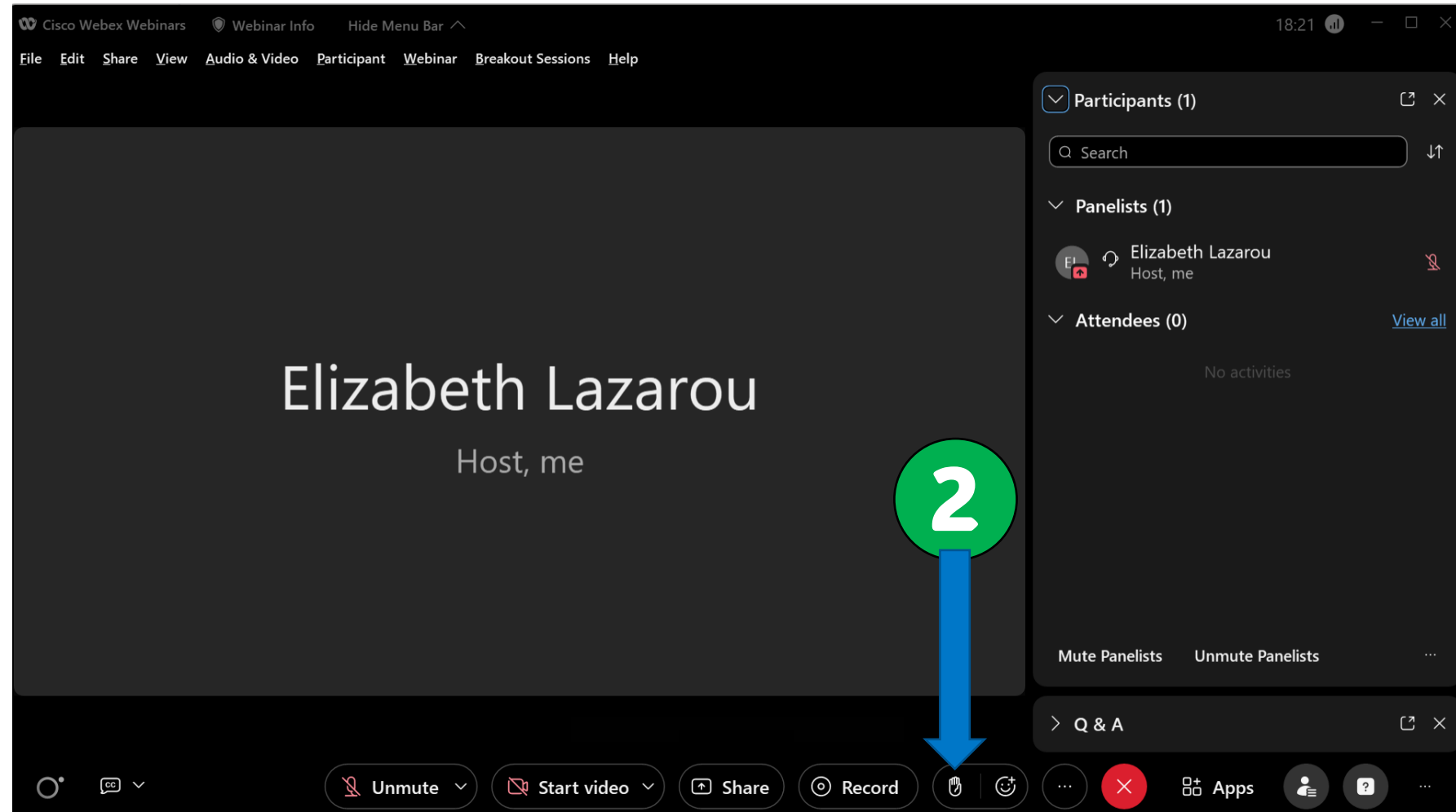


GJGNY:

Options for Q&A during today's webinar Mic/Phone

OPTION 2 - MIC/PHONE

- > Locate the “raise hand” icon in the toolbar at the bottom of your screen.
- > Click on the raise hand icon to let the host know you have a question.
- > The Host will indicate when you have been sent a request to unmute. Click on the unmute request to ask your question verbally.



Support questions should be directed to:

Please send your email to only ONE of the email addresses listed below, using both causes duplicative work for the implementation teams.

Customer Engagement and Enrollment Contractor

- Implementor: **TRC**
- 1-866-NYSERDA
- 1-877-NYSMART (Customer Support)
- info.residential@nyserda.ny.gov
- Call-center support for customers to answer questions about program offerings and assist with customer enrollment and applications to EmPower+. Process customer applications for EmPower+ and provide income verification services for program incentives.

TRC



Program Operations and Technical Support

- Implementor: **CLEARresult**
- 1-800-284-9069, calls will be routed to person best able to assist
- support.residential@nyserda.ny.gov
- Customer support once an application has been approved as well as programmatic and technical support for contractors in the EmPower+ and Residential Energy Assessment and Comfort Home programs.

CLEARresult



50 YEARS 1975-2025

Staff hours for Thanksgiving

RMAG Follow-up

EmPower+

No-Heat Guidance
Abatement Measures
Energy Affordability Guarantee
Processing EAG in NYHEP

Reminders

REA Transitioning to VEA
Permits Required in NYHEP
EmPower+ & Clean Heat
Site Visits by Technical Services
Paper Application
Clean Energy Hub Coordination

Quality Assurance Training 2025.2

Indoor Air Quality

Today's Agenda:

Staff Hours for Thanksgiving

Urgent Matters

Contractor emergency approvals may contact Katie Anderson (518-207-4544) on Thursday and John Calarco (631-590-5719) on Friday.

Non-Urgent Matters

Contact Contractor Support or (800) 284-9069.

The 1-866-NYSERDA / 1-877-NYSMART numbers will not be staffed Thursday, November 27th, but will be regularly operating Friday, November 28th.

Invoices

One EmPower+ incentive invoice will be processed during the week of November 24th and will return to twice per week after the holiday.

Comfort Home will process a weekly invoice on Wednesday, November 26th as usual.

EmPower+ Application Processing Is Closed Thursday and Friday

Organization	Thursday November 27th	Friday November 28th
NYSERDA	Closed	Limited staffing
CLEAResult	Closed	Closed
TRC Call Center	Closed	Open

Residential Market Advisory Group Follow-Up

Pause for Questions

EmPower+

Reminders on No-Heat Guidelines

- **Total available No-Heat funding for the 2025-26 heating season is \$1,000,000.**
 - Remaining No Heat Funding Tracker = \$805,599.09 (as of Thursday, 11/6/2025)
- **Maximum No-Heat incentive is \$6,000, regardless of heating system type.**
- **Customers must apply for OTDA Temporary Assistance (TA).**
 - Each OTDA district office sets their own process with some requiring the contractor to sign up.
 - Program is working with OTDA on a no heat contact list for each district office.
 - If denied, a copy of the denial letter must be submitted as part of the EmPower+ Application. If TA provides funding, a copy of the award letter indicating the funding amount must be provided.
 - In the event the cost of the heating system is more than TA can provide, funding from Temporary Assistance can be stacked with EmPower+ to cover the whole cost of a project. The cost of the project should not exceed average market costs and NYSERDA will evaluate costs to ensure reasonability.
- **Contractors and customers must complete the No-Heat Attestation Form and submit as part of the project submission paperwork.**
- **Guidelines are effective beginning September 15, 2025, and continue through the heating season until May 31, 2026, or until funds are exhausted, whichever comes first.**

[No-Heat Resources page](#) on the contractor support site is provided with ongoing updates of the available funding.

- **Due to the lack of a federal budget and an appropriation for the 2025-2026 Home Energy Assistance Program (HEAP) as well as the ongoing federal government shutdown, the opening date for accepting applications for the HEAP Regular benefit component for the 2025-2026 program has been delayed until further notice.**
- **Further clarification on applying to Public Assistance has been issued by OTDA.**
- **Links are posted on the no-heat page on the contractor support site.**
- **Guidance indicates that a person seeking assistance can apply at any time.**
- **OTDA offices are allowed to mirror the HERR processes for this assistance including requiring contractors to sign up, requiring bids, and paying contractors directly.**

Updates to Abatement Measures

As noted in Section 5.15 of the Program Manual, asbestos remediation and lead and radon abatement were discontinued as eligible measures for EmPower+ in October 2025.

The Mold/Mildew measure will be capped at \$2,000 starting December 1, 2025, on enrollments submitted to Workscope Review for the first time.

Radon, Lead, Asbestos Measures Discontinued

Ended in October 2025

- Asbestos Abatement – ASAB
- Lead Abatement – ABLD
- Radon Abatement - RAAB

Mold/Mildew Measure Capped at \$2,000

Effective December 1, 2025, for enrollments submitted to the Workscope Review step in NYHEP for the first time

- Mold/Mildew Abatement – MMBAC
- Capped at \$2,000
- Applies to both Tier 1 and Tier 3 enrollments

ENERGY AFFORDABILITY GUARANTEE PILOT REMINDER

- The Energy Affordability Guarantee is a pilot program being administered by DPS, it was developed as complement to EmPower+ to ensure that homes that have been electrified through the EmPower+ program will not pay more than 6% of their annual income towards electricity costs. DPS will measure monthly electric consumption and will apply a utility bill credit if the household experiences an energy burden (electricity) of greater than 6% of the household income in a given month.
- The Pilot has a goal of serving approximately 100 homes in each major utility territory. Municipal electric customers will be unable participate in this Pilot. Homes that have had projects completed after 5/1/23 will be eligible.
- NYSERDA is still looking to increase participants in the following electric territories: Central Hudson, Consolidated Edison, Orange and Rockland, and Rochester Gas and Electric. NYSERDA is still looking for additional customers in other utility service areas, and we are encouraging contactors to continue completing projects that meet the Pilot requirements.

Requirements to be eligible for the Pilot

- This Pilot is only available to Tier 1 / low-income customers.
- Homes that are served by all fuel sources including natural gas will be eligible.
- The maximum allowable ACH50 for homes participating in the Pilot will be increased to 10.
- The home's existing heating systems must be removed, and the heat pump should be sized to cover the full heating load. The water heating system must be a HPWH.
- Projects participating in the pilot will have priority at provisional approval.
- Contractor may return to a home that has a heat pump installed to install a HPWH, to qualify for the pilot.
- DPS has a contract in place to have a contractor install energy monitors on the electrical panel boxes of participating homes.

Pilot reservation requests for customers in:

Central Hudson,

Consolidated Edison,

O&R,

RG&E

Questions regarding the Pilot can be sent to Matthew Houle: matthew.houle@nyserda.ny.gov.

More Information found here. <https://hpwescontractorsupport.com/energy-affordability-guarantee/>

ENERGY AFFORDABILITY PROCESS IN NYHEP

Stage 1

Account #: 8768768768768768
Enrollment #: 1057925
Reference #: 1057925
Status: New

Customer: Pizza Pie
Customer Class: Residential
Premise Id: 999999000051028

Applicant
Pie, Pizza
6191 Blackberry Dr
Naples, NY 14512
(518) 903-6566
County: Ontario
Driving Directions

Enrollment Tags
Project Type:
Approved Income Tier: 1
Referral Source: Energy
Affordability Guarantee
Application Priority Reason: No
Heat

Other Information
Pilot
Energy Affordability Guarantee
**Original or over 45 y/o windows or doors replaced?
No
Send Project to Manual Review?
Yes

Workscope Review Validation
Send Project to Manual Review is Yes
Yes
Electric Utility is Municipal Electric or PSEG
No
Tier 1, Owner, and Incentive Above Threshold
Yes
Tier 1, Renter, MF, and Incentive Above Threshold
No
Tier 3, Renter, SF, and Incentive Above Threshold
No
NYS Agency, OTDA, Incentive Above Threshold
No

**Is the home more than 1
Yes
**Will the work be visible
No
All SHPO Questions are Yes
No
A Pilot is selected
No
Tier 1, Renter, SF, and Inc
No
Tier 3 Owner_SF_Incentiv
No
Tier 3, Renter, MF, and Inc
No
kWh > 30% Annual Electri
Yes

EAG Selected under Other Information Tab in Workscope submission stage

- A furnace was entered under existing conditions
- Air Source Heat pump (ASHP) measure added to workscope submission
- Central ducted Unit proposed

this system cover?:
100%

**Make:
Mitsubishi

**Model:
SVZ-AP12NL

**Efficiency Rating Standard:
SEER2/HSPF2

**Replacement Cooling Efficiency - SEER2:
18.4

**Replacement Heating Efficiency - HSPF2:
9.7

**ASHP Size (rated cooling capacity) Btu/h:
12000

**Building Heating Load (Manual J) Btu/h:
11000

**System Capacity (Manual S) Btu/h:
11000

Supplemental Heat Fuel Type:
(Click to Select)

Supplemental Heat Load Btu/h:

**Number of Outdoor Units Installed:
1

**Override Heating and Cooling Load?:
No

Is there a supplemental electric strip heater being installed in the air handler?:
☐

**Cost:
\$12,000.00

**Material Cost:
\$5,000.00

Duct Work Cost:
\$1,500.00

Dollar Savings:
\$-140.07

Lifetime Savings:
\$-2101.10

Stage 2

Enrollment Profile - Measures											
Enrollment Summary											
Program: Endowment											
Account #: 8768768768768768											
Enrollment #: 1057925											
Reference #: 1057925											
Contractor: Open											
Reassignment(s): 0											
Customer: Pizza Pie											
Customer Class: Residential											
Premise Id: 999999000051028											
Service Provider: New York State Electric and Gas											
Premise Account(s):											
Applicant											
Pie, Pizza 6191 Blackberry Dr Naples, NY 14512 Ph: (518) 903-6566 County: Ontario											
Enrollment Tags											
Project Type: Approved Income Tier: 1 Referral Source: Energy Affordability Guarantee Application Priority Reason: No Heat											
Enrollment Profile - Measures											
Measure Name											
Date Installed											
Phase											
Qty											
Unit											
Amount											
Paid											
kWh											
MWh											
Therms											
MBtu											
Assessment kWh											
Assessment MWh											
Assessment Therms											
Assessment MBtu											
ADD MEASURE - Measure (MILE)											
ADD MEASURE - Assessment Fee (ASSESS)											
ADD MEASURE - Blower Door Test - Test IN (BDT_IN)											
ADD MEASURE - Combustion Appliance Zone (CAZ1) Test - Test IN (CAZ1_IN)											
Air Sealing (AS)											
Air Source Heat Pump (ASHP)											
Detectors - CO, Smoke, and Combo (DETC)											
Heat Pump Water Heater (HPWH)											
Insulation - Attic 3 (INS_A3)											
Insulation - Rim Joist (INS_RJ)											
LEDs (LED)											
ADD MEASURE - Funding Information (FUNDINFO)											
Total: 36											
\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00											
10156.1282 10.1561 427.9464 42.7946 10156.1282 10.1561 427.9464 42.7946											

Stage 3

- ASHP was able to be entered into NYHEP

ENERGY AFFORDABILITY PROCESS IN NYHEP

this system cover?:

****Make:** Mitsubishi

****Model:** MXZ-SM36NAM

****Efficiency Rating Standard:** SEER2/HSPF2

****Replacement Cooling Efficiency - SEER2:** 18.4

****Replacement Heating Efficiency - HSPF2:** 9.7

****ASHP Size (rated cooling capacity) Btu/h:** 12000

****Building Heating Load (Manual J) Btu/h:** 11000

****System Capacity (Manual S) Btu/h:** 11000

Supplemental Heat Fuel Type:

Supplemental Heat Load Btu/h:

****Number of Outdoor Units Installed:** 1

****Override Heating and Cooling Load?:** No

Is there a supplemental electric strip

Enrollment Summary

Program
Empower+

Account #: 876976476475675675

Enrollment #: 1057925

Reference #: 1057925

Status: Open

Contractor Reassignments: 4

Customer: Pizza Pie

Customer Class: Residential

Premise ID: 999999000051028

Service Provider: New York State Electric and Gas

Premise Account(s):

Applicant

Pie, Pizza

6191 Blackberry Dr

Naples, NY 14512

Ph: (518) 903-6566

County: Ontario

Enrollment Tags

Project Type:

Approved Income Tier: 1

Referral Source: Energy Affordability Guarantee

Application Priority Reason: No Heat

Enrollment Profile - Measures

Close Double Dip Report

Measure Name	Date Installed	Phase	Qty	Unit	Incentive		Savings								
					Amount	Paid	kWh	MWh	Therms	MMBTu	Assessment kWh	Assessment MWh	Assessment Therms	Assessment MMBT	
ADD MEASURE - Mileage (MILE)		Planning	10	Miles	\$0.00	\$0.00									
ADD MEASURE - Assessment Fee (ASSESS)		Planning	1	Each	\$0.00	\$0.00									
ADD MEASURE - Blower Door Test - Test IN (BDT_IN)		Planning	1	Each	\$0.00	\$0.00									
ADD MEASURE - Combustion Appliance Zone (CAZ) Test - Test IN (CAZT_IN)		Planning	1	Each	\$0.00	\$0.00									
Air Sealing (AS)		Planning	1	Home	\$0.00	\$0.00	11878.3171	11.8783	0.0000	0.0000	11878.3171	11.8783	0.0000	0.0000	
Air Source Heat Pump (ASHP)		Planning	1	Each	\$0.00	\$0.00	-2284.8593	-2.2849	236.1378	23.6138	-2284.8593	-2.2849	236.1378	23.613	
Detectors - CO, Smoke and Combo (DETC)		Planning	1	Unit	\$0.00	\$0.00									
Heat Pump Water Heater (HPWH)		Planning	1	Each	\$0.00	\$0.00	-410.8269	-0.4108	99.9772	9.9977	-410.8269	-0.4108	99.9772	9.997	
Insulation - Attic 1 (INS_A1)		Planning	1	Each	\$0.00	\$0.00	1023.2715	1.0233	0.0000	0.0000	1023.2715	1.0233	0.0000	0.0000	
Insulation - Rim Joist (INS_RJ)		Planning	1	Each	\$0.00	\$0.00	346.1065	0.3461	0.0000	0.0000	346.1065	0.3461	0.0000	0.0000	
LEDs (LED)		Planning	16	Each	\$0.00	\$0.00	268.6400	0.2686			268.6400	0.2686			
ADD MEASURE - Funding Information (FUNDINFO)		Planning	1	Each	\$0.00	\$0.00									
Total:					36	\$0.00	\$0.00	10820.6489	10.8206	336.1150	33.6115	10820.6489	10.8206	336.1150	33.611

- Also, added a Heat Pump Water Heater in lieu of the existing Standard Gas Water heater
 - This was also able to be added in to NYHEP.

- Changed Gas Furnace to Gas Boiler in Existing Conditions
- Removed central ducted unit and proposed a Mini-Split system

Pause for Questions

Reminders

Residential Energy Assessment Program

The final day to submit an REA enrollment in NYHEP will be
Thurs. Dec. 18, 2025.

- We encourage all REA contractors to familiarize themselves with the [Comfort Home Program](#) as it will serve as the primary market rate program for assessments and incentives.
- Contractors should review their websites and other marketing material to either remove the REA program or replace it with information related to Comfort Home.
- Review Program Announcement for full details.

Please reach out for assistance:
homeaudits@nyserda.ny.gov

Virtual Energy Assessments

- Pilot running in Orange, Putnam, and Ulster Counties through the end of Nov.
- Full statewide launch Jan. 1, 2026
- NYSERDA Website updates in late Dec. 2025
- Questions:
Steven.Wagner@NYSERDA.ny.gov

Permits Required to be Uploaded to NYHEP

Effective November 1, 2025, contractors need to provide proof that they obtained the required permits/inspections for all projects at Final Project Submission.

Final Project Submission - Unscheduled / Awaiting Results

Process

Save

Close

Expand All

Collapse All

Enrollment Profile

Add Measures

Scan Measures

Calendar

Double Dip Report

Workflow Requirements

**Permitting Required

Yes

**Permit Required Measures

Air Source Heat Pump

Main Panel Electrical Service Upgrade

Electrical Wiring Upgrade

Other Permit Required Measures

Final Project Submission Workflow Step - Documents

New

Close

	Required?	Document Type(s)	Document Name	Source	File Size	Comments	Create Date	Created By
	!	Permit						

A new section on the workflow step, *Workflow Requirements*, will require contractors to answer the following:

1. Permitting Required = (Yes, No)

- If Yes,

2. Permit Required Measures = (Multi-select of Heat Pump Water Heater, Air Source Heat Pump, Panel Box Upgrade, Wiring Upgrade, Insulation, Furnace, Boiler, Others)

- If Others,

2a. Other Permit Required Measures = (Text box to indicate the other permit required measures)

3. Required document upload of permit associated to the measure(s) indicated

Permits Required to be Uploaded to NYHEP

What needs to be done when:

- Permit/Inspection will be done after Final Project Submission
- No documentation was provided by the Authority Having Jurisdiction (AHJ) to schedule the permit/inspection

Contractors should leave notes in NYHEP that clearly state why documentation is not available and when the expected inspection will occur. After the inspection occurs, a photograph of the inspection sticker should be added to the project.

- Example: The AHJ's process to schedule an electrical inspection is to call their office to schedule the inspection; no documentation is provided to the contractor. Upon passing the inspection only a sticker affixed to the panel box, again no other documentation is provided to the contractor.
- NYHEP Note: *Town inspector gave verbal approval for permit. Final inspection schedule for December 2025.*
- Document Upload: At Final Project Submission upload a placeholder document. After inspection, upload a photo of the inspection sticker on the panel box.

The Participation Agreement that all contractors have signed to participate in NYSERDA Home Modernization programs requires contractors to follow all requirements of the local code office at all times, regardless of the dates required for permit uploads to NYHEP.

EmPower+ and Clean Heat Rebate Reminder

Reminder for all Contractors participating in the New York Clean Heat Program that utilizing funds from both Clean Heat and EmPower+ for the same measures is against Program Guidelines.

The Clean Heat ICF team continues to review mid-stream projects to catch projects using both Program funding.

Questions?

If there are any questions on contractor participation or project-related inquiries, please contact nyscleanheat@icf.com

Site Visits by Technical Services Program Implementer

CLEAResult conducts on-site inspections to assist Participating Contractors and Customers for a variety of reasons including:

- Home Energy Assessments*
- Workscope Development Options*
- Quality Control (QC) of In-Progress Projects*
- Customer Concern Resolution
- Quality Assurance (QA) Resolution
- Internal Quality Management (IQM) Plans

*Required for New Contractors with Provisional Status

Please work with CLEAResult when they reach out to schedule a site visit. Contractors can also request on-site or remote inspections through Contractor Support.

support.residential@nyserda.ny.gov | (800) 284-9069

Remote Inspections Available

Live-service video solution to perform remote inspections.

- Call into Contractor Support
- Link is sent directly via SMS text to a phone number
- Join the live call without the need to register an account or download an app
- Embedded features such as guides, markup tools, file sharing and chat enhance the interaction

PAPER APPLICATION

- If you are providing paper applications to customers, there are a few things to keep in mind.
 1. **Make sure the application is the most recent version and not an outdated application missing crucial components i.e. the updated attestation.**
 2. **If you are encouraging customers to send completed EmPower+ applications through the mail, please be sure they are sending to the correct address:**

**TRC COMPANIES 3 CORPORATE DRIVE, SUITE 202 CLIFTON PARK,
NY 12065**

CLEAN ENERGY HUB COORDINATION

- Coordinating with your Clean Energy Hub where possible, helps make your job easier!
- The Hubs have been tasked with assisting NY residents navigate this space. If you are reached out to by one of the Hubs, please be responsive.
- <https://www.nyserda.ny.gov/All-Programs/Regional-Clean-Energy-Hubs>



**Regional Clean
Energy Hub**
Partnering Organization

NYSERDA Empower+ Contractor Quality Assurance Training 2025

Indoor Air Quality

November 7th, 2025

Lindsey Miller, Assistant Project Manager



NYSERDA
New York State Energy Research
and Development Authority

INTRODUCTION

- Inspections are scored on a scale of 1 to 5.
- The score is calculated based on number and severity of non-conformances.
- There are four non-conformance categories.

Table 2. Non-Conformance Definitions

	Energy Impact	Non-Energy Impact
Incidental	May result in a savings shortfall, but the impact will be small and may not be measurable.	Not expected, on its own, to pose a substantial risk of system failure or hazard.
Minor	Will result in a savings shortfall, but the impact will be small and may not be measurable.	Requires modifications to address but not expected to pose a substantial risk of system failure or hazard.
Major	Will result in a measurable shortfall in energy savings.	Presents an increased risk of system failure or hazard but not determined to be in imminent danger of failure or hazard.
Critical	N/A	Presents an imminent hazard and/or probability of system failure.

Inspection Reports and Scoring Criteria

Top 10 Major & Critical Nonconformances <i>(Jan. 2024- March 2025)</i>	Number of Observations	Nonconformance Category
Improper combustion appliance exhaust venting	46	Critical
Mechanical ventilation into living space	43	Major
Exposed foam insulation	41	Major
Insulation in contact with high-temperature locations	37	Major
Water heaters not passing spillage testing	33	Major
Air sealing opportunities missed in attics and subspaces	32	Major
High CO in combustion appliances	24	Major
Electrical issues with furnaces	16	Major
Open or uncapped gas lines	15	Critical
High-temperature locations air sealed with inappropriate materials	12	Major

TODAY'S AGENDA: AIR QUALITY

Improper combustion appliance exhaust venting

Mechanical ventilation into living space

Exposed foam insulation

Insulation in contact with high-temperature locations

Water heaters not passing spillage testing

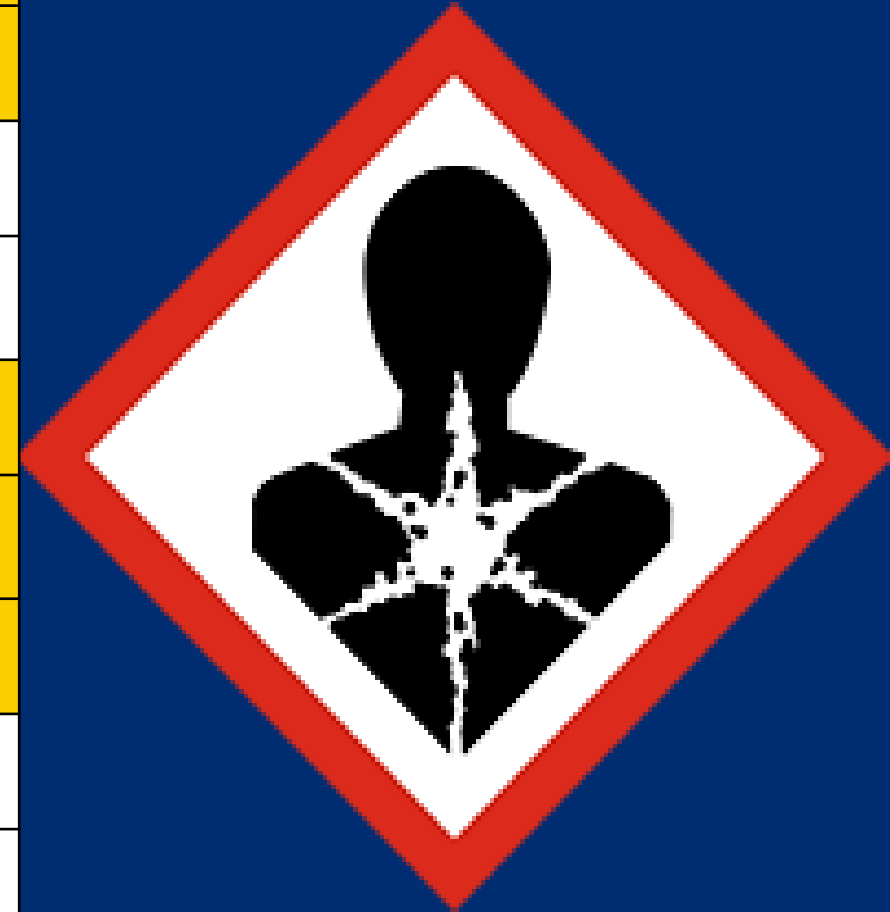
Air sealing opportunities missed in attics and subspaces

High CO in combustion appliances

Electrical issues with furnaces

Open or uncapped gas lines

High-temperature locations air sealed with inappropriate materials

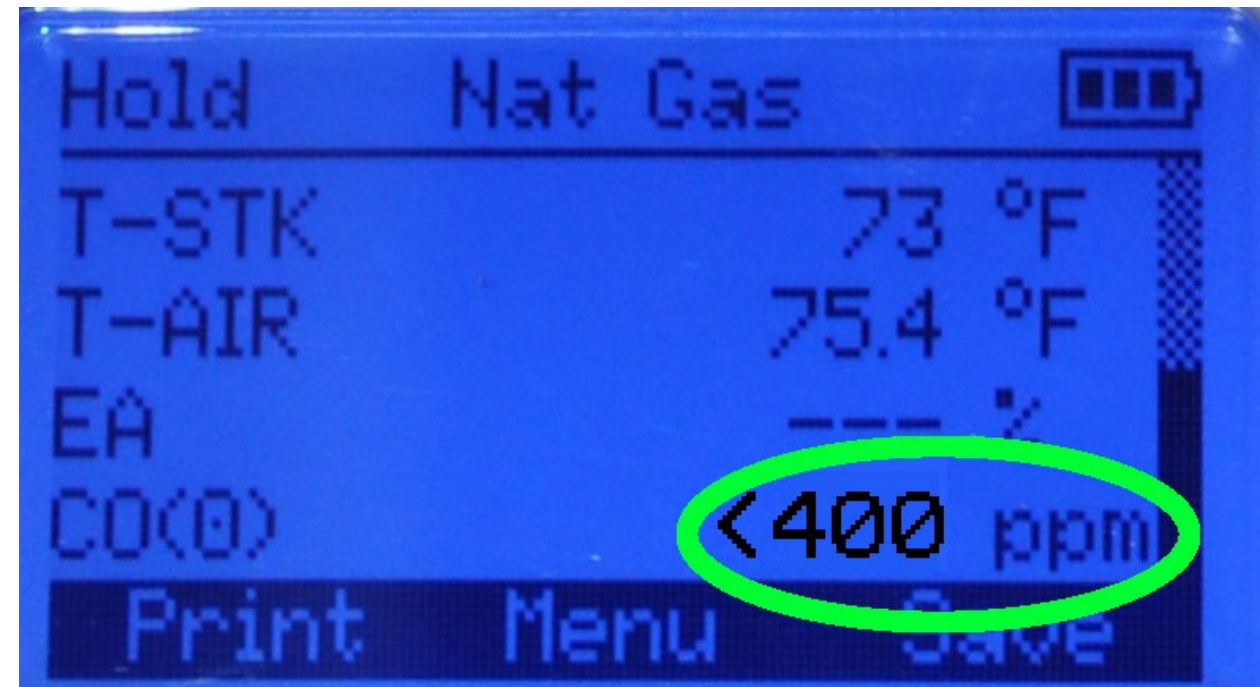


High CO observed in combustion appliance flue

Identification:

- Combustion analyzer testing exhaust gases
- Boiler smoke test

If an appliance is producing excess CO, it is not operating efficiently and needs to be serviced



MAJOR FAILURE

High CO observed in combustion appliance flue

Impact:

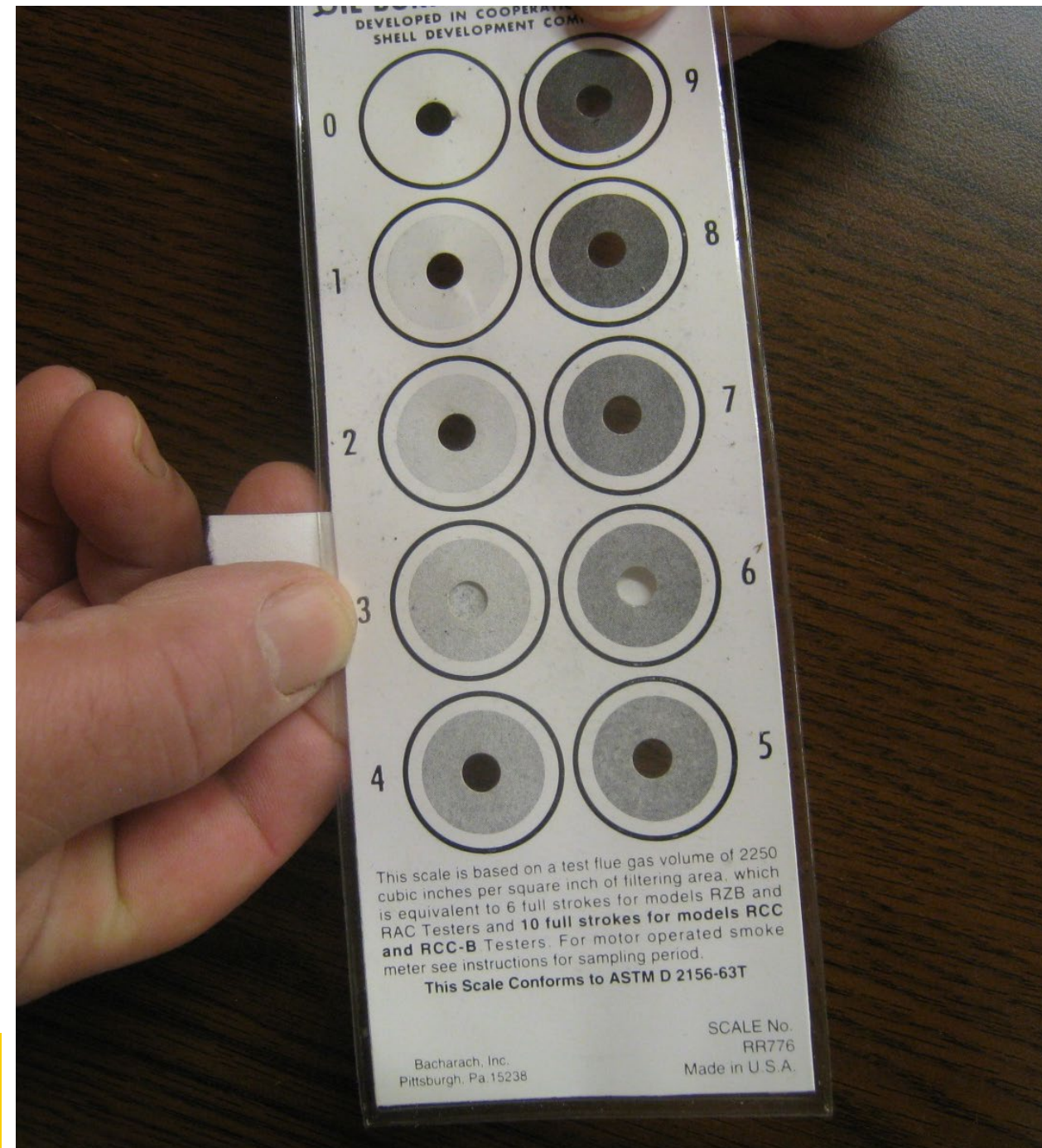
Incomplete combustion

Inefficiently running appliance

Higher energy bills

Danger of CO poisoning

The best way to remove the threat of CO poisoning from a home is to remove the combustion appliances.



High CO observed in combustion appliance flue

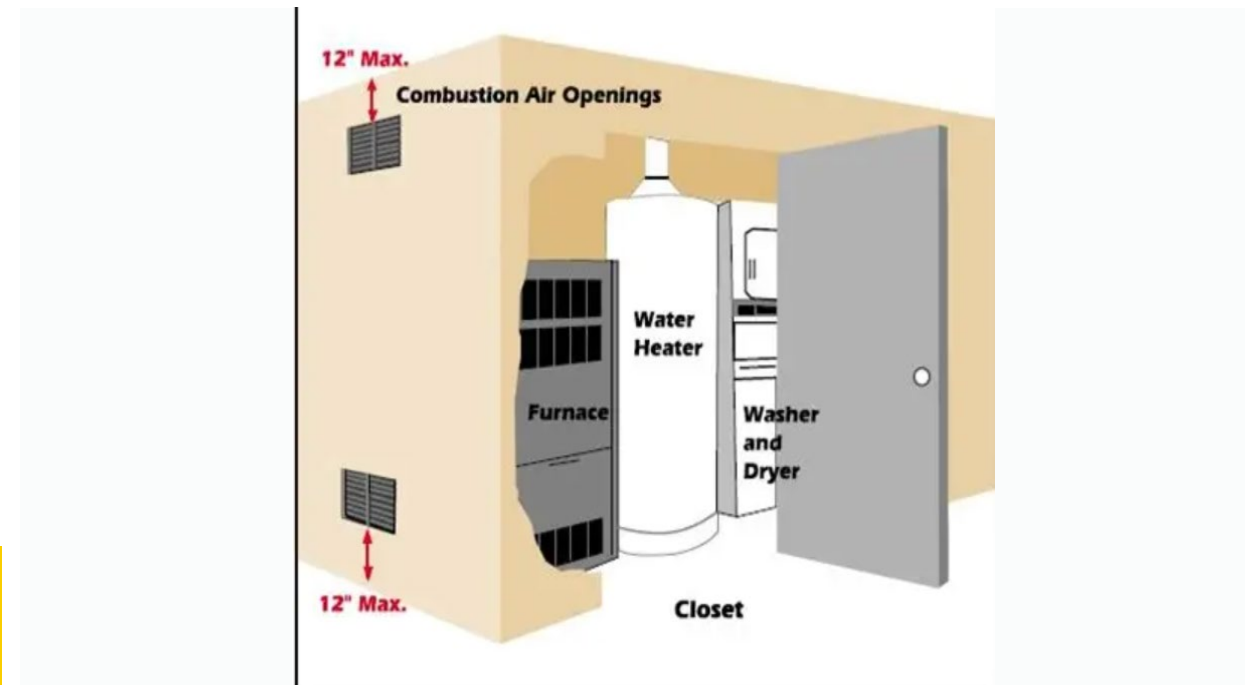
Best Practice:

- Check or install CO monitors
- Ensure adequate combustion ventilation air
- Air seal and isolate CAZ from living space

Combustion ventilation air provided high and low allows for natural convection currents regardless of season.

Table 1**CO Thresholds for Fossil-Fuel Fired Combustion Appliances**

Appliance	Threshold Limit
Central Furnace (all categories)	400 ppm air free ⁴
Boiler	400 ppm air free
Floor Furnace	400 ppm air free
Gravity Furnace	400 ppm air free
Wall Furnace (BIV)	200 ppm air free
Wall Furnace (Direct Vent)	400 ppm air free
Vented Room Heater	200 ppm air free
Unvented Room Heater	200 ppm air free
Water Heater	200 ppm air free
Oven/Broiler	225 ppm as measured
Clothes Dryer	400 ppm air free
Refrigerator	25 ppm as measured
Gas Log (gas fireplace)	25 ppm as measured in vent
Gas Log (installed in wood burning fireplace)	400 ppm air free in firebox



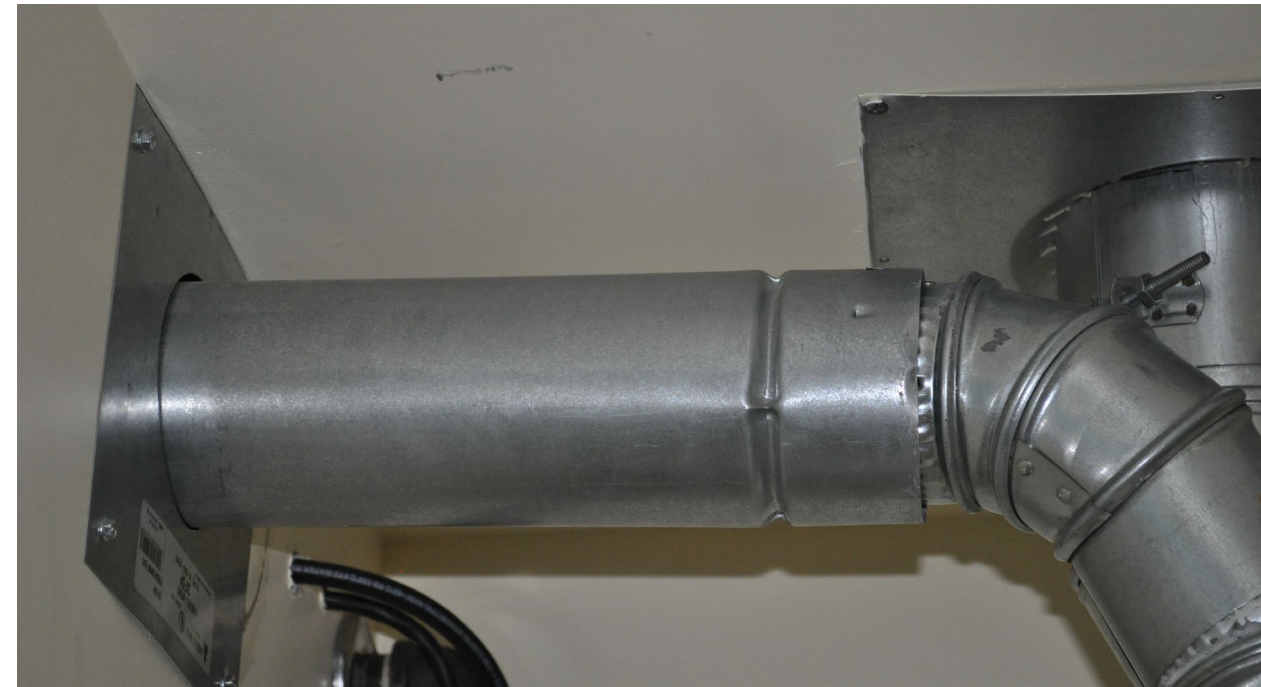
**Q2: How do you check if a
combustion appliance is venting
properly?**

CRITICAL FAILURE

Negative pitches on flue pipe, issues with vent connections or exterior venting, improper materials used

Identification:

- Visual ID with a level on flue
- Check for soot around throat
- Test for spillage (condensation) at throat while operating



All exhaust gases must vent to the exterior of the home.

Negative pitches on flue pipe, issues with vent connections or exterior venting, improper materials used

Impact:

- Back drafting
- Exhaust gases in living spaces
- **Carbon monoxide poisoning**

Soot on ceilings or walls in rooms connecting to a CAZ implies improper venting and incomplete combustion.



Negative pitches on flue pipe, issues with vent connections or exterior venting, improper materials used

Best Practice:

- Slope up, up, and AWAY!
- Vent to exterior
- Fasten joints securely
- Test to verify proper operation before leaving the house

DO NOT LEAVE OCCUPANTS WITH AN UNSAFE APPLIANCE



Water heater did not pass spillage test

Identification:

- Smoke pencil or mirror/glass surface test
- Visual ID of soot at throat

All exhaust gases must vent to the exterior of the home.



Water heater did not pass spillage test

Impact:

- Dangerous air quality in the home
- **Carbon monoxide poisoning**

Water heaters are more likely than furnaces or boilers to produce spillage when both are running.



Water heater did not pass spillage test

Best Practices:

- Add combustion ventilation air to the CAZ
- Isolate DHW from other exhausting appliances
- Test for worst case depressurization during close-out protocols

If necessary, relocate the water heater to an exterior closet or prioritize replacement with a heat pump water heater.



Q4: What produces the most moisture vapor in a home?

Dryer or bathroom vented into basement or attic

Identification:

- Lack of exhaust vent termination on the exterior of a home
- Open exhaust ducting in attic or basement
- Evidence of mold or mildew growth near an exhaust fan

Exhaust vents must connect to the exterior of the home



Dryer or bathroom vented into basement or attic

Impact:

- Moisture build-up
- Mold growth
- Structural disintegration
- Occupant allergies/asthma

Annually, over 4.5 million asthma cases in the US are attributed to dampness and mold exposure in the home



Dryer or bathroom vented into basement or attic

Best Practices:

- Run exhaust fan ducts to the exterior of the home and into open air
- Atmospheric Damper
- Include pest screening
- Insulate the duct run

Infants exposed to mold in their homes have a nearly 3x greater risk of being asthmatic than those who do not



Q5: Where is the most important location to air seal?

Lack of or improper air sealing in basements and attics

Identification:

Best to ID before insulation!!

After insulation, use blower door and smoke pencil or IR camera

Air leakage into the attic is the most common passive energy hog in homes



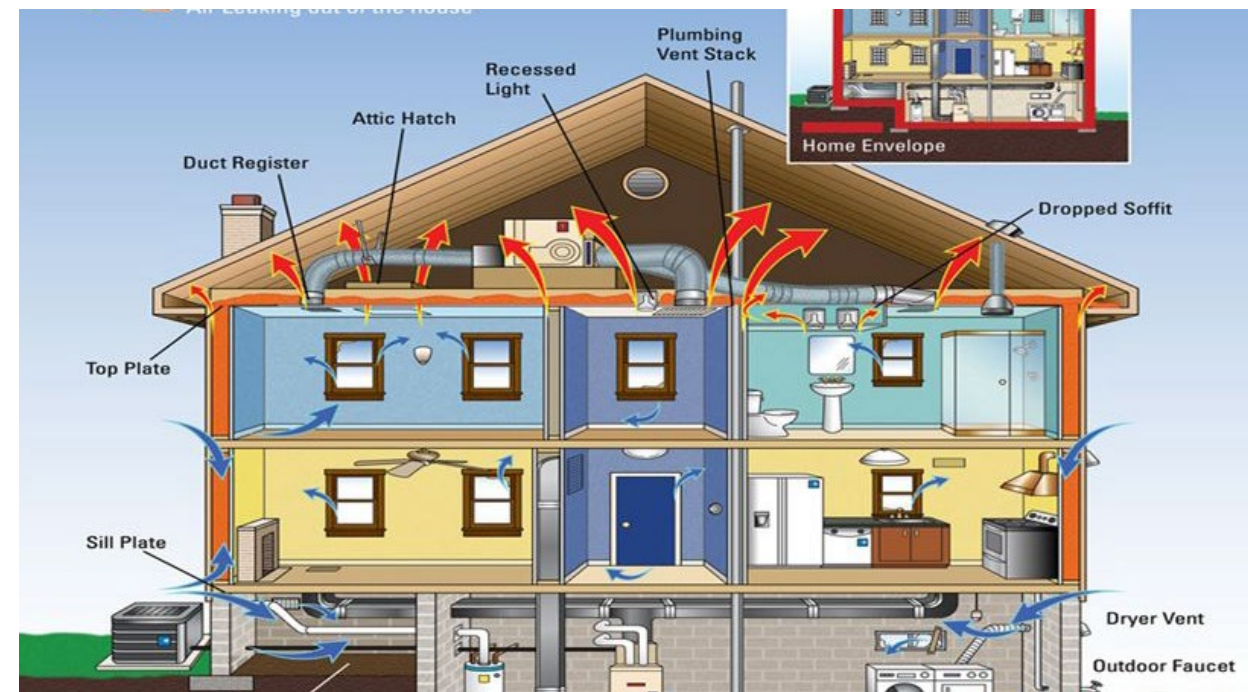
MAJOR FAILURE

Lack of or improper air sealing in basements and attics

Impact:

- Bypass for conditioned air → higher energy bills
- Shorter useful life of HVAC systems
- Moisture build-up/Mold growth
- Radon infiltration

Air carries moisture with it into every space – and when there's a temperature difference, it may condensate.



Lack of or improper air sealing in basements and attics

Best Practice:

- Air seal thoroughly from the start
- Take pictures of your work
- Start at the attic and work your way down
- Use high-temperature materials in appropriate locations

Balloon framing creates air pathways from the basement to the attic. These must be blocked and sealed.



**What if these failures had been
in your home?**

Our customers are people just like you and me.



You are not there to treat the home.
You are there to help the occupants.

We're not in the business of fixing homes.

We're in the business of HELPING.

- + Helping people live more comfortably**
- + Helping families save money on bills**
- + Helping improve air quality**
- + Helping remove the stress of maintaining a home so people can focus on other things**

Q & A

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Thank You!