

NYSERDA Residential Market Advisory Group Q2 2024 Meeting

Single Family Residential, 06/26/2024

10:00 am – 11:30 am ET



NYSERDA

Meeting Agenda

10:00 – 10:05	Welcome and Introductions
10:05 – 10:25	Residential Market Advisory Group Progress Updates
10:25 – 10:50	Progress Update on New York Implementation of IRA
10:50 – 11:10	Stakeholder Engagement Updates on ccASHP Forum
11:10 – 11:25	Quality Home Contractor Designation
11:25 – 11:30	Closing and Next Steps

Meeting Ground Rules

Meeting Summary: Notes are being taken by the facilitation team and a summary of the meeting will be published on the RMAG webpage.

Question & Answer: Use the Q&A function on the panel on the right side of your screen. If you do not see the Q&A button, click the three dots on the rightmost side of the taskbar at the bottom of your screen and select the Q&A button.

Technical Difficulties? Please reach out to Michael Ding from Kearns & West via the Chat function or by email at mding@kearnswest.com

Recording: This meeting is being recorded. The recording may be distributed, and if so, any participation will not be attributed.

The RMAC is a forum for stakeholder engagement on the residential market's highest priority issues

Events

- Quarterly Meetings (In-Person and Virtual)
- Working Groups
- Expert Panels
- Listening Sessions

Functions

- Advance residential clean energy and efficiency market development and innovation
- Iterate on programmatic design and implementation with stakeholder feedback
- Provide policy updates and relevant knowledge sharing for residential actors
- Foster NYSERDA clean energy and energy efficiency thought leadership

RMAG Priority Setting and Progress Updates

Based on membership feedback in 2023, we developed the following priorities that have driven RMAG programming:

1. Improving market awareness and urgency for residential clean energy and energy efficiency

Example Activities: Stacked Efficiency and Electrification Program Framework Working Group, QA/QC Root Cause Analysis Expert Panel

2. Improving the customer experience with Air Source Heat Pumps

Example Activities: Cold Climate Air Source Heat Pump Forum

3. Ensuring meaningful stakeholder engagement opportunities and clear communications about the Inflation Reduction Act for NYS residents and contractors

Example Activities: IRA Home Energy Rebates Public Input Webinar, IRA Focus Groups and Working Groups

2024 Priorities Survey Rankings

Results of initial polling (20 responses)

Priorities	Average (Scale of 5)
Support Market Insights to Policymakers and Decisionmakers	3.9
Clean Energy Program Performance	3.8
DAC Access Barrier Identification and Remediation	3.8
Enhance Market Readiness for Programs via Awareness Raising Activities	3.6
Workforce Standards and Certification Support	3.4
Support Accelerated Adoption of Cold Climate Heat Pumps	3.2
Home Energy Assessment Growth	3.1

Priorities Survey – Top 3 Results

Relevant Sub-Topics

Support Market Insights to Policymakers and Decisionmakers

- Electricity Rates Supporting Beneficial Electrification
- Heat Pump Sizing, Design, and Installation Standards
- Standardized Retrofit Solutions and the Market Transformation Required

Clean Energy Program Performance

- Targets for Heat Pumps (ASHP/GSHP) by Grid Impacts
- Contractor Experience and Program Design
- Contractor Training/Licensing

DAC Access Barrier Identification and Remediation

- Building Owner Engagement Strategies
- Improving Energy Accessibility and Ownership (Energy Democracy)
- Workforce Development Resources in Disadvantaged Communities

Poll (1/5): What Topics or Activities should be considered for the “Support Market Insights to Policymakers and Decisionmakers” priority?

Support Market Insights to Policymakers and Decisionmakers: Support the provision of residential market data and analysis to policymakers, program managers, and other decisionmakers to align solutions better with needs.

Residential Market Advisory Group

Q2 2024 Meeting



NYSERDA

Poll (2/5): What Topics or Activities should be considered for the “Clean Energy Program Performance” priority?

Clean Energy Program Performance: Advance better understanding of how residential clean energy programs perform and the standards of evaluation.

Residential Market Advisory Group

Q2 2024 Meeting



NYSERDA

Poll (3/5): What Topics or Activities should be considered for the “DAC Access Barrier Identification and Remediation” priority?

DAC Access Barrier Identification and Remediation: Help improve consumer access to those living in New York State-designated Disadvantaged Communities through barrier identification and remediation efforts (Example: Financing solutions for DAC renters and homeowners).

Residential Market Advisory Group

Q2 2024 Meeting



NYSERDA

Poll (4/5): What's missing? Why is it important?

Residential Market Advisory Group

Q2 2024 Meeting



NYSERDA

Poll (5/5): Which location is preferable for a Fall 2024 In-Person RMAG Meeting?

Residential Market Advisory Group

Q2 2024 Meeting



NYSERDA



Inflation Reduction Act (IRA): Home Energy Rebate Programs

NYSERDA Update
June 26, 2024



NYSERDA

What are the Home Energy Rebate Programs?

The Inflation Reduction Act of 2022 includes **two provisions** for rebates for home energy efficiency and electrification projects. These two provisions are:



Section 50121:

Home Energy Performance-Based, Whole House Rebates (Referred to as **Home Efficiency Rebates, or HER**)

Total: \$159 million



Section 50122:

High-Efficiency Electric Home Rebate Program (Referred to as **Home Electrification and Appliance Rebates, or HEAR**)

Total: \$158.4 million

Together, these provisions are referred to as the **Home Energy Rebates**. New York State will receive a **total of \$317.4M** for the Home Energy Rebates, for a budget period no later than September 30, 2031.

HER Rebate Amount



Energy Savings (whole house)	Income >80% AMI		Income <80% AMI	
20-34% Modeled	\$2,000/ unit (max \$200,000 for MF)	Up to 50% of total project cost	\$4,000/unit	Up to 80% of total project cost
35%+ Modeled	\$4,000/unit (max \$400,000 for MF)		\$8,000/unit	
----- OR -----				
15%+ Measured	Per kWh rate equivalent to \$2,000/unit for a 20% reduction of energy use for average home in the state	Up to 50% of total project cost	Per kWh rate equivalent to \$4,000/unit for a 20% reduction of energy use for average home in the state	Up to 80% of total project cost

Multifamily buildings require “not less than 50%” of households to meet the eligible income level to qualify

HEAR Eligible Measures and Rebate Amounts



Measure Type	Rebate Amount Per Housing Unit	80-150% AMI	<80% AMI
Heat Pump Water Heater	\$1,750	Up to 50% of total project cost	Up to 100% of total project cost
Heat Pump	\$8,000		
Electric Cooking Appliance	\$840		
Heat Pump Clothes Dryer	\$840		
Electrical Service Upgrade	\$4,000		
Electrical Wiring Upgrade	\$2,500		
Insulation, Air Sealing, Ventilation	\$1,600		
Maximum per home	\$14,000		

Multifamily buildings require “not less than 50%” of households to meet the eligible income level to qualify

Additional installer incentive up to \$500 “commensurate with the scale of the upgrades installed”

Appliances, systems, equipment, infrastructure, and components must be ENERGY STAR certified if applicable

Key Program Design and Implementation Objectives

- > Leverage existing NYSERDA programs and processes to accelerate and simplify New Yorkers' access to Home Energy Rebates and enable braiding of other funding sources, where possible, to meet customer needs
- > Minimize market confusion by avoiding having competing offers in the market
- > Create a seamless experience for customers and contractors
- > Provide clear, concise information on all available offers
- > Offer customized, decision-quality recommendations to customers to enable informed decision-making and maximize impact
- > Ensure equitable distribution of funding across single family, small multi-unit residences (2-4 units), and larger multifamily building (<5 units)

Key Program Design Elements

- > Existing Programs to be leveraged:
 - EmPower+, 1-4 Family Existing Homes, up to 80% AMI
 - Comfort Home, 1-4 Family Existing Homes, 80%+ AMI
- > New Offers Being Developed:
 - 5+ Multifamily Building Programs, for HEAR and HER
 - Retail Point-of-Sale for appliances for HEAR
- > Expected to be in market for approximately 3 years and serve 50,000-60,000 households total with HER and HEAR funds.
 - Approximately 15%-20% of rebates are expected to be for a heat pump or a heat pump water heater.

Home Energy Rebates Phased Roll-Out has begun



New York Becomes First State to Offer
U.S. Department of Energy
Home Energy Rebate Funding

"As the first state in the nation to offer these Inflation Reduction Act rebates, we are expanding access to home improvements that will save New Yorkers money on their energy bills and reduce our reliance on fossil fuels."

Governor Hochul

Where we are right now

Spring/Summer '23

- Systems Planning
- RFI response submitted to DOE
- **Stakeholder engagements and cross-state collaboration**

Fall/Winter '23

- NYSERDA secured early Admin funding from DOE
- Rules review and clarification with DOE
- **Stakeholder engagement on HEAR/HER rules & considerations**
- Partial-scope application for HEAR for EmPower+ submitted to DOE to expedite New Yorkers' access to rebates and benefits

Q1 2024-Q2 2024

- DOE review and approval of partial-scope application and release of funding
- **Stakeholder engagement** on strategy and program design for “shovel-ready” elements of Rebate programs.
- Implementation planning for partial-scope HEAR roll out through EmPower+
- Launched HEAR for EmPower+

Q3-Q4 2024*

- **Stakeholder engagement and working groups** to shape forthcoming offerings and drive continuous improvement of active programs.
- Submit full scope application and blueprints
- DOE to review and approve of full application and release of funding
- Contractor training & customer outreach
- Deliver a phased roll-out of full range of Home Energy Rebate funding for all eligible customer segments

* estimated

Engagement Opportunities

Type	Audience	Description
NYSERDA Website	All	Access to latest information available about IRA: www.nyserderda.ny.gov/All-Programs/Inflation-Reduction-Act/Inflation-Reduction-Act-homeowners Includes summary of public comments
Public Meetings/Webinars	All	Public meetings are fully open to all who wish to attend. They are designed to provide transparent information and updates with opportunity for public comment. Next webinar: August; registration details to come
Questions and Input	All	Public may submit questions and comments at any time to residential.ira@nyserderda.ny.gov
Work Groups	Contractors and service providers, community partners, utilities	Small groups of similar stakeholders designed to convene more than once in working sessions to provide deeper insights on targeted questions/challenges the program planning team is facing. Work groups may be open or invitation only, but generally kept to a small, manageable number of participants to be effective. Next open group: TBD
Roundtables	Retailers, manufacturers, HVAC contractors, plumbers, electricians	Non-recurring, structured discussions of stakeholders with similar interests and business priorities. Typically invitation only.
Individual Meetings	Housing agencies, utilities, LIPA	For stakeholders who work in direct partnership with NYSERDA to deliver energy efficiency and beneficial electrification solutions to the market.
Voice of customers (VOCs)	Key stakeholders and clean energy providers	Individual 1:1 meetings with a small group used to gather candid feedback on proposed model to roll out HEAR/HER incentives. Typically invitation only.
Residential Market Advisory Group	All industry partners and interested parties; target to 1-4 family residential stakeholders	Scheduled quarterly meetings and open to all. These meetings provide opportunities for NYSERDA to offer informational updates and to engage in structured discussion using topic-specific breakout sessions and large group forums. Keep updated at: www.nyserderda.ny.gov/Residential-Market-Advisory-Group

Comfort Home Program Focus Group

June 2024

Inflation Reduction Act Home Energy Rebates

- > Comfort Home, 1-4 Family Existing Homes, 80%+ AMI is being leveraged to deliver IRA funds.

- > Focus Group convened 106 unique attendees who participated in three breakout sessions:
 - (1) Participating Contractors
 - (2) Interested (Non-Participating) Contractors, and
 - (3) Interested Stakeholders

- > Feedback received was organized across three major themes:
 - (1) Program Design
 - (2) Equity and Access
 - (3) Feedback for Further Stakeholder Engagement

Questions?



NEW
YORK
STATE

NYSERDA

Cold Climate Air Source Heat Pump Performance and Selection Forum

Max Ciovacco, Project Manager

NYSERDA

June 26, 2024



NYSERDA

Agenda



- Forum Purpose
- Format
- What Was Uncovered
- What is Short Cycling
- Why this Matters
- Possible Solutions
- Concluding Remarks



Purpose

- Proper sizing and selection of ccASHP is a challenge and can easily be done incorrectly.
- The purpose of this forum is to improve the ccASHP selection process in NY. A goal is to make proper heat pump selection more than just covering the heating load of the building while also making sure each unit selected works effectively and efficiently in all weather conditions.

FORMAT

Two Multi Hour sessions with presentations and discussions about field and simulated ccASHP performance data with a wide variety of industry professionals. Overall, we had 35 participants.

Participants Included: Government, Heat Pump Manufacturers, Energy efficiency non-profits, Consulting Firms, Private Entities, and Utilities.

Day 1. Laid the ground rules for the forum, reviewed the problem, presentations and discussions.

Day 2. Presentations, discussions, and potential solution planning to the multiple problems that we discussed.

What Was Uncovered

In many cases the forum participants are finding overinflated heating loads that result in larger heat pumps installed. This process leads to short cycling the unit during shoulder seasons.

The forum also uncovered that even if the unit is sized properly based on the heating loads and the unit BTU output the same short cycling is occurring. This is due to the specific unit's inability to work efficiently in that specific climate or designed space even though the spec sheet says it will work.

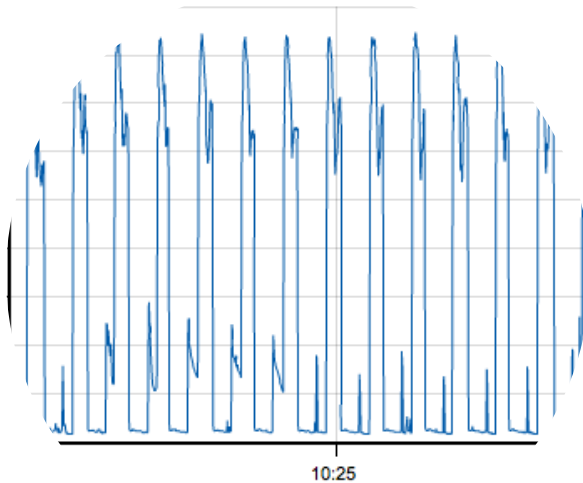




What is short cycling?

Short Cycling is bad

- All HP systems have a short cycle programmed into them to keep up with the demand of the system and provide maximum comfort to the occupants within the space.



Why is that a bad thing Max???

Short Cycling greatly reduces the COP of the unit making much less efficient and can lead to extremely high electric bills and very unhappy customers. This can greatly reduce the appeal of heat pumps and cause a misconception that these units do not work in cold climates and do not save money or electricity.

Why This Matters

Electrification of buildings help reduce carbon emissions and help many people reduce their overall living costs. If we install ASHP's in the same way we have been doing for the past 12 years we will not accomplish either of those goals in most circumstances.



Possible Solutions

Heating Loads

Manual J heat loads are the industry standard method of calculating heating loads. If done correctly the selection of the unit to cover 100% of the load will lead to proper functionality of the units.

How do we make this process bulletproof?

Accurate data about the home. Without detailed information about the home's internals (insulation, air sealing, wall heights, window, duct work, etc.) you are not able to accurately determine its true heating load.

Unit Coverage

For these units to operate as designed in all weather conditions using a proper Manual S to determine that the selected ASHP is as close as possible to 100% will give the unit the best chance to work as intended.

Forum participants discussed that specific situations showing grossly oversized systems had significant drop off in seasonal performance and generated higher electric bills overall.

Shoulder season COP is a large driver of overall performance and should be evaluated as a part of the equipment selection.

Proper Installation and Placement

Along with proper selection comes with proper installation practices. It is advised to follow the NEEP ASHP installation guidelines to make sure the heat pump is installed as intended to help it function as intended.

Long Term Solutions



The focus of the Forum was to come up with a solution to the selection process today, however long-term solutions were not forgotten in these discussions.

HSPF2 may not be the best metric for ccASHP selection and instead a new metric or score of the unit may be used to help contractors better select a heat pump that will work well in the specific climate.

There are tools being developed that will help determine which ccASHP is right for a specific area or home. These tools are aimed to simplify the process for contractors and reduce reliance on outdated metrics.

Next Steps

- Summary of forum discussions to date, with more discussion to come
- Additional feedback, discussions, and coordination with industry partners

Discussion

- What heat pump selection tools or resources are you using?
- What relevant data or analysis do you have that can contribute to this discussion?
- Are your customers experiencing higher than expected operating costs?
- Who needs to know more about this topic? (homeowners, installers, designers, distributors, etc.)

QUESTIONS



THANK YOU

Max Ciovacco

518-948-5616

Max.ciovacco@nyserda.ny.gov

Standards and Quality Assurance Overview of Quality Home Contractor Designation



NYSERDA

June 26th, 2024

Background on Quality Home Contractor Designation

- Long-standing Residential Single-Family QA activities (field inspections), provide a tremendous amount of experience and data to objectively understand how well Residential Single-Family contractors are performing.
- 196 companies are approved to participate in the Residential Single-Family Program
- The SQA team and the SFR team members met to discuss:
- How can we reward builders who are consistently installing quality systems?

Answer: Quality Home Contractor Designation!

What is the Quality Home Contractor Designation?

This is a designation given to high quality residential contractors who consistently exceed the annual quality assurance criteria in the Residential Single-Family Program.

In a calendar year, contractors need to meet for exceed the following guidelines:

- Active Contractors
- Full Status
- Installed at least 12 projects
- Have an average QA field inspection score of 4.0, without rounding up, or greater on a 1-5 scale

What is the Motivation to obtain Quality Home Contractor Designation?

Contractors can use this designation as a third-party differentiator and validation of the quality of their work with customers and prospective customers.

Designated contractors are recognized in a special listing on the Residential Single-Family website and receive a NYSERDA Quality Home Contractor Installer logo to use in marketing materials.



NYSERDA

Quality Home Contractor
2025

Residential Single Family Qualification Data

Utilizing 2023 Quality Assurance in-field inspection data:

Number of active participating contractor: 177

Number of active participating contractors who qualify for QCH: 73.4%

The designated QHC builders installed 92.9% of all projects in 2023.



NY-Sun Quality Solar Installer Comparison

NY-Sun Quality Solar Installer Comparison

Launched in 2019.

How can we reward builders who are consistently installing quality systems?

New in 2021: additional **Gold Status** for builders that have achieved Quality Solar Installer designation three consecutive years.

NEW in 2024: additional **Platinum Status** for builders that have achieved Quality Solar Installer designation six consecutive years.

NY-Sun QSI Comparison

The designated QSI builders installed 63% of all projects in 2023.
20% of all projects were installed by a QSI-Gold or Platinum builder.

25% of all active NYSun, Residential-Nonresidential builders
have the designation of Quality Solar Installer.

Of the 25% :

49% of the builders were once on Probation Status.

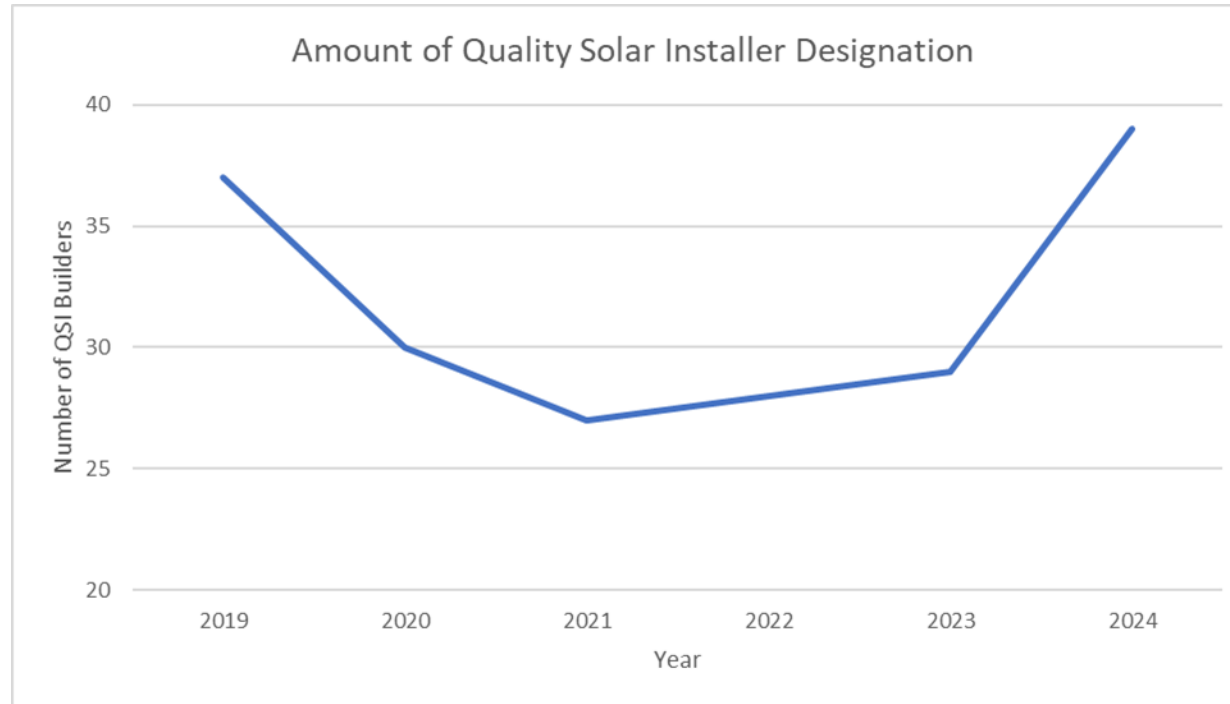
13% of the builders were once Suspended.

5% of QSI- Platinum were once on a disciplinary status.

10% of QSI- Gold were once on a disciplinary status.

The combined efforts of SQA and Program Staff of presenting a prescriptive plan and working directly with the builders has a positive effect on the market.

Yearly Quality Solar Installer Comparison



How Installers Use the Quality Solar Installer Designation Logos



HARVESTPOWER

OUR ACCOLADES



2016, 2017, 2018 & 2019



OUR BRANDS



CONTACT INFO GET STARTED TODAY! LET'S GET STARTED!

Breaking: Kasselmann Solar Awarded 2019 NYSEDA Quality Solar Installer For Industry Leading Craftsmanship, Quality, & Customer Service!

[View this award on your website](#)



BREAKING: Kasselmann Solar Awarded Prestigious 2019 NYSEDA Quality Installer Designation



In an effort to help New York homeowners identify high quality solar installers, NYSEDA has highlighted Kasselmann Solar as a model for exemplary craftsmanship, superior design, and exceptional service!



Have a Quality Day!

Thank you for your input!

These discussions help ensure that Single Family Residential program funding and co-benefits, including those incorporating IRA Home Energy Rebates, flow to all eligible NY residents as smoothly as possible through thoughtful program design and robust community outreach.

> **Initial Stakeholder Sessions**

- Residential Market Advisory Group
- Community Stakeholders Workshops
- Participating Contractors Workshops
- Public webinar

> **We Encourage Continued Input on IRA's Home Energy Rebates and Training Grants**

- Send written comments to residential.ira@nyserda.ny.gov at any time

> **Upcoming Stakeholder Engagements and Working Groups:**

- Utility Collaboration
- Multifamily Market Partners and Affordable Housing Providers
- Contractors & Outreach Partners
- Retailers
- Product Manufacturers
- Others as needed

Resources

Links to Learn More and Stay Engaged

> **More Information on the Inflation Reduction Act:**

<https://www.nyserda.ny.gov/All-Programs/Inflation-Reduction-Act>

> **DOE Guidance on Home Energy Rebate Programs:**

<https://www.energy.gov/scep/home-energy-rebates-programs-guidance>

> **IRS Guidance on Energy-related Tax Credits and Deductions:**

<https://www.irs.gov/credits-and-deductions-under-the-inflation-reduction-act-of-2022>

> **State-Based Home Efficiency Contractor Training Grants:**

<https://www.energy.gov/scep/state-based-home-energy-efficiency-contractor-training-grants>

> **Stay engaged by following NYSERDA's Residential Market Advisory Group:**

<https://www.nyserda.ny.gov/Residential-Market-Advisory-Group>